CATHEDRAL PROVINCIAL PARK - ENLARGEMENT - SOCIO-ECONOMIC
AND ADMINISTRATIVE PROBLEMS

by

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We accept this thesis as conforming to the
required standard

THE UNIVERSITY OF BRITISH COLUMBIA
April, 1970
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Date ___ April ___ 1970
ABSTRACT

The land use problem that exists in Cathedral Park and the area on either side has been described and enough background information has been obtained to identify the existing problems and propose possible solutions.

Cathedral Park was created as a Class 'A' Provincial Park in 1968, mainly due to the efforts of a Parks Society, the Okanagan-Similkameen Parks Society (OSPS). The 18,217 acres included at present in the Park are considered by the Society to be insufficient to afford adequate protection to the delicate features in the Park. It has been suggested that a buffer zone would, among other things, provide the required protection, would enlarge the Park to meet future increased demands for outdoor recreation areas, and through the use of natural boundaries would facilitate the management of the area for recreation. The OSPS has proposed that the present Park boundaries be extended to include an area of about 83,000 acres.

On both sides of the Park, grazing and forestry are at present in practice. There also are a few mineral claims. Most of the region's natural resource users would rather see a combined use made of this area with recreation, grazing, and forestry being practiced simultaneously. To protect their interests they have grouped themselves into the British Columbia Interior Resource Users Council.

The conflict between the preservationists (recreationists)
and the traditional resource users has been in existence for a few years with both organizations exerting pressure on the government at different levels. This thesis sums up the situation and after an overall look at the problem proposes solutions to the conflict. Initially it was intended to evaluate economically several alternatives, but as the situation was studied in depth, new problems unrelated to the economics of the different alternatives emerged. Because many aspects are social and political the economics of this land use problem have been relegated to a secondary position. Revenues that would be lost as a result of reservation of the 83,000 acres for recreation and exclusion of other natural resource users, are important nonetheless. They ought to play an important role in developing solutions to the problem and are associated with several long standing contractual obligations to resource users that should not be dismissed lightly.

In the initial stages of research many references were consulted. Once a general idea had been obtained of the problems and groups involved in the conflict, several trips were made to the region and taperecordings were made of interviews held. Four visits were made to the Park in order to gain familiarity with the area. Correspondence was maintained with government officials and concerned parties.

As a result of the investigation it was concluded that at present it would be politically difficult and probably socially and economically undesirable to increase park acreage. It is
suggested an integrated use of the area be practiced and that it be used as a case study in which the government can demonstrate its capacity to anticipate, meet, and solve land use problems effectively.
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METHOD

An extensive bibliographic research was conducted to obtain enough information on the region to make sound decisions. For this purpose numerous visits to Victoria were made where time was spent consulting the Parks Branch's files on Cathedral Park, speaking to people in the Inventory and Grazing Divisions of the Forest Service, and obtaining relevant information from the Economics and Statistics Branch of the Department of Industrial Development, Trade and Commerce, and from the Department of Travel Industry.

Four visits were made to the region during which representatives of the foresters, graziers, and the Okanagan-Similkameen Parks Society were interviewed; taperecordings were made of these conversations. Talks were held with representatives of the Penticton Planning Board, Provincial Wildlife Branch, Interior Lumber Manufacturer's Association, Penticton Chamber of Commerce, and the Federal Department of Manpower. A visit was also made to Kamloops to speak to the District Forester.

During the late summer of 1969 the Cathedral Park area was flown over and later 3 days were spent in the area on the ground. At this time the views held by two of the four partners of the Cathedral Lakes Resort Ltd. were recorded.

In December of 1969 the Okanagan-Similkameen Parks Society's general meeting was attended and conversations were held with
representatives of the Society.

A substantial amount of correspondence was maintained with individuals involved in the issue under study.
I. INTRODUCTION

"The outstanding characteristic of the 20th century is change. Change in the relatively stable social and economic ideas of the early 1900's. Change in our concept in international outlooks and relationships. Change in our appreciation of the significance of the renewable natural resources of the world and their relations to human welfare. Perhaps, in North America, no change is more noteworthy than the one that has taken place in the public attitude towards forests."

(Timmons and Murray, 1950).

Cathedral Provincial Park was created in 1968 as a Class 'A' park, which characterizes it as land set aside for its social values under a preservation oriented management philosophy in which recreation is the primary use. It is in the northern part of the Cascade Mountain Range, southwest of Keremeos, in the Southern Interior of British Columbia, a region in which the main economic activities are tourism, agriculture, forestry, and mining respectively. The park's present acreage of 18,217 acres, includes outstanding landform features, alpine meadowland, lakes and forests.

The area included within the park boundaries has traditionally been used for grazing sheep and cattle and was considered as a possible source of timber by the local forest industries. There were also a few mining claims which have lapsed unexploited.

For more than 30 years there has been dispute over whether or not to include this area in the province's park system. Only in 1968 was this done, mainly due to the promotional activities of the Okanagan-Similkameen Parks Society (OSPS), a regional parks society centered in Summerland. It includes recreationists, conservationists,
and other individuals concerned with the preservation of outdoor recreation areas.

The creation of Cathedral Park was in direct conflict with the interests of the timber, grazing, and mining industries, that looked on this area as open to resource utilization. Their preoccupation with this area is greatly increased at present as the OSPS considers that there should not have been a compromise between the Parks Branch and the Forest Service in the determination of the park's boundaries. It further considers that the original proposal of an 83,000 acre park, with natural boundaries, is the only feasible solution and is endeavouring to have its proposal implemented.

The need for a large park in the Ashnola area has been brought to the attention of the ministers of Recreation and Conservation, and Lands, Forests, and Water Resources through numerous letters from concerned citizens and groups. On the other hand, the region's traditional resource users are grouped into the B.C. Interior Resource Users Council in order to defend their specific interests of resource utilization. Mr. R.H. Ahrens, Director of the Parks Branch of the Department of Recreation and Conservation, brought this problem to our attention and it was considered that it presented an interesting topic which pursued in greater depth would provide opportunity for a comprehensive analysis and offering of suggestions conducive to finding a solution to this conflict.

Initially a full benefit-cost analysis was considered, but due to the difficulties encountered in the evaluation of non-priced
recreational benefits, compounded with a lack of information on recreational use of the area, it was thought to be an impractical method. It was determined that an economic analysis of the monetary values foregone through the exclusion of logging and grazing in the 83,000 acre area will provide part of the required information on which to base a decision. To facilitate the decision making process, socio-economic data were compiled for a region which, it is considered, would be affected by an increase in Cathedral Park's acreage. Regional development plans are taken into account and park extension is analyzed with this knowledge in mind.

Certain complicating conditions have been pointed out relating to the government's natural resource use policies, to the traditional and conservative outlook of certain sectors of the economy, and others directly relating to physical and budgetary constraints which at present complicate provincial park extension.

The land use problems originating from the creation of Cathedral Park with the consequent exclusion of grazing, mining and logging on the park's area is not new in North America. For some time in the U.S.A. these problems have been experienced and strong public feelings have been aroused both in favour of and against exclusive resource use of forested and non-forested land. In British Columbia they are of recent origin, the OSPS representing one of the first major organized movements in favour of select areas being protected from exploitation and placed under park management.

In British Columbia the preservation movement is all the more
crucial to the provincial economy due to the fact that natural resource utilization has traditionally been the main source of provincial wealth. The vastness of the province, its recent development, and its extensive resources have relegated this problem to the present day when a more educated and outdoor recreation minded public with increased affluence, leisure time, mobility, and numbers have brought about this confrontation.

It is the Government's responsibility to find solutions to these problems; solutions which ideally maximize the social and economic welfare of the people of British Columbia, especially since the Crown owns almost all the province's natural resources. To find these solutions the government will have to first determine what the people want. Then decide whether these wants are attainable, compatible with the provincial and national goals, and fit into the socio-economic and political framework within which society operates. Also, as Timmons and Murray (1950) stated: "In appraising specific objectives of certain land programs, we must project them against the background of the superior goals of general economic policy."

It does not seem that the government has any long range economic policies for the region under study and Robinson (1969) stated that: "Federal and Provincial policies have not led to land allocation (nor its resources) to the highest bidder or to optimum use."

It has also been pointed out that the complexity of the resource administration in British Columbia often has prevented choice of the best use (Pearse, 1967), and Robinson (Op. cit.) have suggested that in
the case of forest land, "Demand for forest land, singly and on a multiple-use basis, can only be arbitrated by a supra-government body recruited from a disinterested group of professional resource managers."

The Select Standing Committee on Forestry and Fisheries at the 1969 session of the Legislature recommended that a Land Use Committee be established to study guidelines of land-use policy and recommend these to the government. It was established by Order-in-Council on July 15, 1969. In the issue under study it is believed that, assisted by public hearings, such a Committee could formulate basic guidelines as to the future use of the area.

Solutions to land use problems should be based on as much factual knowledge as is possible to obtain. Undoubtedly, political and social considerations will weigh heavily in decision making but economic evaluations do provide means which can aid this process. It is considered that an economist should provide basic information important to the decision making process, though eventually the decision will be largely a value judgement made by others.

In the treatment of this land use problem, Chapter II describes government organizations concerned with provincial resource administration giving emphasis to its policies as included in the different Acts regulating each Department.

Chapter III describes the Southern Okanagan and Similkameen region which will experience directly the effects of an increase in Cathedral Park's acreage. Emphasis is given to the main economic activities and regional resource use conflicts are analyzed.
Chapter IV describes Cathedral Provincial Park and the surrounding area, emphasizing the present use of the area, the problems facing park extension, and reasons for and against increasing park acreage. The analysis is primarily areal and not regionally oriented.

Chapter V provides conclusions to the preceding analysis. In this chapter the major difficulties are identified and possible solutions to them are advanced.

Finally, an enumeration of the conclusions has been provided.
II. ORGANIZATION OF THE B.C. GOVERNMENT FOR NATURAL RESOURCE MANAGEMENT

1. Department of Mines and Petroleum Resources

The earliest mining history in British Columbia dates back to 1836 when coal was mined at Suquash on the northeast coast of Vancouver Island. The discovery of coal promoted industrial development, but the finding of gold and the consequent gold rush of 1858 completely overshadowed coal mining and was the direct cause of the rapid growth of the province during this period.

Placer-gold rushes are short lived and the 1858 gold rush reached its peak in 1863, two years after the first rich discovery in the Cariboo. By 1885 the most easily mined gold had been extracted and in the 1880's mining entered its modern phase when prospectors turned to look for ores of silver and lead as well as gold.

At present British Columbia's mining industry is booming. Exploration activity is at a high level throughout the province, although it is concentrated in the western half. New production of copper and molybdenum is assured from deposits now under development, and other deposits in the exploration stage show considerable future promise (B.C. Department of Mines and Petroleum Resources, 1968).

In 1967, the gross value of output of the mineral industry was $386.8 million, placing this industry second to forestry in value of production, it being recognized that direct comparisons between resource industries is difficult and no exact measure can be made.

To facilitate management of B.C.'s mineral resources, the B.C.
Department of Mines and Petroleum Resources has the following branches:

- Mineralogical
- Inspection
- General Administration, Titles, and Accounts
- Personnel
- Petroleum and Natural Gas
- Assay and Analytical

Of the six branches in the department, two are of concern in this thesis as they are in some way responsible for the management of the use of a resource which may conflict with some other use. They are:

a) the Administration Branch which is responsible for the administration of the provincial laws regarding the acquisition of rights to mineral and coal, petroleum, and natural gas, and deals with other departments of the provincial service for the Department or for any Branch,

and

b) the Inspection Branch, which is in charge of inspecting coal mines and other mines and quarries, also examine prospect, mining properties, roads, and trails.

To expedite its management functions, the province is divided into 8 inspection districts. The Okanagan-Similkameen region is included in inspection district number 4 with headquarters in Kamloops.

In British Columbia any person over the age of 18, including citizens of all foreign countries, and any corporation incorporated or registered in British Columbia, may obtain a free miner's certificate
upon request and payment of the appropriate fee. This certificate
entitles the holder to enter upon all lands of the Crown and upon any
other lands wherein the right to enter has been reserved to the Crown
for the purpose of prospecting, locating, and mining. Land under
cultivation, orchards, and naval and military reservations are
excluded.

The Mineral Act states the following with respect to lands
upon which a free miner may prospect and mine:

"(1) Every free miner shall, during the continuance of
his certificate, but not longer, have the right to enter,
locate, prospect, and mine:
a) upon any waste lands of the Crown for all minerals; and
b) upon all lands the right whereon to so enter upon,
locate, prospect, and mine all minerals is reserved to
the Crown and its licencees, for all minerals; and
c) for gold and silver upon any lands the right whereon
to so enter and mine gold and silver is reserved to the
Crown and its licencees;
excepting out of all the above descriptions of lands any
land occupied by any building, and any land falling within
the curtilage of any dwellinghouse, and any orchard, and
any land for the time being actually under cultivation, and
any land lawfully occupied for mining purposes other than
placer-mining, and also military or naval reservations; ..... 
(4) The inclusion within any mineral claim of any land
situated within an area which is not open for location under
this Act does not affect the validity of the location as to
the remainder of the mineral claim.
(5) The Lieutenant-Governor in Council may from time to
time by order prohibit any person from locating or mining
upon any lands specified in the order, or for any mineral
specified in the order, or upon any lands and for any
mineral specified in the order, absolutely, or except in
accordance with and subject to such terms and conditions
as may be set forth in the order."

(Chapter 244, Section 12).

There are regulations governing the location and recording of mineral
claims, or placer-mining leases, and mining in Class 'A' parks.

Lands included in Class 'C' parks are, with respect to locating, recording, and mining, reserved, unless the consent of the Lieutenant-Governor in Council is obtained, and mineral claims shall be subject to such terms, conditions, and restrictions, including cutting and use of timber, as he may from time to time prescribe. The restrictions on locating, recording, and mining in Class 'A' and 'C' parks do not apply to Class 'B' parks.

Concerning surface rights the Mineral Act states:

"(2) The lawful holder by record of a mineral claim is during the continuance of his record entitled to the use and possession of the surface of the claim, including the use of all timber thereon, for the purpose of winning and getting from and out of the claim the minerals contained therein, including all operations connected therewith or with the business of mining.

(4) Notwithstanding subsections (1), (2), and (3) and notwithstanding anything contained in any other Act, a) the minister may restrict the right of a person to the use and possession of the surface of his mineral claim and to the use of the timber thereon where a mineral claim or group of mineral claims has been acquired on which a mineral deposit has not been found or indicted, or where a mineral claim or group of mineral claims on which a mineral deposit has not been found or indicted, is situated so that it can be used for other than mining purposes;
b) matured timber and species not ordinarily used for mining purposes on mineral claims and that is not being used for mining purposes may be disposed of under the Forest Act."

(Chapter 244, Section 21).

In British Columbia the mineral industry is considered second to forestry in economic importance and due to the fact that natural resource exploitation plays a dominant role in the province's economic
activity it enjoys a high degree of protection and a strong position relative to other resource users, regardless of other values involved. This is evidenced by the facility by which anyone over the age of 18 may obtain a free miner's certificate and the rights which this certificate entitles the holder to, mainly that of entering upon almost any Crown land to prospect. Once he has found and staked a mineral claim the miner is "entitled to the use and possession of the surface of the claim, including the use of all timber thereon, for the purpose of winning and getting from and out of the claim the minerals contained therein, ....". The fact that the term of a mineral lease is 21 years and is renewable, coupled with the following section of the Mineral Act:

"(1) After the issue or renewal of a lease, and during the term of the lease, it shall not be impeached in any Court upon any grounds whatsoever except that of fraud."

makes clear the predicament in which park planners find themselves when areas of high wilderness potentiality have mineral claims staked out on them.

Conversely, miners who traditionally have enjoyed access to almost all Crown lands, react strongly against measures that increase the areas on which prospecting is restricted or prohibited as occurs in Class 'A' and 'C' parks and Nature Conservancy Areas.

2. **Department of Recreation and Conservation**

The first big step towards public park management in British
Columbia was made in 1876 when an act for the management of public parks provided for the appointment of trustees whose duty it was to develop and maintain small local parks (Noble, 1965). An amendment of the 1876 Act in 1881 gave the Lieutenant-Governor in Council power to grant and convey small public parks to urban councils, the local government taking over the responsibility for their management.

In 1908 the Provincial Parks Act made possible the reservation of land primarily for park purposes (Noble, 1965). In 1918 an amendment to this Act repealed the reservation of lands primarily for park purposes and thus opened the doors to the commercial extraction of natural resources in the parks.

In 1930 there were 13 provincial parks with a total area of 1,735,512 acres. There were no formal plans for any park development, no finances available for park areas nor a central agency for park administration. By the end of 1940 the provincial park system had grown to 6,400,000 acres and its administration, by an amendment to the Forest Act in 1940, was placed under the British Columbia Forest Branch of the Department of Lands, Forests, and Water Resources. In 1945 the B.C. Forest Branch became the B.C. Forest Service and due to the remarkable post war progress made in the parks program, in 1948 the Parks and Recreation Division of the B.C. Forest Service was created and the responsibility for park management fell under this Division.

In 1957 the Parks and Recreation Division became the Parks Branch of the newly formed Department of Recreation and Conservation which has
charge of all matters relating to the management and administration of parks, all matters relating to fisheries in the province, the administration of the Game Act, the administration of the Fisheries Act, community recreational programs, and recreational facilities. The Parks Branch at present, 1970, has charge of the 6,479,659 acres of park land in British Columbia and is responsible for their planning and management.

The Provincial Parks Branch, with headquarters in Victoria, has jurisdiction over, plans, manages, and administers all matters concerning provincial park and recreation areas. It is organized into three main divisions: Planning, Engineering, and Management. The Planning Division works with local and other government organizations in planning for future needs. It is responsible for much of the "how, where, when and what" of parks. The Engineering Division takes care of the construction of all recreational facilities, whilst the Management Division is in charge of managing the land for park use once it has come under the department's jurisdiction.

Since as early as 1881, the Lieutenant-Governor in Council has had the power to set aside land for park use by Order-in-Council (Noble, 1965). The Park Act states:

"For the purpose of the establishment or enlargement of any park or recreation area, the Minister, on behalf of Her Majesty the Queen in right of the Province, with the approval of the Lieutenant-Governor in Council, may a) purchase or otherwise acquire, accept, and take possession of land, improvements on land, timber, timber rights, and other rights; b) grant, convey, or transfer to any person, in exchange for land, improvements, or timber acquired under
clause (a) above, other lands, timber, or rights of Her Majesty the Queen in right of the Province;
c) expropriate land, and the provisions of the Depart­ment of Highways Act shall apply, mutatis mutandis, in event of expropriation."

(Chapter 31, Section 11, 1965).

In British Columbia provincial parks are classified into classes and categories for the purpose of providing protection of parks and to specify what developments and improvements can take place in them. They are:

- Class 'A' parks that are intended to preserve outstanding natural, scenic, and historic features of the province for public recreation. They have a high degree of legislative protection against exploitation and alienation.

- Class 'B' parks are also primarily for the protection of natural attractions, but other resource use is permitted, provided it does not unduly impair recreational values.

- Class 'C' parks are provincial parks intended primarily for the use of local residents and are generally managed by local park boards.

In 1964 the first nature conservancy areas in B.C. were designated (B.C. Department of Recreation and Conservation, 1964). They are key areas in existing and future parks and are in actuality wilderness areas, trail areas to be visited on foot, and hence without roads or man-made facilities other than emergency shelters. They are delineated for special reasons, such as historic interest, botanical or zoological excellence and uniqueness, geological significance, topographic beauty, or other special cultural interest and no resource development of any kind is permitted. Thus they provide a higher degree of resource protection than does a Class 'A'
park classification.

Every provincial park is placed in one of six categories that specify what development or recreational improvements can be undertaken in each park. These range from a virtual "hands off" policy in the case of some of the parks to the energetic development of recreational facilities in other parks. The following are the categories:

a) Category one if the main purpose of its designation is the preservation of its particular atmosphere, environment, or ecology.

b) Category two if the main reason of its establishment is the preservation and presentation to the public of specific features of scientific, historic, or scenic nature.

c) Category three if the main purpose of its establishment is to offer enjoyment, convenience, and comfort to the travelling public.

d) Category four if the main purpose of its establishment is to offer recreational opportunity to the public of a particular community or area.

e) Category five if the main purpose of its establishment is to offer opportunity to participate in a specific recreational activity, or

f) Category six if the area established is for a park for two or more purposes. (Parks Act, Chapter 31, Section 12).

All lands included in any provincial park of Class 'A' or Class 'C' are reserved from pre-emption, sale, lease, or licence under the Land Act. Crown timber on these lands is reserved from cutting or sale, except when such cutting and incidental sale may in the
opinion of the Deputy Minister of Recreation and Conservation be necessary or may improve park values, and no timber from these parks shall be sold for the primary object of revenue. It is further stipulated in the Department of Recreation and Conservation Act that:

"No holder or owner of any mineral claim located or held within the limits of any provincial park of Class 'A' or Class 'C' is entitled to apply for or receive a Crown grant of the surface rights of the mineral claim, and are subject to such further terms and conditions and restrictions, including restrictions as to the cutting and use of timber, as the Lieutenant-Governor in Council may from time to time prescribe."

(Parks Act, 1957, Chapter 53, Section 16).

Furthermore, no private interest is permitted to acquire any right in any provincial park of Class 'A' or Class 'C', except under park-use permits as provided for in the regulations.

In the case of Class 'B' parks, Crown timber is subject to disposition by the Crown except where, in the opinion of the Deputy Minister of Recreation and Conservation, exclusion of such timber or land would be detrimental to the value of the area.

The procedure which precedes the creation of a provincial park in British Columbia generally follows certain steps. Different sources, among them the Forest Service field staff, land inspectors, forest rangers, conservation officers, and other park conscience individuals and organizations, provide information as to areas which might be suitable for parks. Once enough information has been received to warrant action, the Planning Division of the Parks Branch
conducts a visual examination of the area to find the answers to certain key questions. In larger areas a report is made including photos and more detailed information.

If the area is considered to have a Class 'A' potential the Department of Mines is contacted and a mineral reserve, which prohibits prospecting in the area, is sought. Following this a request is directed to the Lands Department to place a map reserve to obtain park status for the area. Once this has been obtained the Minister of Recreation and Conservation in agreement with the other ministers concerned may have the area declared, by order-in-council, a provincial park.

3. **British Columbia Department of Lands, Forests, and Water Resources**

The British Columbia Department of Lands, Forests, and Water Resources originated from the Lands and Works Department of the old Crown Colony of British Columbia. In 1871, by authority of the Constitution Act, the Lands, Forests, and Water Resources Department succeeded the Crown Colony period Lands and Works Department. In 1908 this department was divided into two distinct and separate departments: the Department of Lands and the Department of Public Works. By an amendment to the Lands Act in 1945 the name of the Department of Lands was changed to that of the Department of Lands and Forests, with a Minister of Lands and Forests in charge, assisted by a Deputy Minister of Lands and a Deputy Minister of Forests.
The present organization of the Department of Lands, Forests and Water Resources is as shown in Figure 1:

![Figure 1: Department of Lands, Forests, and Water Resources](image)

The Forest Service was established in February 1912 as the result of recommendations submitted by the Royal Commission on Timber and Forestry in its final report to the Government in 1910. Section 5 of the Forest Act states its present jurisdiction and its functions:

"The Forest Service has jurisdiction over and shall control and administer all matters relating to or in anywise connected with forestry, and particularly, and without restricting the generality of the foregoing provision, has jurisdiction over and shall, subject to and in compliance with the provisions of the Statutes of the Province for the time being in force, control and regulate, receive and administer, or invoke and enforce, as the case may be,

a) all the rights, properties, interests, claims, and demands of the Crown in right of the Province in Crown timber;

b) all revenues and moneys of the Crown in right of the Province arising from forestry, Crown timber and grazing;

c) conservation of forests;

d) reforestation;

e) prevention of forest fires;

f) sales and disposition of Crown timber;

g) cutting, classifying, measuring, manufacturing, branding, and exporting trees, timber, and products
of the forest, and
h) statutes, rules, and regulations relating to the
regulation of forestry, the protection of forests,
and the grazing of Crown lands;
and in the exercise of any power or duty in connection there­
with a person employed by the Forest Service may enter into
and upon any lands or premises other than dwellings.
(Forest Act, 1948, Chapter 128, Section 5; 1957,
Chapter 23, Section 2; 1966, Chapter 18, Section 3).

To manage the Crown's forest resources, the Forest Service is
at present divided into ten divisions: Forest Inventory, Forest
Research, Reforestation, Public Information and Education, Forest
Management, Grazing, Engineering Services, Forest Protection,
Accounting, and the Personnel Division.

The Forest Management Division is in charge of managing Crown
timber under various tenure systems on a sustained yield basis. For
administrative purposes the province is divided into five forest
districts each in charge of a District Officer. Each forest district
is divided into subdistricts in charge of a Ranger.

The Grazing Division is in charge of grazing on Crown range on
and in association with forest land. This involves determination
of grazing capacity of rangeland, the handling of grazing permits
(though not leases), and range management.

Of British Columbia's total forest land (138,367,501 acres),
94.58% is under provincial ownership, 0.79% is under federal ownership,
which includes National Parks and Indian Reserves, and 4.63% is in
private ownership, (B.C. Forest Inventory, 1969). Of the
130,872,367 acres under provincial ownership, 117,192,736 acres
correspond to lands on which the Forest Service can dispose of timber
values directly; that is, 84.69% of the total forest area. To accomplish this it has divided the province's forest lands into several different administrative units:

<table>
<thead>
<tr>
<th>Description</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approved PSYU's</td>
<td>78,803,946</td>
</tr>
<tr>
<td>Proposed PSYU's</td>
<td>32,114,409</td>
</tr>
<tr>
<td>Regulated units (special sales areas)</td>
<td>5,979,455</td>
</tr>
<tr>
<td>Unregulated area</td>
<td>294,926</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>117,192,736</strong></td>
</tr>
</tbody>
</table>

The balance of the forest land under provincial ownership (13,679,631 acres) represents 9.89% of the province's total forest land and corresponds to the forest area on which the Forest Service does not dispose of timber values directly. It does retain, though, a certain degree of control and receives stumpage from these lands, except in the case of provincial parks, licences and leases. This area is allocated as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major provincial parks</td>
<td>2,744,748</td>
</tr>
<tr>
<td>Non-forest reserves</td>
<td>197,433</td>
</tr>
<tr>
<td>Tree farm licences (1)</td>
<td>9,347,783</td>
</tr>
<tr>
<td>Leases, licences, etc.</td>
<td>1,389,667</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>13,679,631</strong></td>
</tr>
</tbody>
</table>

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1 Refer to Appendix 1.
III. **THE SOUTHERN OKANAGAN AND SIMILKAMEEN VALLEY REGION**

1. **Regional Description**

Cathedral Provincial Park lies southwest of Keremeos in the Similkameen Valley region in the Southern Interior of British Columbia (Map 1). It is in the area bounded by the Ashnola river, Ewart Creek, and the International border (Map 2). This area falls into the Okanagan-Similkameen Boundary Region, as defined in the Regional Index of British Columbia (Bureau of Economics and Statistics, 1966) which includes the areas of Penticton, Summerland, Kelowna, Vernon, Armstrong, and Enderby. This area is also known as Region 3 (10,965 square miles), and corresponds almost exactly to Census Division 3 (10,729 square miles).

The aim of this study is to describe and analyze the issues underlying the possible extension of Cathedral Park's boundaries to include 83,000 acres, and the implications of such a step with special emphasis given to its effects on the surrounding region. The region is thus defined as the area in which such a step would significantly affect some aspect of the local economy, and it has been delineated in Map 3.

The study region corresponds to the southwestern portion of the Okanagan-Similkameen Boundary Region and includes the southern portion of the Okanagan Valley and the Similkameen Valley. The areas included are those of Princeton, Keremeos, Oliver, Penticton and Summerland (Map 3).
STUDY REGION

MAP 3

AREAS
1 Princeton
2 Keremeos
3 Oliver
4 Penticton
5 Summerland
a) Regional Boundaries

The region's boundaries encompass Princeton with its communities of East Princeton and Tulameen, Keremeos with its communities of Cawston and Hedley, Oliver-Osoyoos with the communities of Okanagan Falls and Testalinda, Penticton with the communities of Kaleden, Naramata and West Bench, and finally the District Municipality of Summerland.

The region includes 4,194 square miles (2,684,160 acres) or 1.1% of the province's total area (366,255 square miles). On the western boundary there are high mountains (Hozameen Range), east of which is a high plateau ranging from 4,000 to 5,000 feet above sea level. The southern boundary is the International Border, whilst the eastern boundary corresponds to the eastern slopes of the Okanagan Trench. The northern boundary is an imaginary line north of Summerland and south of Peachland, roughly corresponding to latitude 40° 40'.

b) Topography

The region includes mountain ridges with peaks above 8,500 feet, plateaus deeply dissected by streams and eroded by the ice-sheet stage of the Pleistocene which covered most of the area up to 7,500 feet elevation, and deep valleys formed by the erosive action of rivers, by weakness zones of the earth's crust, and by the erosive action of a glacier in spite of very resistant rock formations such as granodiorite, quartzite, greenstone, basalt and others (Sprout and Kelley, 1961).
The north western area corresponds to the southern margin of the Fraser Plateau. It is drained by the Tulameen river, a main tributary of the Similkameen river, which rises in the northern part of the Cascade Mountain Range. The southern and southwestern area in the region corresponds to the northernmost part of the Cascade Mountains which in this area form a high plateau.

The Similkameen river has cut deeply into the ground, forming a valley with steep slopes which rise more or less abruptly to about 3,500 feet. This valley broadens out from Keremeos south to the border due to the effect of the pleistocene ice sheet. The Similkameen valley west of Keremeos to Hedley did not suffer severe ice-sheet erosive action due to the fact that it lay perpendicular to the advance of the ice sheet and was probably full of static ice, this being the explanation of the lack of valley widening and deepening.

The Okanagan Trench, a deep valley running north to south on the east side of the region, is thought to have originated as a zone of weakness in the earth's crust which was later deepened by the erosion of ice and water. The results of the last ice age, the pleistocene glaciation, may be seen in the southern Okanagan area where benches have formed through deposits of glacial fluvial material.

The retreating ice sheet left depressions in the southern Okanagan Valley which at present form the many attractive large and small lakes of the region. The series of lakes included in the region start at the southern end of the valley with Osoyoos Lake,
9 miles long and 1 mile wide, almost bisected by a curious sandbar spit; Skaha Lake, 7 miles long and 1 mile wide; and finally the southern end of Okanagan Lake which is 69 miles long with an average width of 2 miles. There are many other smaller lakes in the region which are great tourist attractions.

c) Climate

The climate in the region is dry, with warm to hot summers, and relatively mild winters. The lower elevations experience the highest summer temperatures and the lowest precipitation whilst higher elevations experience heavy winter snowfalls and much lower temperatures.

Air masses with high moisture content moving eastwards from the Pacific towards the region, encounter the Coastal Mountain barrier and the northern part of the Cascades. Forced to higher elevations these air masses lose a greater part of their moisture content in precipitation and snowfall before reaching the region, thus the Okanagan Valley is considered to lie in a rain-shadow. The north-south orientation of this valley furthermore accentuates the tendency to arid conditions, these becoming more marked as one progresses further south. Annual precipitation (25 to 35 per cent of which falls during the winter), is lowest in the southernmost end of the valley with less than 10 inches of rain a year at Osoyoos. The Princeton basin experiences 11 to 13 inches of rain.

During the winter months there is an air mass movement from
north to south which brings intensely cold, dry periods. They do not usually last too long as the valley formation which continues its southward trend through the United States does not impose any barrier to this flow of cold air. The lakes also act as climate moderators.

There is a considerable difference between winter and summer average temperatures. January mean temperatures for the southern Okanagan are typically 25° to 28°F. The Princeton area is still cooler, averaging from 16° to 19°F. In the summer months the southernmost end of the Okanagan Valley has noticeably higher temperatures; Oliver, for example, has an average temperature in July of 72°F, one of the highest July averages in the Province. Daytime temperatures of over 90°F are frequent during the summer, but there is rapid cooling at night.

The frost-free season of the Okanagan and lower Similkameen Valleys is one of the longest in the surrounding countryside. On an average it lies between 120 to 185 days per annum and becomes an important factor to the economy of the region, particularly to the fruit and vegetable growing industry. Nevertheless, damaging frosts occur on an average of about every seven years. Serious injury to the fruit trees occurred in the winters of 1894, 1909, 1915, 1924, 1925, 1930, 1950, and 1964 (Morton, 1967).

The Okanagan Valley is characterized by a high proportion of cloudy days especially during the mild winters (Kelly and Spilsbury, 1948). During cold winters the hours of bright sunshine are
considerably increased. Lack of sunshine in winter is not appreciated, but it has fundamental value to the valley agriculture as it mitigates winter killing of fruit trees by cold temperatures.

In summer, bright sunshine reaches a peak in July with 234 hours at Summerland, an average only exceeded by that of Victoria with 334 hours of sunshine.

The dry, warm summers and relatively mild winters are one of the important reasons which contribute to making this region one of the great tourist attractions in the province as well as an area favoured by retired people.

The following statistics have been obtained at weather stations within the region under study:

<table>
<thead>
<tr>
<th>Station</th>
<th>elevation (ft.)</th>
<th>winter (°F)</th>
<th>spring (°F)</th>
<th>summer (°F)</th>
<th>autumn (°F)</th>
<th>year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summerland</td>
<td>1,300</td>
<td>29</td>
<td>48</td>
<td>68</td>
<td>48</td>
<td>49</td>
</tr>
<tr>
<td>Penticton</td>
<td>1,121</td>
<td>30</td>
<td>48</td>
<td>66</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>Oliver</td>
<td>995</td>
<td>29</td>
<td>51</td>
<td>71</td>
<td>49</td>
<td>50</td>
</tr>
<tr>
<td>Keremeos</td>
<td>1,165</td>
<td>28</td>
<td>50</td>
<td>68</td>
<td>49</td>
<td>49</td>
</tr>
<tr>
<td>Hedley</td>
<td>1,700</td>
<td>26</td>
<td>48</td>
<td>65</td>
<td>46</td>
<td>47</td>
</tr>
<tr>
<td>Nickel Plate</td>
<td>Mine (Hedley)</td>
<td>5,800</td>
<td>20</td>
<td>32</td>
<td>51</td>
<td>36</td>
</tr>
</tbody>
</table>
TABLE 2

Extreme temperatures and average snowfall within the region. (Dept. of Agriculture, 1961)

<table>
<thead>
<tr>
<th>Station</th>
<th>Temperature (°F)</th>
<th>Year</th>
<th>Snowfall (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>high</td>
<td>year</td>
<td>low</td>
</tr>
<tr>
<td>Summerland</td>
<td>104</td>
<td>1941</td>
<td>-17</td>
</tr>
<tr>
<td>Penticton</td>
<td>105</td>
<td>1941</td>
<td>-12</td>
</tr>
<tr>
<td>Oliver</td>
<td>111</td>
<td>1941</td>
<td>-21</td>
</tr>
<tr>
<td>Keremeos</td>
<td>106</td>
<td>1926</td>
<td>-20</td>
</tr>
<tr>
<td>Hedley (Average)</td>
<td>106</td>
<td>(average)</td>
<td>-27</td>
</tr>
<tr>
<td>Nickel Plate Mine (Hedley)</td>
<td>91</td>
<td>(average)</td>
<td>-38</td>
</tr>
</tbody>
</table>

**d) Vegetation**

There are four main vegetation types found in the region. These are the Osoyoos-Arid, Dry Forest, Sub-Alpine, and Alpine (B.C. Department of Lands, Forests, and Water Resources, 1967).

The Osoyoos-Arid zone (corresponding to 'Grassland' in Rowe's 1959 classification of Canada's Forest Regions), is in general associated with low elevations - usually less than 2,000 feet - and low precipitation. It is found from the International Border to the vicinity of Penticton and as far west as Hedley in the Similkameen Valley. This vegetation form is characterized as the only one in British Columbia in which trees do not form part of the climax vegetation (with exception of the Alpine vegetation form). The most common cover are short grasses, mainly perennial bunch-grass and desert shrubs including rabbitbrush (*Chrysothamnus nauseosus*, (Pallas) Britt.), antelope bush (*Purshia tridentata* D.C.), sagebush
(Artemisia spp.), and cactus (Opuntia fragilis Haw.). Where trees do occur they are few and scattered and are either yellow pine (Pinus ponderosa Doug.) or deciduous groves along the river courses.

The Dry Forest (Montane Forest Region according to Rowe's 1959 Forest Region Classification for Canada), covers valley floors and adjacent slopes where the conditions are less severe. Higher annual rainfall in the order of 10 to 20 inches and a greater degree of rainfall retention by the soils broadly separates the Dry Forest from the Osoyoos-Arid zone. In the Dry Forest zone grasses continue to characterize the vegetation cover, bluebunch wheatgrass (Agropyron spicatum (Pursh) Scribn. & Smith), Columbia needlegrass (Stipa columbiana Scribn.), and Kentucky bluegrass (Poa pratensis L.) being among the native species. Yellow pine is the climax forest species and is to be found isolated or in thin stands. Douglas fir (Pseudotsuga menziesii var. glauca Schneid.), and western larch (Larix occidentalis Nutt.), are widely distributed on the moist fringes of the Dry Forest where the transition to the Columbia Forest is not clear. Deciduous species, including choke-cherry (Prunus demissa Nutt.), mountain birch (Betula fontinalis Sarg.), aspen (Populus tremuloides Michx.), and alder (Alnus rubra Bong.), are frequently found on moist sites in valley bottoms, near lake shores, or in hillside depressions throughout the Dry Forest. Indigenous shrubs and bushes include sagebrush, saskatoon bush (Amelanchier cusickii Fer.), soopolallie (Shepherdia canadensis Nutt.), and waxberry (Symphoricarpus racemosa Michx.).

The upper limit of the Dry Forest is reached between 3,500 and
4,500 feet elevation, or slightly higher on southern exposure slopes. Above this elevation there is sub-alpine vegetation which is characteristic of plateau surfaces and mountain slopes both east and west of the Okanagan Trench. Other characteristics are cool temperatures and about 20 to 30 inches of annual precipitation. Sub-alpine trees most commonly found at altitudes between 4,000 and 6,000 feet, include Engelmann spruce (Picea Engelmannii Engelm.), and alpine fir (Abies lasiocarpa Nutt.). Burned or logged over areas are frequently characterized by extensive stands of subdominant lodgepole pine (Pinus contorta S. Wats.). Below a moderate to dense forest canopy, undergrowth consists mainly of grasses and shrubs such as blueberry (Vaccinium spp.), twinberry (Lonicera utahensis Wat.), heather (Cassiope mertensiana Don.), and huckleberry (Vaccinium parvifolium Smith).

Alpine vegetation is mostly limited to scattered areas above 6,000 feet in the Cascade Mountains. Sub-alpine species gradually give way to dwarf juniper (Juniperus communis L.), willow (Salix spp.), saxifrages (Saxifraga bronchialis), phlox (Phlox longifolia Nutt.), and alpine spirea (Spirea spp.).

e) Accessibility

Of the region's total population, 65% lives in cities, villages or district municipalities. All these urban centers are connected by first class paved roads which run through valleys where most of the rural population is concentrated. The uniform spacing of the
urban centers coupled with a well developed and adequately distributed road network (Map 3) makes all populated centers easily accessible to the rural population. There is also a good network of local roads which in many cases, particularly in the Okanagan Valley, are paved to avoid bruising fruit en route to packing houses.

Highway 97 extends along the Okanogan River in Washington, traverses the Okanagan Valley and joins the Trans-Canada Highway at Salmon Arm. Highway 3, also called the Southern Trans-Canada Highway, leaves the Trans-Canada Highway at Hope and runs through Manning park into the Interior Plateau before entering the Similkameen Valley at Princeton. It follows the valley floor to Keremeos where it winds north-eastward to join Highway 97 near Kaladen; it then descends into the Okanagan Trench at Okanagan Falls (Map 1 & 3).

Completion in 1949 of the Hope-Princeton Highway together with the modernization of the highways along the Okanagan Valley from Osoyoos to the Kettle Valley and northward along Highway 97, has made the area one of the most readily and easily accessible parts of the Province. Completion of the Rogers Pass Highway in 1962, opening a gateway to the Prairie Provinces has resulted in a large influx of tourists to the region.

Important local routes include roads from Princeton to Tulameen and an alternate route from Keremeos to Osoyoos by way of Richter Pass. A secondary paved highway links Princeton to Merrit and eventually Kamloops. There are many other local dirt or gravel roads which are graded and of an all-weather nature.
f) Population, age distribution, and wages

The region contains one city, Penticton, and five District Municipalities which are essentially incorporated rural areas for purposes of taxation and assessment and for providing certain services and amenities (B.C. Department of Lands, Forests, and Water Resources, 1967). They are the District Municipalities of Summerland, Osoyoos, Oliver, Keremeos, and Princeton. Smaller population centers are Tulameen, Hedley, Cawston, Kaleden, Okanagan Falls and Naramata.

The city of Penticton has a population of 15,300 (1966 population census), and ranks as the largest community in the Okanagan Bulletin Area, which also includes the cities of Kelowna and Vernon, although Kelowna has experienced the highest rate of population concentration, a trend which if continued will make Kelowna the largest city in the Okanagan Bulletin Area. Penticton serves as the major trade and shopping center for the region and several communities have adequate retail facilities to meet local demands.

The District Municipalities have a total combined population of 9,000 inhabitants distributed as follows: Summerland (4,600), Osoyoos (1,100), Oliver (1,550), Keremeos (550), and Princeton (2,100) (B.C. Department of Lands, Forests, and Water Resources, 1967). The balance, 11,900 inhabitants, are to be found in smaller urban centers or in rural areas.

A ten year (1951-61) analysis by Gelling et al. (1965) of the
changes in urban-rural population distribution in the Okanagan region (region 3)\textsuperscript{2} shows that urban areas have experienced a 46.4% increase whilst rural areas have only increased 3.9%. Especially significant are two factors:

a) small urban towns have decreased by 56.6%, whilst large urban centers have increased by 263.6 per cent.\textsuperscript{3} This might be explained by improvement in accessibility and transportation means causing the population to concentrate in larger, more developed centers, and

b) a decrease in farm population of 25.9% whilst rural non-farm population experienced, in a ten year period a 33.5 per cent increase.

The population of the Okanagan region, during 1951-61, increased at two thirds the national rate, and one half the provincial rate. This is explained (Gelling \textit{et al.}, 1965), by "the low rate of industrialization in the area and relatively small number of job opportunities for young people." When the major cities are considered individually, however, all have made substantial increases over the decade. Penticton, for example, has a population growth that approximates the Canadian rate of population growth of 3% per annum.

\textsuperscript{2} The social welfare regional study made by Gelling \textit{et al.} covers a broader region than that described in Map 3. Nevertheless, the figures are considered representative for the region under study.

\textsuperscript{3} This figure is far above the B.C. per cent change of 60.4 due to definition differences from the 1951 to the 1961 population census. The general tendencies are representative.
The most salient feature of the population trend is the slow growth rate and the high rate of urbanization. Due to better roads and public transportation, and also the attractions of the suburbs, population has tended to migrate from the smaller to the larger urban centers, which in turn have expanded and tended to spread and spill into the adjacent rural areas. This development is often along major highways and it detracts from the area's natural attractiveness by spoiling the scenery.

The age distribution in the Okanagan region (Table 3) is of interest in this study. The fact that the 15-19 and 20-24 year age groups only increased very slightly in the ten year period would seem to indicate that many of these people leave the Okanagan following their high school education to acquire higher education or to seek work elsewhere. The main working population age group, 24-44 increased by only 2.4% in a ten year period that when compared to the B.C. average of 24.7% indicates that again there has been a substantial emigration of work force from the Okanagan region.

**TABLE 3**

Age groups: Okanagan and Provincial Comparison

<table>
<thead>
<tr>
<th>Age group</th>
<th>1961</th>
<th>Okanagan % increase (1951-61)</th>
<th>Comparable B.C. increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 4</td>
<td>9,845</td>
<td>10.4</td>
<td>48.4</td>
</tr>
<tr>
<td>5 - 14</td>
<td>19,899</td>
<td>36.5</td>
<td>81.6</td>
</tr>
<tr>
<td>15 - 19</td>
<td>7,558</td>
<td>30.7</td>
<td>60.4</td>
</tr>
<tr>
<td>20 - 24</td>
<td>4,922</td>
<td>2.9</td>
<td>19.3</td>
</tr>
<tr>
<td>25 - 44</td>
<td>22,182</td>
<td>2.4</td>
<td>24.7</td>
</tr>
<tr>
<td>45 - 64</td>
<td>19,254</td>
<td>32.9</td>
<td>37.4</td>
</tr>
<tr>
<td>65 - 69</td>
<td>3,526</td>
<td>16.2</td>
<td>-4.1</td>
</tr>
<tr>
<td>70 and over</td>
<td>7,458</td>
<td>67.8</td>
<td>56.9</td>
</tr>
</tbody>
</table>
The older groups, 65-69, and 70 and over increased at a greater rate than the average for B.C. which would tend to bear out the prevalent opinion that the Okanagan is a desirable area for older people's residence and retirement.

Wages in the Okanagan region have increased moderately. There is a growing proportion of the male wage-earners not sharing in the increased affluence as evidenced by the small, but growing, numbers in the lowest wage bracket for the study period 1951-61.

**TABLE 4**

Percentage change of male wage-earners in various wage brackets in B.C. and the Okanagan, 1951 - 61 (1)

<table>
<thead>
<tr>
<th>Area</th>
<th>Wage earners</th>
<th>$ 0-1,000</th>
<th>$ 1,000-1,999</th>
<th>$ 2,000-3,999</th>
<th>$ 4,000+</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.C.</td>
<td>26.5</td>
<td>-8.6</td>
<td>-54.1</td>
<td>34.6</td>
<td>994.1</td>
</tr>
<tr>
<td>Urban</td>
<td>33.9</td>
<td>5.6</td>
<td>-53.0</td>
<td>39.2</td>
<td>987.9</td>
</tr>
<tr>
<td>Rural</td>
<td>8.4</td>
<td>-30.9</td>
<td>-56.2</td>
<td>-21.0</td>
<td>1,020.4</td>
</tr>
<tr>
<td>Farm</td>
<td>-29.1</td>
<td>-58.8</td>
<td>63.8</td>
<td>0.9</td>
<td>1,815.6</td>
</tr>
<tr>
<td>Non-farm</td>
<td>16.6</td>
<td>17.1</td>
<td>53.7</td>
<td>23.2</td>
<td>988.1</td>
</tr>
<tr>
<td>Okanagan</td>
<td>16.0</td>
<td>19.3</td>
<td>-53.8</td>
<td>4.9</td>
<td>1,169.2</td>
</tr>
<tr>
<td>Urban</td>
<td>33.0</td>
<td>5.5</td>
<td>-50.0</td>
<td>-4.9</td>
<td>1,077.0</td>
</tr>
<tr>
<td>Rural</td>
<td>1.0</td>
<td>-33.5</td>
<td>-56.3</td>
<td>16.8</td>
<td>1,368.3</td>
</tr>
<tr>
<td>Farm</td>
<td>-38.5</td>
<td>61.9</td>
<td>-66.3</td>
<td>33.2</td>
<td>2,405.3</td>
</tr>
<tr>
<td>Non-farm</td>
<td>18.6</td>
<td>4.8</td>
<td>-48.8</td>
<td>12.0</td>
<td>1,204.2</td>
</tr>
</tbody>
</table>

(1) Gelling et al., 1965

Also, clearly seen in the study is the increase of the Okanagan region's wage earners in a low income bracket, the decrease of workers in the $1,000-1,999 wage bracket and an increase in the higher wage brackets which point out the increasing difference in wage.
g) Occupational composition

The latest information which exists concerning the occupational composition in the Okanagan region corresponds to the 1961 population census. Table 5 indicates the occupational composition.

<table>
<thead>
<tr>
<th>Occupation groups</th>
<th>URBAN</th>
<th>RURAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent of total</td>
</tr>
<tr>
<td>Managerial</td>
<td>1,919</td>
<td>16.8</td>
</tr>
<tr>
<td>Professional and technical</td>
<td>860</td>
<td>7.5</td>
</tr>
<tr>
<td>Clerical</td>
<td>646</td>
<td>5.7</td>
</tr>
<tr>
<td>Sales</td>
<td>970</td>
<td>8.5</td>
</tr>
<tr>
<td>Service and recreation</td>
<td>860</td>
<td>7.5</td>
</tr>
<tr>
<td>Transportation and communication</td>
<td>928</td>
<td>8.1</td>
</tr>
<tr>
<td>Farmers and farm labourers</td>
<td>639</td>
<td>5.6</td>
</tr>
<tr>
<td>Loggers, fishermen, trappers etc.</td>
<td>230</td>
<td>2.0</td>
</tr>
<tr>
<td>Miners, quarrymen</td>
<td>68</td>
<td>0.6</td>
</tr>
<tr>
<td>Labourers</td>
<td>720</td>
<td>6.3</td>
</tr>
<tr>
<td>Craftsmen</td>
<td>3,235</td>
<td>28.3</td>
</tr>
<tr>
<td>Not reporting</td>
<td>352</td>
<td>3.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>11,427</td>
<td>100.0</td>
</tr>
</tbody>
</table>

(1) Gelling et al., 1965. Tables 25 and 28, pages 36a and 38b.

As can be seen from the table, craftsmen comprised the largest occupational group of urban males in 1961.

"It is frequently true that craftsmen enjoy little more job security than labourers with no skills at all. Although their positions are somewhat more secure than farm labourers, loggers and other labourers, the large numbers of men in craft positions could become a concern for welfare officials at times of industrial layoffs or other local or temporary recessions." (Gelling et al.).
The second largest occupational group is the managerial which at first may seem to be a stable occupational group, but it should be kept in mind:

"that a large proportion of people in managerial positions may be in charge of very small one to two person occupations. Their positions might, therefore, be no more secure than some of the unskilled labourers and some craftsmen. They could also become of concern to welfare officials in times of business decline." (Gelling et al., 1965).

There are differences in female occupation composition as can be seen in Table 6. There are more women working in service, clerical and professional jobs when compared to male occupation. This implies that:

"there is a slightly greater amount of stability and permanency in positions occupied by women in that women's positions are less seasonal and possibly better organized against fluctuations of the elements of the economy." (Gelling et al., 1965).

**TABLE 6**

Occupations of urban and rural females in the labour force: Okanagan region, 1961 (1)

<table>
<thead>
<tr>
<th>Occupation groups</th>
<th>URBAN Number</th>
<th>Percent of total</th>
<th>RURAL Number</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managerial</td>
<td>262</td>
<td>5.3</td>
<td>185</td>
<td>5.5</td>
</tr>
<tr>
<td>Professional and technical</td>
<td>722</td>
<td>14.7</td>
<td>404</td>
<td>12.1</td>
</tr>
<tr>
<td>Clerical</td>
<td>1,280</td>
<td>26.1</td>
<td>609</td>
<td>18.2</td>
</tr>
<tr>
<td>Sales</td>
<td>592</td>
<td>12.1</td>
<td>295</td>
<td>8.8</td>
</tr>
<tr>
<td>Services and recreation</td>
<td>1,378</td>
<td>28.1</td>
<td>705</td>
<td>21.1</td>
</tr>
<tr>
<td>Transportation and communications</td>
<td>91</td>
<td>1.9</td>
<td>36</td>
<td>1.1</td>
</tr>
<tr>
<td>Farmers and farm labourers</td>
<td>70</td>
<td>1.4</td>
<td>692</td>
<td>20.7</td>
</tr>
<tr>
<td>Labourers</td>
<td>77</td>
<td>1.6</td>
<td>94</td>
<td>2.8</td>
</tr>
<tr>
<td>Craftsmen</td>
<td>290</td>
<td>5.9</td>
<td>238</td>
<td>7.1</td>
</tr>
<tr>
<td>Not reporting</td>
<td>149</td>
<td>3.0</td>
<td>79</td>
<td>2.4</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>4,911</strong></td>
<td><strong>100.0</strong></td>
<td><strong>3,337</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

(1) Gelling et al., 1965. Tables 26 and 27, pages 37a and 38a.
In the Okanagan region the number of people employed (both male and female) in 1961 compared favourably with provincial and national averages causing one to believe that all is well in the employment field and that relatively few people are not gainfully employed. This should not be inferred and greater study should be given to the fact that "many people are still earning below what is generally considered to be a decent standard of living." (Gelling et al., 1965).

h) Regional economy

Princeton

In the Princeton area mining has historically been the major sector of the economy, though at present it is of little importance. Forestry is at present the major factor in the Princeton economy (in 1963 employed 380 persons). Service industries also play an important role in the region's economy (in 1961 more than 177 persons were employed in this activity). Trade plays a relatively important role, too. Unlike other areas in the region, agriculture is of little importance. It was estimated that in 1965 there were 50 farm operators in the area, cattle ranching being the most important agricultural activity, followed by hay production mostly on arable irrigated land. Cattle are grazed on typical interior open grassland and timbered range, there being approximately 10,000 head of beef cattle.

The area's tourist attractions and its nearness to Vancouver, (183 miles), coupled with the fact that it is situated on two major
routes, make tourism an important sector of the area's economic activity and one that has a great potential.

Keremeos

Agriculture is, in turn, the most important sector of the Keremeos area's economy. It is estimated that in 1964 there were about 250 farm operators in the area, fruit growing being the most important agricultural activity. Beef cattle raising is also an important segment of the agricultural economy and approximately 3,000 head of cattle are marketed annually.

Forestry plays an important role in the area's economy, about 100 persons being employed in this activity in 1964. Tourism has a great potential in the region mainly due to the hunting and fishing possibilities.

Oliver-Osoyoos

Once again agriculture occupies the most important sector in the Oliver-Osoyoos area's economy: it is estimated that in 1964 there were 550 farm operators, fruit production constituting the most important role in this activity. There are fruit and vegetable processing and canning plants providing seasonal employment for 50 to 60 persons (1964) but during the rest of the season there is negligible employment in this activity.

Tourism in this area constitutes an activity with great potential especially due to the fact that the weather is usually warm and sunny and dry; lakes and sandy beaches abound; there is a
high degree of accessibility on good roads and the fishing and hunting possibilities are good.

Forestry employed approximately 160 persons in 1963 but no expansion was foreseeable for the near future at that time. Trade is another significant sector in the local economy.

Penticton

The most important activity in the Penticton area is service industries concentrated in the city of Penticton, there being 2,327 residents employed in this activity in 1961, (48.8% of the city's labour force). Trade employs an important proportion of the labour force and in the decade 1951-61 experienced a 65.6% increase in sales volume, a considerably larger increase than the 45.5% provincial average.

Agriculture has ceased to be the most important activity in the area, it still playing an important part nevertheless. It was estimated that in 1964 there were 380 farm operators and 50 paid year-around workers. Other sources of employment are fruit and vegetable processing and canning plants, through June to October, employment being negligible during November-May period. The main agricultural activity is tree-fruit production.

In 1963 forestry provided employment for 130 persons: 30 in logging and 100 in lumber manufacture.

Tourism is considered to be by far the most important single factor in the economy, and is responsible in very large measure for Penticton's prominence as a service industry and retail center.
Summerland

In the Summerland area agriculture plays the most important role in the area's economy, there being in 1961, 385 farm operators. There is also a Federal Department of Agriculture Research Station in Summerland which provides employment for about 100 full-time workers. Forestry and trade do not play an important role in the area's economy, but tourism does and if developed promises to take on more importance.

i) Secondary manufacturing industries

Although it is recognized that the resource based manufacturing industries will undoubtedly continue to be the most important in the region (Knight, 1969) there are great possibilities for substantial expansions in the number and variety of secondary industries due to various reasons. Among these are financial assistance obtainable under the Area Development Assistance Program (McMasters, 1969), lower regional site costs compared to the coast, availability and low cost of labour, little difficulty in attracting labour due to the region's living amenities, central geographic situation of the southern interior, and an increase of the region's population which increases the demand for goods and services.

It has been stated by the Bureau of Economics and Statistics (Department of Industrial Development, Trade and Commerce, 1969) that

"...although secondary manufacturing in the Southern Interior will be outpaced by the primary sector, it is an important facet of the economy and is capable of
considerable growth in the period under consideration."

A word of caution should be included here to the effect that the region has a high tourist attraction and the development of industries might detract from these values. This constitutes a planning problem which should find an answer to the Mayor of the City of Vernon, Mr. W. Halina's question: "While we are interested in bringing in industry, the question arises, where do we stop? How much is too much?" (Department of Industrial Development, Trade and Commerce, 1969). Until recently little data was available to provide answers to such questions. Due to the importance that the tourist industry has acquired in the region, further studies concerning the region's recreational potential should be implemented.

j) Employment characteristics

Employment possibilities are concentrated in urban areas where craftsmen, managerial, sales and transportation and communication constitute the main occupational groups for the Okanagan-Similkameen region. In the Princeton area forestry is the main economic activity whilst in the Southern Okanagan Valley fruit growing becomes the most important activity closely followed by tourism and trade services.

Employment in forestry constitutes a relatively stable source of employment and is usually an all year around job, with exception of loggers who are laid off during the spring thaw for a few weeks. In contrast, employment in agricultural activities, especially in
the fruit growing industry, is highly seasonal requiring substantial amounts of labour during only two or three months of the year.

The tourist industry plays an important role in the region's economy, but once again it is concentrated during the summer months. Skiing facilities are being developed and will provide a source of revenue during the winter months. The use of tourist facilities for conventions during the off season months provides another source of revenue. Correlated with the tourist industry are the trade and service industries which employ a large number of persons for a limited period of time and again are a source of seasonal employment.

The lack of good, stable job opportunities has brought about a fair amount of emigration and consequently a reduction in the percentage of working age persons in the region (Gelling et al., 1965). The establishment of secondary manufacturing industries is being encouraged and will be a good source of job possibilities for a region sorely lacking in good, year around jobs (McMasters 1969, Knight 1969).

2. Importance of Agriculture to the region

Introduction

The B.C. Southern Interior is expected to experience in the coming years a rate of growth and development at least equal and possibly superior to the province as a whole (Meredith, 1969). This will be achieved largely from the use of the area's natural
resources, mainly forest, agriculture and mining. This activity and expansion will result in substantial secondary or multiplier effects for retail trade and the service industries. The future tourist prospects are also of importance and should not be forgotten especially when secondary and (mainly) primary industrial development interacts negatively with recreative pastimes.

Basically the same applies to that part of the Southern Interior under study in this thesis.

The most important segment of the Okanagan Bulletin Area's economy (excluding tourism) is considered to be logging and wood processing broadly termed as forestry (B.C. Department of Lands, Forests and Water Resources, 1967). It is followed in economic importance by agriculture whilst mining, until recently in third place from an economic point of view, at present is only of local importance.

Forestry activities are concentrated in the northern and eastern part of the area, whilst agriculture is of greater importance in the southern part of the area. This leads one to believe that in the region under study agriculture is of greater importance, followed closely by forestry. Mining has little economic importance and is preceded by service industries.

a) Most important agricultural activities

The main agricultural activities in the region are livestock growing, and production of field crops, tree fruits, and grapes.
Livestock production is represented mainly by beef cattle, and cattle marketings are increasing about 5% annually (Department of Industrial Development, Trade and Commerce, 1969). Grazing on Crown land is an important aspect of beef cattle growing in the region and due to the conflict that exists with Cathedral Park, will be analyzed in greater detail in this chapter.

Field crops are mainly represented by forage crops, much in demand due to the active beef industry and the nearness of the Fraser Valley dairy industry. Tree fruit production is by far the most important agricultural activity in the region where apples represent the single most important tree fruit grown. Grape production has experienced a substantial increase and it is considered that the region will become the main grape producing area in British Columbia.

b) Grazing

i) History and present characteristics

The settlement and development of the Southern Interior of British Columbia was influenced by a series of enterprises, beef cattle production playing an important role. Initially extensive ranching was practiced in the open pasture lands concentrated in the valley bottoms and in the alpine meadow lands and provided the booming mining towns with fresh meat. At the end of the gold rush period cattle graziers remained and at that time joined together in range associations to deal with local problems, thus giving
rise to the present day associations.

At present beef cattle production is faced with serious competition for the use of land. Urban sprawl, recreation, secondary industrial development, tree fruit growing, vegetable growing, and mining representing some of the competing activities. There are also seriously limiting factors affecting this industry, possibly the most important of which is the fact that small farmers are abundant and their small, uneconomical units often yield a low return on the investment and do not provide a reasonable return for labour (Goodman 1969, Acton and Woodward 1959). Under these circumstances it is difficult to justify continuance of small uneconomical units grazing on crown lands when other better uses exist for such land.

ii) Tenure

The cattle rancher requires an extensive acreage of land on which to graze cattle and produce winter feed. He usually owns an area of deeded land in the valley bottom near a highway where he has built his home. This deeded acreage is often irrigated and is used to grow winter feed and for containing the cattle during the winter months. This area does not suffice to maintain an economical unit (at least 100 head of cattle) (Copeland, 1969). The grazier usually has two alternatives: the first is to rent privately owned grazing land; and the second is to lease Crown land which can be grazed and usually has a forest crop on it.

In the region under study most of the Crown land suitable for
grazing is forested with the exceptions of small areas of alpine meadowland. The majority of these have been used in the past as cattle and sheep grazing grounds, but at present are in great demand also as recreation and study areas. Within the area on either side of Cathedral Park there are a few alpine meadows and their rights of use are being disputed by graziers and recreationists. The latter have, in theory, already eliminated grazing from the meadows within the park, though in practice cattle do stray within park boundaries (McNabb, 1970).

iii) Competition with other activities

The use of Crown lands for grazing is regulated by the Grazing Division of the Forest Service which is in charge of determining grazing capacity of the range, the handling of grazing permits, and range management.

Competition is represented mainly by forestry, mining, and recreation (Goodman, 1969), (Copeland, 1969). Forest management is in many ways compatible with grazing, especially in a region with open forests. Mining is incompatible with grazing but does not present a serious problem due to the fact that mining does not usually occupy extensive areas, whilst many types of recreation are compatible with low density or extensive grazing. The one land use which excludes grazing of domestic animals and which is the situation in Cathedral Park, is a Class 'A' "primitive" area park where the environment is maintained as untouched and unchanged as possible.
iv) The small grazier's problem

As has been mentioned before, it is the small grazier who is in economic difficulties. It is also he who is most affected by a decrease in the number of animals allowed to graze on Crown land under lease to him. There is very little he can do about such a move by the Grazing Division except present his complaint to a larger organization such as, for example, the Keremeos Stock Breeder's Association. Even then it is a slow process which often nets no results due to the lack of unleased Crown grazing areas within the region.

From a strict economic point of view the situation is a common one: the small, sub-marginal operator is being forced out of business. From a social point of view it means that there will be another welfare recipient, if alternative employment cannot be found. Possible solutions entail alternative grazing grounds when available, reallocation in a different region where there is disposable Crown grazing areas, or re-education of the grazier in some other related or non-related activity. This last solution presents many problems, but does provide a positive solution to an economic evil: the perpetuation of small uneconomical operations.

3. Importance of Forestry to the region

a) Historical background on regional forestry

Regional mining during the late 19th century first stimulated the lumber industry and small bush mills developed, cutting from
easily accessible timber sources to satisfy local demands. Lumbering activity grew rapidly as box shook mills were established to meet the demands of the expanding fruit and vegetable industries (B.C. Department of Trade, Commerce, and Industry, 1951). However, it was not until after World War II that the forest industry became one of the most important elements in the economy.

By 1948 the lumber industry accounted for 63% of all manufacturing establishments in region 3, and since 1933, when there were 24 establishments, had experienced an increase to 179 by 1948. The forest industry at that time was characterized by numerous small mills, both portable and stationary, operating on a seasonal basis and a few large mills accounted for a high proportion of the total production (in 1948 32% of the firms produced only 2% of the cut while 4.1% produced nearly 48%).

Production in 1948 centered on rough and dressed lumber, sawn ties, and box shooks and it was recognized that the future of the lumber industry could be affected favourably by the development of by-products and in the exploitation of little used species.

It was estimated in 1964 that the gross value of sawlog shipments for region 3 totalled $26,000,000 and that factory shipments of lumber and other wood products amounted to a further $36,000,000 bringing the return from the forest resource to over $62,000,000 (B.C. Department of Lands, Forests, and Water Resources, 1967). It should be pointed out that most of the logging and wood-processing is found throughout the northern and eastern sections of
this region, with less activity in the Southern Okanagan, Similkameen, and Princeton areas.

In the last decade the number of small sawmills has decreased and in the Kamloops Forest District, which includes region 3, from 1962 to 1967 the number of sawmills decreased from 600 to 320 (Dixon, 1969).

In 1968 there were 500 men employed in logging and milling in Ranger Districts 10 (Penticton), and 11 (Princeton). This employment will increase when the region's total allowable annual cut (close utilization) is made use of in the near future.

b) Forest land tenure

The Southern Okanagan and Similkameen Valleys which comprise the region under study lie within the Kamloops Forest District. This Forest District comprises 24,651,447 acres of forest land, 94% of which belongs to the Crown. Of the total forest land, 21,296,730 acres (87%) correspond to lands on which the Forest Service may dispose of timber values (Department of Lands, Forests, and Water Resources, 1969). This area has a mature timber volume (7.1" + d.b.h. close utilization, less decay only) of 25,331,385 thousand cubic feet, or 86% of the District's total mature volume.

The Kamloops Forest District, to facilitate timber management, is divided into 23 Public Sustained Yield Units, (PSYU) one regulated unit, and 6 Tree Farm Licences. Cathedral Park is situated within the Ashnola PSYU which falls into Ranger District No. 10 (Map 6).
The Ashnola PSYU was last inventoried in 1951 (Department of Lands, Forests, and Water Resources, 1969) and currently (January 1970) information from a survey carried out in the summer of 1969 is being processed. In Table 7 is shown a summary of the available information concerning areas and timber volumes for the Ashnola PSYU which has been obtained from the 1967 Forest Inventory Statistics for B.C. (B.C. Department of Lands, Forests, and Water Resources, 1969).

**TABLE 7**

Forest and non-forest area in acres of lands on which the Forest Service may dispose of timber values

| Forest land:   | Mature   | 163,690 |
|               | Immature | 230,136 |
|               | Residual | --      |
|               | NSR (4)  | 21,020  |
|               | NGC      | 18,453  |
|               | TOTAL    | 433,299 |
| Non Forest Land|          | 150,361 |
| TOTAL AREA    |          | 583,660 |

A site classification of the forest land within the Ashnola PSYU on which the Forest Service may dispose of timber values provides the following figures:

| Site classification: | good   | 31,722 acres |
|                     | medium  | 95,011 "    |
|                     | poor    | 280,069 "   |
|                     | low     | 26,497 "    |
|                     | TOTAL   | 433,299 acres |

(4) Refer to Appendix 1
In Table 8 and Table 9 are shown merchantable timber volumes by species for the Ashnola PSYU (B.C. Department of Lands, Forests, and Water Resources, 1969).

**TABLE 8**

Net volume of coniferous species other than pine (7.1" + d.b.h. close utilization less decay) for lands on which the Forest Service may dispose of timber values within the Ashnola PSYU

<table>
<thead>
<tr>
<th>Species</th>
<th>Net Volume (M c.f.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Douglas fir</td>
<td>104,854</td>
</tr>
<tr>
<td>cedar</td>
<td>595</td>
</tr>
<tr>
<td>balsam</td>
<td>15,829</td>
</tr>
<tr>
<td>spruce</td>
<td>153,148</td>
</tr>
<tr>
<td>Total coniferous other than pine</td>
<td>274,426 M c.f.</td>
</tr>
</tbody>
</table>

**TABLE 9**

Net volume of mature pine and broad-leaved species (7.1" + d.b.h. close utilization less decay) for lands on which the Forest Service may dispose of timber values within the Ashnola PSYU

<table>
<thead>
<tr>
<th>Species</th>
<th>Net Volume (M c.f.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>lodgepole pine</td>
<td>188,349</td>
</tr>
<tr>
<td>yellow pine</td>
<td>3,681</td>
</tr>
<tr>
<td>birch</td>
<td>26</td>
</tr>
<tr>
<td>aspen</td>
<td>395</td>
</tr>
<tr>
<td>Total pine and broad-leaved</td>
<td>192,451 M c.f.</td>
</tr>
<tr>
<td>TOTAL ALL SPECIES</td>
<td>466,877 M c.f.</td>
</tr>
</tbody>
</table>

The Forest Service has determined for the Ashnola PSYU a rotation age of 105 years and an allowable annual cut (7.1" + d.b.h., close utilization less decay) of 5,679 M c.f. for those lands on
which it may dispose of timber values.

The Ashnola PSYU is currently not on close utilization standards, but will be on or prior to January 1971 (Forest Service, correspondence, 1970). On September 26, 1969, Timber Sale Harvesting Licence (TSHL) A01724 comprising the allowable annual cut of the Ashnola PSYU was issued to Northwood Mills and at present, February 1970, Cutting Permit No. 7, west of the Ashnola River in the vicinity of McBride Creek, covering an area of 550 acres and amounting to a volume of 900 M c.f., is the only logging operation being carried out in the Ashnola PSYU (Forest Service, correspondence, 1970).

The present total annual harvest of timber from the Ashnola PSYU is approximately 1,750 M c.f.; it will increase to 2,330 M c.f. before 1971 and to 5,679 M c.f. before 1972. At present Northwood Mills, situated in Penticton and Princeton, is increasing its saw-milling capacity and by 1972 it will be able to make use of the total annual allowable cut of the Ashnola PSYU.

4. Importance of mining to the region

a) Mining history

In September of 1811 the first white man entered the Osoyoos District looking for a better trade route to the fur rich Interior of British Columbia. In 1859 gold was discovered along the Similkameen River and brought a rush of miners to the region. Reports in 1861 of rich diggings in the Cariboo and on Mission Creek produced an equally rapid exodus. Placer gold was, therefore, of importance
for only a few years. Later, lode gold was found and mined at Hedley which became one of the principal gold camps in British Columbia. Today the gold has been exhausted.

Copper production also played an important role in the region of Copper Mountain, west of Princeton. At present no copper is mined there, but exploration is active and the prospect of it being mined in the future has not been abandoned.

b) Regional mineral production

Table 10, obtained from the Annual Report of the Minister of Mines and Petroleum Resources for the year ended December 31, 1968, indicates the mineral production of the Similkameen and Osoyoos mining districts during the period 1966 to 1968.

| Similkameen and Osoyoos mining district's mineral production (1966-1968) |
|---|---|---|---|---|---|
| | Gold Oz. | Silver Oz. | Lead Lb. | Zinc Lb. | Total $ |
| Similkameen | 1966 | -- | -- | -- | -- |
| | 1967 | -- | -- | -- | -- |
| | 1968 | -- | -- | -- | -- |
| Osoyoos | 1967 | 892 | 413,715 | 39,609 | 85,567 | 743,805 |
| | 1968 | -- | -- | -- | -- |

Small amounts of mica, gypsum and gypsite, and quartz and limestone are also produced in the region.
c) Future prospects

There is one main mining development in progress at present. It is not in the region but its impact will be felt in Penticton and Summerland. Brenda Mines plans a mining development which will have in the early stages of development an annual payroll of $3.0 million, employing 350 persons. By 1972 about 900 workers in the central part of the Okanagan will earn their livelihood through activities directly or indirectly related to the mine. The full scale operation of Brenda Mines is expected to generate $18.0 million annually in payrolls, of which $7.0 million will be earned in the Okanagan (Hedlin, Menzies, & Associates Ltd., 1968).

Apart from the development in progress, it is possible that other mineral deposits may some day be mined when it is economically feasible.

d) Incompatibility with other activities

Mining may be incompatible with grazing, forestry and recreation, not to mention agriculture, in the sense that mining usually destroys the vegetation on a given area and moves substantial amounts of earth to permit access to the mineral deposits. In this manner the land form is changed over an area, though the area is often not very extensive.

It is considered that the disturbance caused by mining is not usually a serious enough deterrent to prohibit this activity when incompatible with other resource uses, especially when measures can be taken to minimize site destruction. Only in a limited number
of cases do alternative uses of an area provide a higher economic return and greater aesthetic and cultural values. Certain methods of mining, such as strip mining, undesirably decrease the scenic qualities of an area. Proper reclamation of the disturbed areas and their reforestation should be practiced under government control to minimize the conflict with recreative use of the area.

The fact that in a Class 'A' park prospecting is not allowed and that it is prohibited to mine any deposits in such an area is the main reason why miners oppose the creation of Class 'A' provincial parks. Their opposition might be reduced by thorough geological analysis of such areas prior to final designation as parks (Smith, 1970).

5. Importance of Recreation to the region

a) Recreation as a regional economic activity

Recreation in the region occupies a position of leading importance from an economic point of view. The region is well suited for such an activity due to its favourable climate, its accessibility, its water resource and its natural beauty. In the last decade the tourist industry has risen to play an important role in the region's economy. The British Columbia Financial and Economic Review, 1968, has estimated that for the province as a whole the net value of forest industry production from 1966 to 1967 was up 1.3%, farm cash receipts from 1966 to 1967 were up 3%, mineral, petroleum, and natural gas production income from 1966 to 1967 was up 14%, whilst recreation,
estimated by the Department of Travel Industry, was up 18.1%.

In the Okanagan Valley, from Kelowna to the U.S. border, the following values for various industries have been obtained:

<table>
<thead>
<tr>
<th>Industry</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. Beef cattle</td>
<td>$857,000</td>
<td>(Outlook Conference, 1966)</td>
</tr>
<tr>
<td>ii Lumber</td>
<td>$6,000,000</td>
<td>(Bureau of Economics and Statistics, 1964)</td>
</tr>
<tr>
<td>iii Tree fruits</td>
<td>$13,785,000</td>
<td>(Outlook Conference, 1966)</td>
</tr>
<tr>
<td>iv Tourist industry</td>
<td>$16,000,000</td>
<td>(Penticton Chamber of Commerce, 1968)</td>
</tr>
</tbody>
</table>

Of interest is the great importance of the tourist industry in the Okanagan Valley but for this data to be of greater significance for the purposes of this thesis, it is necessary to have information as to how the tourist in the Okanagan-Similkameen region spends his money and what proportion of it is spent (directly or indirectly) on recreating in large parks such as Cathedral Park.

The British Columbia Department of Travel Industry has stated that the province's revenue from visitors in 1968 increased to a record high of $345 million. A breakdown of this figure showing the distribution of this money is presented in Table 11.

It would be interesting to study whether large parks in the Okanagan-Similkameen region represent a great tourist attraction and whether it is possible to use the revenue generated within the region by the tourist industry as a justification for the creation of more large parks. It is possible that an outdoor minded tourist will not conform to this expenditure pattern as he will cut down on
lodging expenses (he will sleep in the park at a low cost), will
do little shopping (he already has his gear), and will spend little
on entertainment. Furthermore, the revenue generated by the tourist
industry is concentrated during the summer months though this may be
partly solved by promoting winter sports and conventions.

TABLE 11

Components of the Provincial tourist revenue

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>29%</td>
</tr>
<tr>
<td>Travel</td>
<td>24%</td>
</tr>
<tr>
<td>Lodging</td>
<td>20%</td>
</tr>
<tr>
<td>Shopping</td>
<td>17%</td>
</tr>
<tr>
<td>Entertainment</td>
<td>6%</td>
</tr>
<tr>
<td>Other</td>
<td>4%</td>
</tr>
</tbody>
</table>

b) Regional recreational facilities

The region's main tourist attractions are its warm prolonged
summers, its natural beauty, and its fairly well developed tourist
facilities. Only in recent years has the region become easily
accessible on first class roads, the opening of Roger's Pass in the
early sixties and the improvement of the Hope Princeton Highway
helping to bring this about.

There are numerous parks in the region, two of which are
greater than 6,000 acres. Manning Park, Class 'A', was established
in 1941. Cathedral Park, also Class 'A', was established in 1968.
The first covers an area of 176,433 acres, the second comprises 18,217
acres.

The total acreage of Class 'A' and 'C' parks in the region
(July, 1969) amounts to 201,303 acres, or 7.5% of the region's total
area (Penticton Regional Planning Board, 1969). This corresponds
to about 5.7 acres of parkland per person in the region (1966
population census).

There is an additional 17,132 acres of public reserves or parks
in preparation, gazetted, or map reserved (Okanagan-Similkameen
Regional District). See map 4.

The smaller parks provide good camping facilities and are
usually close to highways and are located on scenic sites. Apart
from these, there are private camping facilities located in or near
urban centers which charge more than the nominal one dollar fee
charged by the Parks Branch for a night's camping.

There are also a great number of motels and hotels catering
to tourists looking for greater comfort.

c) Future park proposals

Apart from the existing parks there are a number of areas
which have been proposed as suitable park areas (Map 4). The Okanagan-Similkameen Parks Society (OSPS) is endeavouring to have more land set aside for park use in three main areas: Cathedral Park, Apex-Brent Mountain, and Okanagan Mountain. Furthermore, in the Vaseaux Lake area the Society has bought approximately 800 acres of land to provide winter range for a band of "over 250 California Bighorn Sheep which winter on the rocky ledges above highway 97." (OSPS, 1968).

The land in these four areas amounts to roughly 106,900 acres. Together with existing park land and areas reserved for possible future parks, there would be a total of 325,335 acres or about 9.2 acres of existing, reserved, or proposed park land per person in the region (1966 population census). These figures include about 60,000 acres of Manning Park (Map 4) which is not included within the region's boundaries as outlined in map 3. They compare very favourably with the provincial average of 3.46 acres of existing park land, including Class 'B' parks, (1970) per person (1966 population census).

In 1968 the Department of Recreation and Conservation acquired 35,000 acres of land northeast of Cathedral Park which the Fish and Wildlife Branch is to administer as a game management area, timber cutting, cattle grazing, and mining being relegated to secondary positions. It includes key wintering range for the California Bighorn Sheep. This area has not been included in the preceding calculations (Map 4).
Regional resource use conflicts

a) Existing regional land use conflicts

The region under study has experienced in the last few decades considerable economic growth which has been mostly at the expense of its renewable and non-renewable natural resources. With increased affluence the region's population has commenced to change its values from, "development at all costs" to "development but not at the expense of certain regional values". Initially these values were minimal and of scant importance to the public. Recently an increased number of educated and affluent persons retiring in the region, coupled with a continent wide conservation movement of public concern over resource use and preservation, has translated itself into action by organized groups of citizens to preserve natural resources.

One other factor which has lent importance and urgency to this change in attitude is the fact that more people are engaging in tourism. The region has a high tourist attraction and has witnessed all economic activities being displaced by tourism. Accordingly, much development has been aimed at satisfying this requirement.

The region's development has brought about many conflicts, and traditional resource uses are now being questioned and often superceded by other uses. This is the case of logging, which has in the past had almost unabridged rights over all other forest resources, at present finds itself no longer enjoying this exclusive right. The situation becomes pressing as all forest lands are under
sustained yield and the forest industry realizes that there is a ceiling to its possible expansion. If it is to expand measures that require substantial investment and changes will be required. The situation becomes acute when the region's forest land is decreased and logging is superceded by other activities which are given preference, as at present occurs with some recreational uses of forest lands.

Grazing on Crown land is another activity that in some areas has been displaced by the recreational use of the land. Again the problem becomes acute when it is realized that most grazing areas are at present in use and that to increase the range's capacity, intensive management practices will have to be applied.

Agricultural activities are also faced with other uses that compete for land. One of the most important competing uses is represented by urban sprawl and industrial development both of which require lands at present under, or with potential, agricultural use.

Undoubtedly the most important conflicting land use recently realized is the use of areas for recreational purposes. It competes with all other uses and demands varying types of land often in large amounts. It is a conflicting use which is difficult to justify from an economic point of view, lends itself to highly emotional attitudes and reasoning for some people, and due to the increasing importance of tourism in the region, should be carefully analyzed, understood, and acted upon.
The Cathedral Park land use conflict is an example of the lack of information and planning which seems to characterize the government's actions in such conflicts. In interviews held with the different parties involved, graziers, representatives of the Forest Industries, representatives of Cathedral Lakes Resort Ltd., and representatives of the Okanagan-Similkameen Parks Society, this lack was an important issue and one that caused concern to these parties.

"There certainly should be a commission of some kind with experts in each field, in the mining, logging, lumber industry, recreation, cattle graziers; all uses of land. The government agencies should not all be separated in different departments, one not knowing what the other is doing... There is no correlation in the planning of our land use and this lack of planning is going to go on from bad to worse as more and more people and industries want to develop the area." (Madsen, representative of the OSPS, 1969).

"We have had no notification from the Parks Branch that that (the area) is a park, yet. As far as we are concerned, the company owns land in there, and I own land in there personally, and they have never come out and wrote a letter to the effect that this is going to be surrounded by a park. We know it of course, but it should be official somewhere along the line." (Clark, representative of Cathedral Lakes Resort Ltd., 1969).

"We had been led to believe ... that there was absolutely no cause for concern on our part; that the park would not be put in without us having a chance to submit our views or opinions about it ... and low and behold, one morning ... the park was made into a wilderness area."

"Our company was very upset about this and this particular one, I know, is also very much the pattern; alienating
the land's resources before giving other users the proper chance to let the government know how they feel about it."
(Stinson, representative of Northwood Mills Ltd., 1969).

"Actually we were assured when this talk about the park was going on that our grazing permit, if they did make a park, would never be affected, and it was only a week after that park was established that we had that one permit cancelled. So, it makes you wonder just where you stand in this business."
(Wilson, grazier, 1969).

c) Organizations defending different uses of regional natural resources

i) Okanagan-Similkameen Parks Society

A brief to the Minister of Recreation and Conservation on the establishment of an integrated provincial parks program in the South Okanagan-Similkameen region by the Parks Society, outlined this Society's objectives in the following manner:

"Early in 1966 the Okanagan-Similkameen Parks Society was founded in order to unify the many voices of individuals and organizations that in the past have petitioned for the establishment of provincial parks in the area, and to organize the many proposals into one over-all integrated plan that will give the greatest benefits, aesthetically and economically, to this region."
(OSPS).

The Society, with headquarters in Summerland, has fourteen directors and its membership, having doubled in the past two years, at present (September, 1969) stands at about 620 private members.

There are a number of affiliated organizations, a list of which is to be found in Appendix 2.
This Society has achieved a great deal in its short history; its efforts to obtain a large Class 'A' provincial park in the region were instrumental in having the Cathedral Lakes and surrounding area established as a Class 'A' park (Ahrens, Director Parks Branch, 1969).

At present the Society wishes to see Cathedral Park's area extended to include about four times its present area and also is petitioning the government to set aside land for park use in the four areas mentioned previously and outlined in Map 4. Its goals also include game preservation, mainly the California Bighorn Sheep, and with this aim in view it acquired over 700 acres of land in the Vaseaux Lake region.

At present the Society is working towards expansion of the region's provincial parks outdoor recreational and conservation facilities so that the tourist industry will benefit. It is questionable whether its demands can be met given the sizeable areas involved and debatable whether large park areas constitute the best recreational development for the region.

In the case of Cathedral Park accessibility is too great and the park itself too small to be considered a wilderness area (Parks Branch, 1969). The region itself seems to be better suited to an intensive recreational development that would provide economic growth and would eventually eliminate the need for primary industrial complexes that make use of natural resources.

At present there are more pressing problems that are (and will keep on) decreasing the region's tourist attractiveness. One
of these is the increase of small roadside business developments that reduce the beauty of the natural settings. As Mr. J.L. Northey, Director of the South Okanagan Regional Planning Board, has stated:

"... in order to ensure the retention of these priceless features" (major beauty and recreation areas), "we should stop the construction of 'stripvilles' and unregulated development of questionable quality and desirability in unorganized territory and along our highways. This practice both undermines the efficiency of tourist routes and adds little to the attractiveness of the landscape tourists have come to see. Commercial sprawl, both within and without municipalities serves to downgrade values, encourage low quality, sterilize and waste land for other uses, increase speculation, increase inconvenience for the tourist, and add to traffic congestion. Concentration of tourist facilities around the major points of interest can stop these problems, or at least deal with them a little more reasonably. However, even the best intentions of a municipality can be nullified if unregulated strip development is permitted outside its boundaries.

Civic design and development policies should treat the tourist facility with the same care and thought which is applied to the selection of long-range industrial sites. The best areas for tourist development should be reserved and protected from mediocre development which can deter future substantial investment. As you know, we protect our industrial sites - we pick out industrial areas and reserve them from subdivision, so that they will be attractive to industry. Well, tourism is an industry, so let's give it the same attention." (South and Central Okanagan Regional Planning Boards, 1965).

ii) British Columbia Interior Resource Users Council

The British Columbia Interior Resource Users Council was first established in 1963. It lay dormant for 6 years and on January 6, 1969 was reactivated, partly due to the way in which Cathedral Park was established which took the region's resource users by surprise.
The Council's members are as follows:

- Association of Irrigation Districts of B.C.
- B.C. Beef Cattle Association
- B.C. Sheep Breeders Cooperative Association
- B.C. Wildlife Federation
- B.C. and Yukon Chamber of Mining
- Cariboo Lumber Manufacturers Association
- Interior Lumber Manufacturers Association
- Mining Association of B.C.
- Northern Interior Lumberman's Association

The aims and objectives of the Council are:

"To achieve a harmony in the use of the resources of the Province, to review applicable legislation both current and proposed, to consider the optimum use of the resource as a whole, and give equal consideration to all individual resources and their utilization."

d) Existing and proposed parks

The existing and proposed parkland within the region under study has been analyzed in Chapter III, Section 5a, and in Chapter III, Section 6b. Areas which at present the Okanagan-Similkameen Parks Society petitioning the government to have included in the Province's parkland also have been discussed. To obtain an overall picture of the existing and proposed park areas of the region a map (Map 4) has been provided of these areas.
IV. CATHEDRAL PROVINCIAL PARK AND SURROUNDING AREA

1. Description of the Area

Cathedral Park was established as a Class 'A' Provincial Park by Order-in-Council #1409 which was approved May 2, 1968. It is placed under Category 6, "because it offers a multitude of recreational opportunities; in other words it has not been designated park for one single dominating purpose" (Parks Branch, 1969). By Order-in-Council #1462, approved May 6, 1969, 1,737 acres, formerly covered by mineral claims, were added to the park increasing its total area to 18,217 acres.

Cathedral Park is situated 14 miles southwest of Keremeos. It is in the Similkameen District in the south central area of British Columbia, east of Manning Park, and south-east of Princeton (Map 1), and is in Region 1 of the Kamloops Park District. Its administration comes under the Parks Act that does not recognize a wilderness classification. Its management is entrusted to the Parks Branch of the Department of Recreation and Conservation.

The extension analyzed in this thesis comprises two areas of land on either side of the park that add up to a total area, including the existing park, of about 83,000 acres.

a) Boundaries

Cathedral Park's boundaries encircle the most significant recreational features of the area. The southern boundary coincides with the International border; the northern boundary runs just north
of a section of the Ashnola River. The eastern and western boundaries tend to follow significant topographical features; they include Lakeview River Valley and thus provide a public access route from the Ashnola River and the Forestry Development road that runs along this valley into Cathedral Lakes area (Map 5).

The park extension which is under analysis has natural boundaries as requested by the Okanagan-Similkameen Parks Society. They are the Ashnola River on the north and west, Ewart Creek and Haig Creek on the east, and the International border on the south (Map 5). The use of natural boundaries such as these to delineate the parks present certain disadvantages, the main one being the possibility of having one side of a scenic valley left untouched whilst the natural resources on the other side are harvested. A possible solution to this is to have the boundaries follow the highest sides of the valley thus including in the park the complete valley. The main advantage of having creeks and rivers as boundaries is the facility with which boundaries are established, maintained, and park values protected.

b) Topography

Cathedral Park's boundaries include a section of the Ashnola River Valley with its lowest point at 2,800 feet elevation. It also includes Lakeview Creek and its drainage area, Cathedral Lakes. This valley climbs steeply away from the Ashnola River and is used as an access route to the lake area. The six lakes which comprise the
lake area are about 7,000 feet above sea level:

<table>
<thead>
<tr>
<th>Lake Name</th>
<th>Elevation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scout Lake</td>
<td>6,950</td>
</tr>
<tr>
<td>Quinisco Lake</td>
<td>6,750</td>
</tr>
<tr>
<td>Woods Lake</td>
<td>6,750</td>
</tr>
<tr>
<td>Pyramid Lake</td>
<td>6,750</td>
</tr>
<tr>
<td>Glacier Lake</td>
<td>7,250</td>
</tr>
<tr>
<td>Lady Slipper Lake</td>
<td>7,250</td>
</tr>
</tbody>
</table>

In a southern direction and partially encircling the lakes, there is a series of mountains that form the Cathedral and Sawtooth Range, an unglaciated mountain range of great beauty. Its elevation ranges from 8,500 to 8,570 feet and it includes various scenic features such as Stone City, Giant Cleft, and Pyramid Mountain (B.C. Department of Travel Industry, 1969). The highest peaks are easily accessible and rock climbing skill is not required to ascend them. There are features, however, which have excellent climbing possibilities.

Cathedral Park includes alpine meadows with large slopes of open grassland mixed with flowers and a few open stunted alpine firs.

The area surrounding the park is mostly above 4,000 feet elevation, only the valley bottoms of the lower parts of the Ashnola River and Ewart Creek being below this elevation. It includes a few heavily timbered valleys, alpine meadows, and other scenic areas such as Haystack Lakes. This last area is a proposed park reserve (Okanagan-Similkameen Regional Planning Board, 1969). There are also two mountains known as Twin Buttes of 7,464 and 7,486 feet elevation (Map 7).
c) Climatic conditions

Cathedral Park's key features (lakes, surrounding mountains, and alpine meadows) have an average elevation of 6,700 feet. Due to this they are usually inaccessible after the first snowfalls which occur in late September or early October, until it melts in the latter part of June. Therefore, there are three months of the Summer, July 1 to October 1, during which the high altitude area is suitable for recreative use.

A significant part of the area under study outside of the park is above 6,000 feet and consequently has the same climatic conditions as the higher elevations of Cathedral Park. The forested valleys that characterize this area can be used for recreative purposes during a longer period.

d) Vegetational characteristics

The natural vegetation found in Cathedral Park and surrounding areas reflects the great variation in topography, climate, and soils. It is representative of the subalpine forest of the southern interior plateau of British Columbia where Douglas fir, lodgepole pine, and Engelmann spruce form the principal species. Lodgepole pine is found in relatively pure stands on burnt out areas, whilst the other two species form relatively open stands in areas other than valley bottoms.

Open grasslands with occasional scattered Douglas fir occur on the more southerly exposed slopes to 6,000 feet (Demarchi, 1965).
Above this elevation on southerly exposed slopes and lower on northerly exposures, Engelmann spruce and alpine fir occur in climax stands (Jorden, 1966). Forested areas give way to open sedge and willow meadows which reach the alpine zone above the 7,000 feet elevation mark. Cathedral Park itself has a high proportion of non-timbered land part of which is alpine meadowland.

The lower meadows of the region, when undisturbed, support a climax community dominated by bluebunch wheatgrass (*Agropyron spicatum* (pursh) Scribn, & Smith), and Junegrass (*Koelaria cristata*), at 3,500 to 4,500 feet (Demarchi, 1965). Moderate and heavy grazing decreases these species and increases the amount of sagebrush and accompanying species, and bares the ground. The *Agropyron Koelaria* community is usually partially replaced by a Junegrass and Sandberg bluegrass (*Poa secunda*) seral community with grazing, giving a marked loss in productivity. Between 4,500 and 6,200 feet *Festuca idahoensis* is found with bluebunch wheatgrass in climax condition. With overgrazing they are replaced by Columbia needlegrass, sagebrush, and Junegrass.

At the upper subalpine level one finds an alpine fir community dominated by *Abies lasiocarpa* (Nutt.) and several interrelated grass and herb communities. Depth of soil and moisture appear to be the chief determinants of these communities.

In addition, 'small sedge' and 'wet meadow' communities provide high quality summer grazing suitable for domestic stock and summer and early fall grazing for wildlife. The alpine tundra,
generally above 7,500 feet, has vegetation which is variable and is characterized by a large number of species of grasses, herbs, sedges, and rushes.

The area surrounding Cathedral Park presents similar vegetation and forest types. The main difference resides in the fact that Cathedral Park was chosen in such a way as to minimize natural resource conflicts (Parks Branch, 1969). Due to this there is a significant difference in forest cover quality, there being a greater amount of more valuable timber in the area on either side of the park, mainly in the valleys which are fairly numerous.

e) Accessibility

Access to the park is by a partially gravelled Forest Development road that branches off Highway No. 3 (Southern Trans-Provincial Highway), 6 miles west of Keremeos. This road follows the Ashnola River Valley for over 30 miles, traversing the northern section of the park and ending in Wall Creek Valley. Leading off from this road are hiking trails into the lake area of the park which represent at least a six hour hike.

An upper trail leads from the confluence of the Ashnola River and Ewart Creek to Lakeview Valley; climbing steeply, it follows a more open course than the lower trail and affords a good view of the surrounding countryside.

The lower trail follows Lakeview Creek very closely, particularly the upper half, and goes through fairly dense but small
stands of spruce. In summer this route is particularly attractive due to the shade and cool temperatures afforded by the forest cover.

Both trails afford a climb from 2,800 feet elevation to 6,800 feet and are approximately 10 miles long.

Once the lake region of the park has been reached, there are trails leading east, passing by Twin Buttes and joining up to a trail that runs along Ewart Creek from the Ashnola River. There are also other trails leading into this area from Wall Creek and Ewart Creek (Map 8).

There is a four wheel drive access road that was built by Cathedral Lakes Resort Ltd., which starts from a privately owned lot situated on the southern bank of the Ashnola River where a bridge has been built to provide access to the Ashnola Forestry Development road.

On March 30, 1965, Mr. T.W. Fleet, on behalf of Cathedral Lakes Resort Ltd. made application to construct a road from Lot 2056 S in the Ashnola Valley east of Lakeview Creek, south to the Lots 3235 S and 3236 S both in the lake area, a distance of some 10 miles. A form letter of agreement to build this road was given to Mr. Fleet by the Superintendent of Lands, June 11, 1965, as there was no apparent conflict with this road appearing on the status sheet.

A greater part of this road has been built on Crown land and the use of this portion of the road by private vehicles cannot be prohibited legally as long as the owners of the vehicles do not
enter any part of the road on private land. This is theoretical as there is no vehicular access to this road other than over the bridge owned by the Cathedral Lake Resorts company that leads to Lot 2056 S.

The Company provides transportation from the Forestry Development Road into the lake area for a fee of $10 per person. For an additional $5 per person, per night it provides a cabin with cooking facilities and bunks; for $25 per person, per day, it provides transportation, room and board, and other facilities such as a boat and fishing gear, and guiding services.

f) Fish and wildlife

As early as 1941 (Lyons, 1941) it has been considered that:

"The Ashnola River has for many years been a favourite fishing spot for American tourists and local people. From 6 to 12 camping parties along the river are common on the weekends."

"Quinisco, Pyramid, Glacier, and Lake of the Woods contain fish from stocking in past years. There appears to be both Kamloops and cut-throat trout in Quinisco Lake. At present Glacier Lake has the largest stock of consistently big fish, ranging up to 10 pounds in weight. Lady Slipper was stocked in 1938 and will offer wonderful fishing from now on. Added to the enjoyment of fishing itself is the magnificent scenery around the lake.

It is reported that Indians take a great many fish from these lakes during the spawning season..."

Apart from good fishing in some of the lakes there is also a certain amount of game (Lyons in 1941 did not consider it a good hunting area). Spruce grouse exist in large numbers, blue grouse
are to be found at timberline, and ptarmigan are also seen.

Other wildlife resources are mule deer, (Odocoileus hemionus), bighorn sheep (Ovis canadensis), and mountain goat (Oreamnus americanus), which are common during some parts of the year. Bears (Ursus americanus), are relatively common too. Smaller animals found in the region are ground squirrels (Citellus sp.), chipmunks (Eutamias sp.), tree squirrels (Tamiasciurus sp.), porcupine (Eratizon dorsatum), varying hare (Lepus sp.), badger (Taxidea taxus), marmot (Marmota sp.), mink (Mustela vison), fisher (Martes pennanti), marten (Martes americana), and pika (Ochonta princeps) (Bandy, 1952).

g) Mining

Within the boundaries of Cathedral Park there are at present no valid mineral claims, the existing ones amounting to 1,737 acres having reverted to the Crown which by Order-in-Council #1462, approved May 6, 1969, were included in the park's acreage. By Order-in-Council #3104 approved October 5, 1967, a mineral claim and placer reserve has been applied to the park's area and no more mineral claims may be established within the park's boundaries.

The mineral claims which are still valid within the boundaries of the Ashnola River, Ewart Creek, and the International border are few and are to be found slightly north of the confluence of the Ashnola River and Wall Creek (Department of Mines and Petroleum Resources, 1969). A block of claims at the mouth of Ewart Creek has been forfeited as also has a group of claims at the mouth of
Wall Creek.

None of the claims have yielded mineral deposits worth mining and there do not seem to be any sizeable mineral deposits in the region, though the Mining Association of British Columbia states that this cannot be proved and until it has been proved they would not like to see prospecting prohibited on such a large area of land.

2. Forestry

a) Forest tenure and forestry development

The area surrounding Cathedral Park (Map 5), lies within the Ashnola Public Sustained Yield Unit (PSYU) which is in the Kamloops Forest District as indicated in Map 6.

Almost all the land within the area under study belongs to the Crown with exception of a few small areas which are in private ownership. These are mainly found in the Ashnola River Valley and two of them are within Cathedral Park itself. Excluding these small privately owned areas and the park itself, the Crown may dispose of the timber on the rest of the land.

Until recently there has been limited road access into the areas where the best timber is to be found, mainly Wall Creek Valley. At present a partially gravelled Forestry Development road exists which will permit the extraction of the area's timber.

b) Timber volumes and land capability

The area surrounding Cathedral Park, as outlined in Map 5,
KAMLOOPS FOREST DISTRICT

LEGEND
Approved Unit
Tree Farm Licence
Major Provincial Parks

Cathedral Park
encloses a volume of 56,796 M c.f. of timber (B.C. Forest Service, March 1969). This is the volume of all stems 7.1" + d.b.h. (4.5 feet) at close utilization (1 foot stump to a 4.0" top diameter inside bark) with gross volume reduced for decay only. This volume is present on 15,840 acres and is made up of the following species:

<table>
<thead>
<tr>
<th>Species</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Douglas fir</td>
<td>7,050,000 cubic feet</td>
</tr>
<tr>
<td>balsam</td>
<td>2,804,000 &quot; &quot;</td>
</tr>
<tr>
<td>spruce</td>
<td>20,211,000 &quot; &quot;</td>
</tr>
<tr>
<td>white pine</td>
<td>1,305,000 &quot; &quot;</td>
</tr>
<tr>
<td>lodgepole pine</td>
<td>25,377,000 &quot; &quot;</td>
</tr>
<tr>
<td>yellow pine</td>
<td>42,000 &quot; &quot;</td>
</tr>
<tr>
<td>birch</td>
<td>5,000 &quot; &quot;</td>
</tr>
<tr>
<td>aspen</td>
<td>2,000 &quot; &quot;</td>
</tr>
</tbody>
</table>

The Forest Service estimated that at March 1969 Southern Interior Stumpage rates, the mature volume of standing timber equivalent to 56,796 M c.f. was worth approximately $3,420,000 in direct revenue to the Provincial Government. This amount is greatly increased when the value of dressed lumber that could be produced from the standing timber is considered, which based on current Southern Interior lumber prices, was estimated at $30,283,000. Neither the stumpage nor the lumber value estimate takes into account the secondary benefits associated with the logging and sawmilling industry.

There are no current timber sales in the area bounded by the Ashnola River, Ewart Creek, and the International border. No harvesting operations may be conducted in any area of a PSYU prior to the approval of a Development Plan by the B.C. Forest Service
which will then issue a Cutting Permit. At present no Development Plan covers the area in question (B.C. Forest Service correspondence, 1970). Northwood Mills are at present writing a Development Plan for this area and will soon submit it to the B.C. Forest Service.

The Agricultural and Rural Development Act (ARDA) encourages joint Federal and Provincial cooperation in different programs among which is the Canada Land Inventory (CLI). The CLI's aim is to classify areas of land according to its capabilities for agriculture, forestry, recreation, wild ungulates, and waterfowl. This information will be mapped and will be used by the provincial governments for regional planning. Part of this information is already available and Map 7 corresponds to the CLI classification of the area under study according to its capability for growing commercial forests.

It can be observed that a high proportion of the area presents severe limitations to the growth of commercial forests (Classes 5 and 6) or even precludes the growth of commercial forests (Class 7). The rest of the area presents moderately severe limitations to the growth of commercial forests (productivity usually from 51 to 70 cubic feet per acre per year) with very few areas presenting only moderate limitations to the growth of commercial forests (productivity usually from 71 to 90 cubic feet per acre per year). The poor quality of the soils for commercial timber production due to the steep, rocky, mountainous terrain emphasizes the limited supply of timber, and therefore, the premium that lies on all stands of
accessible commercial mature and immature timber in the Ashnola PSYU.

c) Dependence of local economy on the area's timber resources

The B.C. Forest Service, with reference to the stumpage and lumber values of the forest resources within the area under study, have stated in a letter to the Okanagan-Similkameen Parks Society, dated March 5, 1969, the following:

"When volumes such as these are being considered, you cannot overlook the side effects on neighbouring Public Sustained Yield Units, namely the Ashnola and Okanagan. Any removal of mature and/or immature stands from these units, anywhere in Ranger District 10, would have a direct effect on the allowable annual cut or sustained yield capacity of these units. The close utilization allowable cut of the Ashnola is 5,600,000 cubic feet and for the Okanagan 25,415,000 cubic feet. This means that at current lumber prices, these two Units combined are contributing each and every year approximately $16,500,000 to the economy of British Columbia and will continue to do so in perpetuity. In fact with rising prices the contribution becomes greater each year.

The area outlined" (area on either side of Cathedral Park as outlined in Map 5), "contains 15,840 acres of mature as well as 21,706 acres of immature, excluding Cathedral Park. These 37,546 acres represent some 10% of the total mature and immature area in the entire Ashnola. You can therefore appreciate that removal of these stands from the Ashnola PSYU would have a direct and adverse effect on the local economy."

The Ashnola PSYU has a net volume of timber amounting to 466,877 M c.f. and it has been calculated that 5,679 M c.f. represents the annual allowable cut. At present the total annual
LAND CAPABILITY CLASSIFICATION FOR FORESTRY (C.L.I.)
DESCRIPTIVE LEGEND OF LAND CAPABILITY CLASSIFICATION FOR FORESTRY (CLI)

In this classification all mineral and organic soils are grouped into one of seven classes based upon their inherent ability to grow commercial timber. The best lands of Canada for commercial tree growth will be found in Class 1 and those in Class 7 cannot be expected to yield timber in commercial quantities; these represent the extremes. Because of unsuitable climate no Class 1 lands will be found in several regions of Canada and in certain regions the Class 2 areas will be too small to show at the chosen scales of mapping.

Some of the important factors on which the classification is based are:
- All known or inferred information about the unit including subsoil, soil profile, depth, moisture, fertility, landform, climate and vegetation.
- Associated with each capability class is a productivity range based on the mean annual increment of the best species or group of species adapted to the site at or near rotation age. Productivity classes are expressed in gross merchantable cubic foot volume to a minimum diameter of four inches. Thinnings, bark, and branch wood are not included. The productivity as expressed is that of "normal", i.e., fully-stocked stands. It may be assumed that only good management would have produced stands of this nature.
- The following are not considered: location, access, distance to markets, size of units, ownership, present state or special crops such as Christmas trees.

The classes are based on the natural state of the land without improvements such as fertilization, drainage or amelioration practices. It is realized that with improved forest management the productivity may change; to the extent that the limitations shown in the symbol may be altered, class changes may also take place. However, significant changes will only be achieved through costly and continuing practices.

Class 1 - Lands Having No Important Limitations to the Growth of Commercial Forests

Soils are deep, permeable, of medium texture, moderately well-drained to imperfectly drained, have good water-holding capacity and are naturally high in fertility. Their topographic position is such that they frequently receive seepage and nutrients from adjacent areas. They are not subject to extremes of temperature or evapotranspiration. Productivity will usually be greater than 111 cubic feet per acre per year.

When required this class may be subdivided on the basis of productivity
into classes 1 (111 to 130), la (131 to 150), lb (151 to 170), lc (171 to 190), ld (191 to 210), and by 20 cubic foot classes thereafter, as necessary.

**Class 2 - Lands Having Slight Limitations to the Growth of Commercial Forests**

Soils are deep, well-drained to moderately well-drained, of medium to fine texture and have good water-holding capacity.

The most common limitations (all of a relatively slight nature) are: adverse climate, soil moisture deficiency, restricted rooting depth, somewhat low fertility, and the cumulative effects of several minor adverse soil characteristics. Productivity will usually be from 90 to 110 cubic feet per acre per year.

**Class 3 - Lands Having Moderate Limitations to the Growth of Commercial Forests**

Soils may be deep to somewhat shallow, well to imperfectly drained, of medium to fine texture with moderate to good water-holding capacity. They may be slightly low in fertility or suffer from periodic moisture imbalances.

The most common limitations are: adverse climate, restricted rooting depth, moderate deficiency or excess of soil moisture, somewhat low fertility, impeded soil drainage, exposure (in maritime areas) and occasional inundation. Productivity will usually be from 71 to 90 cubic feet per acre per year.

**Class 4 - Lands Having Moderately Severe Limitations to the Growth of Commercial Forests**

Soils may vary from deep to moderately shallow, from excessive through imperfect to poor drainage, from coarse through fine texture, from good to poor moisture holding capacity, from good to poor structure and from good to low natural fertility.

The most common limitations are: moisture deficiency or excess, adverse climate, restricted rooting depth, poor structure, excessive carbonates, exposure, or low fertility. Productivity will usually be from 51 to 70 cubic feet per acre per year.

**Class 5 - Lands Having Severe Limitations to the Growth of Commercial Forests**

Soils are frequently shallow to bedrock, stoney, excessively or poorly drained, of coarse or fine texture, may have poor moisture holding capacity and be low in natural fertility.
The most common limitations (often in combination) are: moisture deficiency or excess, shallowness to bedrock, adverse regional or local climate, low natural fertility, exposure particularly in maritime areas, excessive stoniness and high levels of carbonates. Productivity will usually be from 31 to 50 cubic feet per acre per year.

**Class 6 - Lands Having Severe Limitations to the Growth of Commercial Forests**

The mineral soils are frequently shallow, stoney, excessively drained, of coarse texture and low in fertility. A large percentage of the land in this class is composed of poorly drained organic soils.

The most common limitations (frequently in combination) are: shallowness to bedrock, deficiency or excess of soil moisture, high levels of soluble salts, low natural fertility, exposure, inundation and stoniness. Productivity will usually be from 11 to 30 cubic feet per acre per year.

**Class 7 - Lands Having Severe Limitations Which Preclude the Growth of Commercial Forests**

Mineral soils are usually extremely shallow to bedrock, subject to regular flooding, or contain toxic levels of soluble salts. Actively eroding or extremely dry soils may also be placed in this class. A large percentage of the land is very poorly drained organic soils.

The most common limitations are: shallowness to bedrock, excessive soil moisture, frequent inundations, active erosion, toxic levels of soluble salts, and extremes of climate or exposure. Productivity will usually be less than 10 cubic feet per acre per year.

**SUBCLASSES**

Except for Class 1, subclasses indicate the kind of limitation for each class. The subclasses are as follows:

**Climate** - Denotes a significant departure from what is considered the median climate of the region, that is, a limitation as a result of local climate; adverse regional climate will be expressed by the class level.

- **Subclass A** - droughty or arid conditions as a result of climate.
- **Subclass C** - a combination of more than one climatic factor or when it is not possible to decide which of two or more features of climate is significant.
- **Subclass H** - low temperatures, that is too cold.
- **Subclass U** - exposure.

**Soil Moisture** - Denotes a soil moisture condition less than optimum for the growth of commercial forests but not including inundation.

- **Subclass M** - soil moisture deficiency.
- **Subclass W** - soil moisture excess.
Subclass X - a pattern of "M" and "W" too intimately associated to
map separately.

Permeability and Depth of Rooting Zone - Denotes limitations of
soil permeability or physical limitation to rooting depth.

Subclass D - physical restriction to rooting by dense or consolidated
layers, other than bedrock.
Subclass R - restriction of rooting zone by bedrock.
Subclass Y - intimate pattern of shallowness and compaction or other
restricting layers.

Other Soil Factors - Denote factors of the soil which, individually
or in combination, adversely affect growth.

Subclass E - actively eroding soils.
Subclass F - low fertility.
Subclass I - soils periodically inundated by streams or lakes.
Subclass L - excessive levels of calcium.
Subclass N - excessive levels of toxic elements such as soluble salts.
Subclass P - stoniness which affects forest density or growth.
Subclass S - a combination of soil factors, none of which, by themselves
would affect the class level but cumulatively lower the capability class.

Tree Species Indicators

The species which can be expected to yield the volume associated with
each class are shown as part of the symbol. Only indigenous species
adapted to the region and land are shown. Where only one species
indicator is shown in a complex it applies to all classes.

P . . . . . . Ponderosa Pine
P
alF . . . . . Alpine Fir
IP . . . . . Lodgepole Pine
D . . . . . . Douglas Fir
eS . . . . . . Engelmann Spruce
The annual allowable cut represents 12 per cent of the Ashnola's allowable annual cut on a close utilization standard. It corresponds to 16.2 per cent of Northwood's total annual cut of 4,218 M c.f. harvested in the Ashnola PSYU (1,750 M c.f.), Okanagan PSYU (1,668 M c.f.), and Okanagan TFL (800 M c.f.) at present standards of utilization. It is estimated that it will correspond to 6.1% of Northwood's total annual cut in the Okanagan and Similkameen PSYUs and Okanagan TFL when these areas come under close utilization standards.

The utilization of the annual allowable cut of 684 M c.f. of timber will generate employment and wealth in various sectors of the region's economy through wages, salaries, profits, etc., paid to the parties involved in the utilization of this resource. The following computations represent the generated wealth and have been derived with the use of factors applied to each major group involved in the utilization of the resources. These figures represent

---

5 Annual harvests are determined by the B.C. Forest Service basically through the use of a modified Hanzlick formula, where the sustained annual yield is obtained by dividing the volume of mature timber by the rotation and adding to this the mean annual increment of the immature timber. For further details refer to Young, 1969.
average figures paid to each group by Northwood Mills for each M c.f. of timber extracted from an area.

<table>
<thead>
<tr>
<th>Group</th>
<th>$ factor/M c.f.</th>
<th>Volume (M c.f.)</th>
<th>$ revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contract loggers</td>
<td>190</td>
<td>684</td>
<td>129,960</td>
</tr>
<tr>
<td>Company operating and fixed costs (management, secretaries, etc.)</td>
<td>110</td>
<td>684</td>
<td>75,240</td>
</tr>
<tr>
<td>Milling costs</td>
<td>200</td>
<td>684</td>
<td>136,800</td>
</tr>
<tr>
<td>Forest Service (cruising, scaling, administration costs, etc.)</td>
<td>30</td>
<td>684</td>
<td>20,520</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
<td>362,520</td>
</tr>
</tbody>
</table>

The following represents the amount that is paid to the B.C. Forest Service each year for the use of this resource:

- Stumpage (varies considerably, e.g. from $3-20/ C c.f.) Present stumpage rates are $3/C c.f. $ 20,520
- Forest protection (12c/acre) If the 684 M c.f. are on 1000 acres $ 120
- Forest rental (50c/acre) $ 500
- TOTAL $ 31,140

The wealth generated through the utilization of the 684 M c.f.

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6 The annual revenue foregone from forestry can be expressed as a present worth of a perpetual annual stream discounted at a given interest rate. A 5 per cent interest rate gives a present worth of $7,250,000; an 8 per cent interest rate gives a present worth of $4,531,500.
($362,520) will be cycled back into the system and will in turn generate secondary and tertiary wealth. A multiplier factor ranging from 3 to 5 is used to determine the total wealth generated through the use of the annual allowable cut on the areas beside Cathedral Park (Ontario Department of Lands and Forests 1969, Flora 1967). A factor of 3 gives a total annual wealth of $1,087,560; a factor of 5 increases this value to $1,812,600.

Apart from the financial aspects involved, there are other more practical problems encountered if Cathedral Park's area is increased to 83,000 acres and logging is eliminated on this tract of land. Northwood Mills has planned mill expansion to utilize the increased volume of timber that will become available when this PSYU goes on a close utilization standard. This investment is in the order of $10,000,000 with the mills being located in the Princeton and Penticton areas. The loss of cutting rights amounting to 12% of the Ashnola's PSYU's annual allowable cut will effect this planned expansion in both Penticton and Princeton mills as approximately 70% of the timber cut in the Ashnola PSYU will go to Princeton, while the rest will go to the Penticton mill. It is further complicated, as almost all the region's annual allowable cut has already been allocated and if further timber is to be obtained it will have to be from private sources (timber on privately owned land) or at the expense of smaller independent loggers whose cutting rights will be bought out.
3. Grazing

a) Grazing history

During the late nineteenth century and the early part of the twentieth century sheep were grazed in the high alpine meadowlands of the Cathedral Lake area (Copeland, personal communication). When beef production provided better returns to the graziers' investment, sheep were replaced by cattle. Present grazing possibilities within the area under study are not very good. Jorden (1966) after studying a section of the area stated:

"Much of the study area is too heavily forested to permit grazing. Steep rocky slopes, heavily wooded in some parts, sparsely wooded in others, surround most of the region and are also unsuitable for grazing! Immediately west of Cathedral Lakes, steep bare slopes rising to rugged peaks are also too poor to provide forage for anything but mountain goats and perhaps bighorn sheep."

There are, however, three main grazing areas. In the Lake region of the Park there are alpine meadows suitable for grazing, cattle having been grazed there until park creation in May 1968. At present these areas officially are grazed by wildlife only. Outside the present park boundaries there are two areas suitable for grazing cattle: Haystack Lakes area and Wall Meadow, southwest of Ladyslipper Lake. This meadow is at present being grazed against the Okanagan-Similkameen Parks Society's wishes. Cattle can be seen grazing along the valley bottom of the Ashnola River during the summer months.
b) Grazing permits

Under the management of the Grazing Division of the B.C. Forest Service the number of animals allowed to graze in the area under study has decreased. At present there are three grazing permits issued by the Grazing Division for mid-summer grazing, July 1st - October 15th, within the study area. One permit is for 104 head of cattle, 364 A.U.M.'s\(^7\). The second is for 40 cattle, 140 A.U.M.'s. The third is for 7 horses issued to a guide who controls sufficient unfenced private land to support these animals. Thus, total use of Crown range within the area during 1969 amounted to 504 A.U.M.'s (Grazing Division, 1969).

c) Grazing-recreation and grazing-wildlife conflicts

There are serious grazing-recreation conflicts between two graziers (Mr. Copeland and Mr. Tebasket), and recreationists and conservationists organized into the Okanagan-Similkameen Parks Society (OSPS). The OSPS considers that the alpine meadowland within the area should be left as undisturbed as possible eliminating, with this aim in mind, domestic grazing from the area. Having seen their objective partially accomplished with the creation of Cathedral Park, the Society is at present stressing the importance of including in the park Wall Meadow "the only remaining virgin meadow in the entire Cathedral Lakes region." (OSPS).

\(^7\) Animal Unit Months (A.U.M.'s) is used as a unit which is equivalent to one month's grazing by one 1,000 pound animal unit (1 mature animal or its equivalent - 1 cow with calf, 1.5 steers or heifers, 1 two year old, or 4 calves under one year).
The OSPS's points of view concerning Wall Meadow have been summed up as follows:

"The flora of this area is quite different from that of other alpine regions in Canada. Virgin areas are extremely valuable for scientific studies as well as for aesthetic reasons. These alpine areas are very fragile and cattle destroy and deplete many of the native plants, bringing in weeds, cause erosion, and generally upset the ecological balance." (OSPS).

It should be pointed out that if emphasis is on the preservation of Wall Meadow, recreative use of the area, in a similar manner as controlled grazing, may cause certain site changes too. If it is to be preserved for scientific studies it is the author's opinion that Wall Meadow should not be open for recreative use.

The grazier's point of view, obtained from interviews with their representatives, is that the region has been heavily grazed for over half a century there being, during greater part of this time, little if any governmental control. If these areas still maintain recreative and scientific potential after such a long period there should be no reason for detrimental effects resulting from modern grazing practices which are controlled by the Grazing Division of the B.C. Forest Service.

Both Mr. Copeland and Mr. Tebasket are small ranchers dependant on Crown land for summer grazing of their herds. Any restrictions imposed on their grazing permits would affect their livelihood with the subsequent possibility of their being put out
of business. To avoid this, new grazing areas would have to be found for these graziers, a difficult task given the scarcity of grazing grounds in the region.

However, with reference to the grazing conflicts present in the area surrounding Cathedral Park and under study in this thesis, the Deputy Minister of Recreation and Conservation, H.G. Williams, stated that "Grazing is the least serious matter. There are only a few cattle grazing there and I doubt their owners would be seriously inconvenienced if in the future they had to graze their cattle some place else." (The Penticton Herald, Dec. 6, 1969).

The grazing-wildlife conflicts have been expounded by the OSPS in that grazing by cattle is in direct competition with the California bighorn sheep grazing the area, which due to their scarcity should be protected and provided with range on which to feed. A campaign by the Society to provide rangeland for this species has resulted in a game preserve being set aside northeast of Cathedral Park (Map 4), covering 35,000 acres on which grazing has been temporarily eliminated. Land has been bought by the Society in the Vaseaux Lake area with this aim in view (Map 4).

Recent studies of the bighorn's winter grazing grounds (Spalding and Bone, 1969) indicate that the areas within and around Cathedral Park are not key wintering grounds for these sheep. Also the Grazing Division of the Forest Service does not consider the Cathedral Lake area as an important wintering area for them.
4. Recreation

a) Recreative history

For over 30 years the area under study has been the subject of controversy as to whether it should be put under park management or not. The B.C. Forest Branch in 1941 (in charge of provincial park matters at that time), conducted a reconnaissance of the Cathedral Lakes area and recommended park status for the area (Lyons, 1941).

The Ashnola Valley has been used as a camping ground in the past and fishing has been practiced in this river for some time. Lady Slipper Lake in Cathedral Park itself was stocked with fish as early as 1938 (Lyons, 1941).

With increased access the area has become better known and public pressure to have the area put under park management increased. The government, finally, in May 1968 consented and Cathedral Park was established. To date there has been no active recreational management of Cathedral Park (elementary or otherwise), by the Parks Branch.

b) Present recreation

Recreationists wishing to reach the lake region of Cathedral Park may either hike in or make use of the facilities provided by Cathedral Lakes Resort. A discussion has presented itself as to whether this company may legally prohibit public vehicles from using their four-wheel-drive vehicle trail which is mainly on Crown land. When consulted, Mr. E. Norman, Director of Information Services of
the Department of Travel Industry, stated that if any private vehicles are able to reach this trail without entering private property or using private facilities, they cannot legally be forbidden to use the trail. At present it is not possible to reach the trail in a vehicle except over the private bridge.

The only statistics available on the number of park visitors are those which Cathedral Lakes Resort Ltd. keeps on the number of recreationists taken into the area. It was estimated by Mr. Fleet and Mr. Gehringer (two of the four partners in the company) that an average of 400 recreationists per season are transported into the lake area and that for every 10 people they take in, 1 person hikes in.

In Table 12 are shown the attendance figures for Manning Park, situated on Highway 3 west of Cathedral Park, for the past four years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Day Visitors</th>
<th>Camper nights</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Day</td>
<td>Prov.</td>
</tr>
<tr>
<td>1965</td>
<td>72,684</td>
<td>1.94</td>
</tr>
<tr>
<td>1966</td>
<td>53,772</td>
<td>1.35</td>
</tr>
<tr>
<td>1967</td>
<td>26,264</td>
<td>0.55</td>
</tr>
<tr>
<td>1968</td>
<td>49,366</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Source: Parks Branch, 1970.
During 1968 people from U.S.A., British Columbia, and the rest of Canada camped in Manning Park in the following percentages (Parks Branch, 1970):

<table>
<thead>
<tr>
<th>Location</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>British Columbia</td>
<td>45.5%</td>
</tr>
<tr>
<td>U.S.A.</td>
<td>27.3%</td>
</tr>
<tr>
<td>Rest of Canada</td>
<td>27.2%</td>
</tr>
</tbody>
</table>

It should be clearly understood that Manning Park and Cathedral Park differ to such a degree in location, access and the nature of the park resource that park visitation in Manning Park cannot reflect possible future visitation to Cathedral Park.

c) Recreative values

The main recreative attractions are the six lakes and the area immediately surrounding these. Other attractions are the mountain ranges that in a recent issue of the magazine Beautiful British Columbia (B.C. Department of Travel Industry, 1969), were referred to in the following manner:

"There are several peculiar geological formations at the high elevations of the Cathedrals. 'Stone City' is an area of rounded stones, some of them the size of a house. Nearby, and in complete contrast, is 'The Giant Cleft' - a high perpendicular crack, estimated to be eight feet wide and perhaps a thousand feet deep. Another point of interest, come upon with dramatic suddenness, is a gap measuring about 80 feet across and anybody's guess how deep. And an odd-shaped jumble of rocks is called 'The Devil's Woodpile'."

"Those who climb to the top of the mountain known as Cathedral Range will be well rewarded. On a clear day Mount Rainier, about 180 miles to the south and west, can be seen. So can Mount Baker and the mountains of Lillooet Range to the west. To the east
is Mount Lakeview, the highest point in the park at 8,622 feet; but it is rounded and not as spectacular as the Cathedrals. And wave after wave of mountains recede to the north and the south."

When consulted Mr. Fleet and Mr. Gehringer, two of the four partners of Cathedral Lakes Resort Ltd., stated that most park visitors were attracted by the prospect of easy mountain hiking in a beautiful setting combined with fishing possibilities in the various lakes.

Other attractions are undoubtedly the beautiful scenery which includes forests, alpine meadowland, mountain streams, etc., and wildlife. It is possible to bathe in the lakes if one likes cold water.

Camping is practiced by many and for those who prefer comfort there is always the possibility of renting the housing facilities provided by Cathedral Lakes Resort Ltd.

5. The Okanagan-Similkameen Parks Society's Involvement in Cathedral Park

a) The Society's aims

The Okanagan-Similkameen Parks Society (OSPS), as mentioned in Chapter III, section 6b, is at present endeavouring to have Cathedral Park's area increased to approximately 83,000 acres. Even before May 1968, their aims were:

"... that the park should run to approximately 83,000 acres, and as such should include the entire area enclosed between the forks of the Ashnola River and Ewart Creek, running to the U.S. border."
"It will be the stand of our Directors that the entire area between the river valleys and the U.S. border be made a Class 'A' Park at one time."
(Brief to the Minister of Recreation and Conservation, November, 1967).

This last statement has been borne out after Cathedral Park was created within the area envisioned by the OSPS (Map 5).

As to the existing private development, the Society in its brief to the Minister of Recreation and Conservation, November 1967, stated as follows:

"We feel that private ownership of this sort does not belong in a public park. The necessary steps to purchase or expropriation of existing private facilities will not be easy, but you will have the strong backing of our Society, Mr. Minister, if your policy is to erase the present private land ownership and keep all access and park usage within the standards of other Class 'A' parks in British Columbia."

The OSPS considers that mining exploration and development, grazing, and forest exploitation should be prohibited in the area surrounding Cathedral Park; this aim would be reached by extending the park's boundaries to include this area.

"Mining operations, particularly the modern open-pit desecration of the countryside, do not belong in our parks. Immediate steps must be taken to establish a reserve on the 83,000 acres to stop further mining explorations, and to find a way to terminate existing mining claims as expeditiously as possible."
(OSPS, 1969).

b) The Society's justification for including the adjacent areas into the existing park

The Society's reasons for extending Cathedral Park's
boundaries to include over four times its present area are many. A few of them have changed with time as new developments have taken place but the vast majority of them have remained unchanged. The following are the main arguments, some of which are disputable, that the OSPS uses to justify enlargement of Cathedral Park:

i. The proposed boundaries, Ashnola River, Ewart Creek, and the Internation border, confine park acreage within natural boundaries that are easily and clearly delimited. These natural boundaries also permit greater control of cattle facilitating their exclusion from the park.

"The present boundaries are indistinct. The proposed boundaries are very distinct..." (OSPS, 1969).

"The natural topographic borders formed by the river valleys are most logical and easily understood by all." (OSPS, 1967).

"Present boundaries of the park chop up the grazing areas in several meadows, so that if cattle are allowed to graze outside the park it would be impossible to keep them from coming in without erecting costly and unsightly fences which would destroy the wilderness aspect of the region." (The Penticton Herald, Dec.6, 1969).

ii. An area the size of the proposed park would form a natural connection to the adjoining wilderness areas in U.S.A. (Map 8).

"At the U.S. border the Cathedral Lakes Park would also be a natural connection to the adjoining Okanagan Area of the State of Washington, forming a combined area sufficiently large to be of value to the wildlife population or to visiting hikers." (OSPS, 1967).
"Running for about 100 miles along the border, North Cascades National Park and the Paysayten Wilderness contain more than 1,000,000 acres of preserved wilderness park land. Below, another 500,000 acres are contained in the Glacier Park Wilderness. These areas abound in public recreation facilities. Not so in B.C. the Society says. In contrast the present southern boundary of the Cathedral Lakes Park is only two miles in length. The proposed park would have a boundary of approximately 13.3 miles."

iii. A park of 83,000 acres would be ideal for preserving regional wildlife species some of which, once plentiful, have dwindled in numbers to only a few hundred. It would complement the game management area northeast of Cathedral Park established after 1967 when the following was written:

"The Minister is aware of the interest in preserving and encouraging the California Bighorn and other game animals in the Ashnola region. Establishing a park of 83,000 acres would be the first step in preserving land for the animals, and would provide a natural connection to the Washington State Wilderness Area adjoining. The Society also feels that further thought should be given to reserving a much larger area in the Ashnola for a future game management area."
(OSPS, 1967).

iv. Recreational areas this size should be set aside for the use of future generations; also due to ever increasing demands for this type of recreational facility:

"The Directors of the Okanagan-Similkameen Parks Society,... feel that we must make a stand now for future generations and for the future needs of our region."
(OSPS, 1967).

"The larger park will be better able to absorb future visitor increases that are inevitable with
MAP 8

British Columbian parks and adjacent U.S. wilderness areas (prepared by OSPS) (Dec. 1969)
the growing population and by the large predicted influx of tourists to the region. Visitors to the park will be spread out over a larger area and will not be so apt to create the damage which will happen to the park if it is confined to the smaller area. The alpine meadows are extremely fragile in this arid area and experts have warned that overuse will cause irreparable injury." (OSPS, 1969).

v. There are no large provincial or federal parks in the Okanagan-Similkameen region, a region where tourism plays an important role in the local economy:

"The Okanagan Valley is one of the major tourist centers in Canada. It does have small Class 'C' parks and Cathedral Lakes (Cathedral Park) but there are no parks like Manning, Strathcona, or Garibaldi, or with the national parks that serve the east Kootenay and Alberta." (The Penticton Herald, Dec.6, 1969).

vi. Outstanding recreational, scientific, aesthetic, and educational potential of the proposed 83,000 acre park including numerous other benefits that will accrue from this region if it is to be preserved in its natural wilderness state:

"The vegetation in this area is extremely varied and includes plants which are typical of the arid Transition Life Zone up through the Canadian, Hudsonian, and Arctic Alpine Life Zones. Because the region is different from other interior alpine areas and the west coastal region, it deserves as much area for protection as can be provided. By setting the entire region aside the mountain alpine area up to 8,622 ft. will be entirely surrounded with protected regions down to the 2,500 ft. level. This will keep entire ecological units intact, where native animals can move freely from summer to winter range, and will protect an entire
watershed, providing an extremely valuable area for studies of many kinds. The weather is dryer and warmer through the summer and fall as compared to other alpine regions in British Columbia, so that recreational activities can be carried out over a larger period of time each year."
(OSPS, 1969).

vii. The possibility that exists of having a major park with an unspoilt approach route right from a main highway, Highway 3:

"The highway leading to the Cathedral Lakes lower regions is in drybelt country lightly timbered. We have here an opportunity for one British Columbian park with an unspoilt approach route." (OSPS, 1967).

viii. The region's population requires sources of potable water which may be obtained from the Ashnola watershed if it is maintained in a wilderness state as a park excluding logging and other sources of possible water pollution:

"The Okanagan-Similkameen region, as part of the British Columbia drybelt, will always have a problem in maintaining good potable water sources. Ashnola River and Ewart Creek come from wilderness areas which will eventually be well protected on the American side of the border. The larger Cathedral Lakes Park which we request in this brief will go further to protect the source of these streams from the dangers of pollution and the hazards of logged-off watersheds." (OSPS, 1967).

ix. The value of the natural resources within the 83,000 acres, grazing and forestry, are outweighed by the recreational values:
"While it is impossible to establish accurate cash values for the grazing and forestry in the area at present a recent U.B.C. evaluation in a graduate thesis\(^8\) at a capitalized value (that is ultimate total value if compensated for now in cash) of about $50,000 for the grazing and about $500,000 for the forestry. At present all sawmilling at nearby Keremeos has ceased, so the forestry value is at present of no return to the community. Annual cattle usage is for under 200 head, and for summer range only."
(OSPS, 1967).

"The recreational values far outweigh the very few commercial uses of the resources in the region."
(OSPS, 1969).

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\(^8\) The thesis referred to is "An evaluation of a unit of land for park use" (Jorden, 1966), a B.Sc. thesis in the Department of Zoology, U.B.C. The region analyzed in this thesis comprises 35,558 acres. The net benefits from forestry were taken to be the stumpage that discounted at 6% gave a present worth of future stumpages (sustained yield) of $329,298. The present net value of future grazing was calculated to be $41,366. This analysis refers to an area in the northwest of the 83,000 acres outlined in Map 5.
V. CONCLUSIONS

Through the course of time Provincial park management has passed from the Forest Service's responsibility to an autonomous government organization, the Parks Branch of the British Columbia Department of Recreation and Conservation. This step, taken in 1957, was the first major reflection of a change in attitude concerning outdoor recreation in B.C., a step which evidenced an increasing importance attributed to outdoor recreation, and reflected a more conservation and outdoor recreation minded public.

Since 1957 the conservation-preservation movement has gathered force and the number of people participating in outdoor recreation has increased substantially. In both cases the need for increased parkland has been felt and the B.C. Government has responded by carefully bartering part of its vast Class 'B' park acreage for land with high recreational value and greater accessibility, land which it has made into Class 'A' parks with a greater degree of legislative protection than Class 'B' parks; although all park status can be altered through Order-in-Council. Thus, a redistribution of the existing park acreage has up to now seemingly met, and partially satisfied, public pressure for nature-dependent outdoor recreation.

British Columbia's population is now looking for additional recreation areas and have focussed their attention on the vast tracts of forest lands under Crown ownership. The Forest Service, though advocating multiple use, has managed these lands with one
dominant role in mind, that of timber production to perpetuate economic development. This, coupled with the fact that the B.C. Government owns almost all of the province's natural resources, has produced resource policies traditionally heavily in favor of timber production and other forms of private commercial utilization.

To obtain the most benefit (maximization of the welfare of the people of B.C.) from our natural resources, alternative resource uses must be weighed against each other in an unbiased way and the resource allocated to the use or combination of uses which yield the greatest net benefit. The complexity of resource administration in B.C. often prevents this choice of the best use (Pearse, 1967).

In British Columbia resources are often assigned to particular uses in an unsystematic way and placed under the jurisdiction of departments and agencies which are exclusively concerned with those uses: the Forest Service in the case of forest land, the Parks Branch in the case of parks, and so on. Each sees themselves as guardians of the resource for the assigned use and their special interests create an obstacle to secondary uses. While accepting that in some cases single use may represent the best utilization of the resource, secondary or tertiary uses should be encouraged to the extent that they provide gains in excess of the loss of primary use.

"But under our single-minded administrative agencies, secondary uses do not receive unbiased consideration. The Forest Service, for example, is primarily concerned with timber production on the forest land under its
jurisdiction. There is a built-in bias against other uses, such as recreation which might well interfere with forestry objectives." (Pearse, 1967).

It is imperative that there be greater co-ordination between the different government departments and agencies administering British Columbia's natural resources. This need was realized by the Select Standing Committee on Forestry and Fisheries at the 1969 session of Legislature and it was recommended that a Land Use Committee be established. This was done by Order-in-Council #2300, approved July 15, 1969. As the Government wishes to encourage in a positive manner an over-all land use policy to accommodate and encourage the orderly and integrated use of Crown lands within the general concept of multiple use, it would be the function of such a committee to ensure that this basic policy receives appropriate attention by all government departments and administrative agencies concerned with land use. It comes under the chairmanship of the Minister of Lands, Forests, and Water Resources, and consists of the Minister of Lands, Forests, and Water Resources, the Minister of Recreation and Conservation, the Minister of Agriculture, the Minister of Mines and Petroleum Resources, and the Minister of Municipal Affairs. Its duties include the establishment of basic guidelines for land-use policy of Crown lands and the recommendation of these guidelines to the Government.

The B.C. Forest Service is aware of the need to practice
integrated use on some of the Crown's forest land and are at present studying ways by which the harvesting of timber may be made more compatible with recreation. This co-ordination should go further and include the companies utilizing the resource and also organized groups of concerned citizens.

Through interdepartmental co-operation between the Forest Service and the Parks Branch measures may be incorporated into timber management and harvesting methods which will make forestry and recreation more compatible. Landscaped harvesting has been practiced in certain areas of the U.S. Northwest with good results. Areas of high recreation potential should be left unlogged; forest cover should be left along streams and rivers, heavy timber cutting along access routes should be avoided, logging roads should be laid out taking into account recreation resource values, etc. These measures would reduce government revenue from stumpage, a fact that the public will have to accept if it wants a non-priced recreational benefit. Alternatives include increased general taxation to offset the decrease in government revenue, increased stumpage rates, a recreation fee, or some combination of them. The problem takes on special importance in a province heavily dependant on its forest resources.

The Parks Branch, as of January 1, 1969, controlled 6,474,648 acres of park land, 71.75% corresponding to Class 'B' park category. This total park acreage is distributed over most
areas of the province, it being the function of the Parks Branch to implement an overall provincial parks plan for the province. It is their present policy to appropriate only the highest recreative quality lands in areas that most need parks:

"We are giving first priority to the Long Beach area where there are large areas of provincial and federal land assembled, and we have said we will make no further alienations or negotiations to acquire more land in the other areas in the meantime."
(Recreation and Conservation Minister, The Sun, January 30, 1970).

In certain areas of British Columbia, mainly the less densely populated ones, the Parks Branch searches for high recreative potential sites and endeavours to have them set aside as park land. In the southern section of the Province, with the highest population density, it often is the function of the Parks Branch to survey possible recreation areas that the public suggests be set aside as public parks. This was the case of Cathedral Park which had been the subject of debate for 30 years. The public, organized into the Okanagan-Similkameen Parks Society (OSPS), considers that not enough land was included in the park, which was set aside due mainly to its efforts.

The Government is faced with intensifying land use problem which will require a solution in the near future. The Forest Service has proceeded with development plans and promised the timber resource on the lands under study to a forest company which is currently formulating plans for increased mill capacity. By an
Order-in-Council this area, and its timber resource, might be alienated and placed under park management. This points out the necessity for a long term regional plan. Such a plan will answer such questions as what the region is best suited for: development of consumptive resource users (agriculture, forestry, and mining); development of secondary manufacturing industries; or development of the tourist and recreation industries and merchandising and related trades; or some combination of the three.

The Parks Branch is at present analyzing whether the area on either side of Cathedral Park should be included in the park or not. Apart from certain incompatibilities which exist, an important question that arises is whether the area in question has, or does not have, a high recreational potential when compared with other possible recreation areas elsewhere in the Province. Also, whether local demand for such a recreational area is as great, or greater, than other regional recreation needs.

Both these questions are difficult to answer as they require a broad general knowledge of other recreation areas within the Province, their distribution, potentiality, accessibility, possible intensity of use, and so on. Undoubtedly, the Parks Branch is in a better position to judge this than is the OSPS. It is possible to conclude in this thesis that within the area bounded by the Ashnola River, Ewart Creek, and the International boundary, the best recreational features have already been included within park
boundaries. Nevertheless, Cathedral Park's boundaries were a compromise with forestry and grazing interests and certain high quality recreating areas were not included in the park.

The two main areas excluded are the Haystack Lakes area, east of Lakeview Mountain (2,330 acres of alpine meadowland and lakes), and Wall Creek Meadow, southwest of Cathedral Lakes. The former is at present set aside as a proposed park area. The latter has not been considered as a possible inclusion to Cathedral Park as yet. Both areas have scenic qualities and provide hiking possibilities.

The rest of the area on either side of the park consists of one side of the Ashnola River Valley and Ewart Creek Valley both with steep sparsely forested slopes. They lead into higher plateaus that are forested in some areas. There are also a few valleys (Wall Creek) with dense forest cover. The higher elevations consist of open, barren areas with little recreation potential. All hiking trails lead from the Forestry Development Road through these areas into the lake region of the park which is definitely the main attraction in the overall area, and to which all recreationists do, and will in the future, head for.

Cathedral Park is not considered a wilderness area by the Parks Branch, for it is too small an area of land, access is too great, and there are problems of private land within the Park's present borders. Due to these reasons and given its high intensity of use as evidenced by the deterioration of certain areas near the
lakes, protection should be obtained through park management rather than by natural means such as buffer zones. The area surrounding the park should be managed on a multiple use basis, with recreation playing an important role. Overnight camping sites should be situated outside the Park’s boundaries on Crown forest land thus affording protection to the delicate features within the Park which then would be used on a day visit basis only. A measure such as this requires close control as also co-operation between the Forest Service and the Parks Branch and a higher degree of forest and park management than has been practiced so far. It seems a more acceptable alternative to the Forest Service than would be the total alienation of the area to the Parks Branch’s jurisdiction and would necessitate that the Forest Service become actively involved in forest recreation planning and management.

In the management of the area surrounding Cathedral Park, not only should the Forest Service and the Parks Branch be involved, but the OSPS and the Forest company making use of the area’s timber resource should be consulted.

If through future use of the area it is shown that outdoor recreation becomes the most important activity, grazing and forestry development should be decreased and recreation development increased. It is possible that with time forestry and grazing may have to be eliminated with the subsequent consequences. Under proper management of the area’s grazing and timber development, however, there should not be a substantial loss of recreational
potential or qualities. No longer is it possible to destine to a single use the area on either side of Cathedral Park and carefully integrated resource management should be practiced, ensuring an adequate recreational use of the area.

To include in the Park the area on either side of the Park, given present conditions, will only complicate an already difficult situation. The existence of private holdings within the Park and the operation of a recreational resort that makes use of the provincial Park's natural attractions are problems that should be solved before any more investments are considered. The land and the company which owns it should be bought out and eliminated or allowed to continue under a lease system controlled effectively by the Parks Branch. In this way a degree of access control may be obtained. At present improved control seems a remote possibility due to the limited budget which the Parks Branch has for purchasing private land, and the Government's unwillingness to expropriate private holdings.

It should be clearly pointed out that the features within the Park are of a delicate nature and will not support a great number of recreationists. If Cathedral Lakes Resort Ltd. is bought out the road should be closed to public use. No motorized access should be allowed, obtaining through these measures controlled park visitation. In any case, without management for recreation, some type of visitor control must be practiced.

When Cathedral Park was created, subsequent articles published
in different magazines represented a source of free publicity to Cathedral Lakes Resort Ltd. and stimulated business. An increase in park acreage under present conditions will only complicate matters.

It has been mentioned that Cathedral Park requires a certain degree of management to maintain its recreational value. It has also been pointed out that there is no evidence of any active management, this being due to the limited budget assigned to the Parks Branch and its lack of personnel. An increase in park acreage will again complicate matters and give rise to a greater budgetary and personnel need. It would increase the difficulty, for example, of preventing cattle straying into the Park as the natural boundaries proposed by the OSPS do not impede cattle crossing them.

The OSPS has stated that given the great increase in the demand for wilderness and pristine outdoor recreation areas, the Park extension is justified. Also due to the fragility of the lake area of the Park and its small size a larger park "will be better able to absorb future visitor increases..." "Visitors to the Park will be spread out over a larger area and will not be so apt to create the damage which will happen to the Park if it is confined to the smaller area." (OSPS, 1969). This is disputable as it is believed that an addition of a large area of land with relatively low recreation potential will not alleviate intensity of use of the best recreative area such as is the lake area of the Park.
An increase in Park acreage entails eliminating two resource uses: forestry and grazing. Mining has not been considered as it is of no economic importance in the area at present nor does it seem that it will be in the future. The figure determined for the annual value of the forest resource on the area on either side of Cathedral Park falls between $1,087,560 and $1,812,600 depending on the multiplier used. In itself it is important; of greater importance however, is the fact that the timber on this area corresponds to approximately 6.1 per cent of Northwood Mill's total annual cut in the Okanagan and Similkameen PSYUs and Okanagan TFL when these areas come under close utilization standards.

Nevertheless, different ways exist by which it is possible to compensate for the loss of the timber: the shortening of the rotation which at present is very long; through more intensive management practices in the unit and in other areas from which Northwood Mills obtains timber; harvesting timber from less accessible areas which at present are not considered economically accessible but which in the future might be considered harvestable areas.

Timber utilization will generate wealth through jobs, totalling about $362,520 annually. For a region characterized by a high degree of unemployment and seasonal employment, these jobs and the payroll are of importance.

The income generated through the use of the 83,000 acre area for exclusive recreation purposes will be seasonal and will be
earned mainly by owners of lodging facilities in the vicinity of Cathedral Park, food store owners, gas station outlets, and local merchants. Representatives of the lower income levels will possibly benefit more from jobs provided by an effectively organized natural resource utilization program than from a larger park exclusively used for recreative purposes. An integrated resource use of the area on either side of Cathedral Park will generate jobs and provide incomes that will be better distributed among the area's population on an all year around basis whilst at the same time will allow the recreative use of the area.

It is the government's responsibility to heed the people's wishes, but it also should take into account those limitations which do exist. The region comes under the Area Development Assistance Program and is attractive to primary and secondary industries for which there is a need to combat unemployment, seasonal employment and emigration of the labour force. Decisions must be made between non quantifiable benefits and economic benefits, it being suggested that, apart from economic studies, public pressure should be considered as an important indication as to the direction the region's development should take.

The issue of whether Cathedral Park should have its area increased to 83,000 acres, or not, is in itself a relatively unimportant issue. It takes on greater regional impact when it is realized that within the region under study there are various other areas that are also under pressure to have included in the
provincial park system. Individually they are of relatively small importance; when taken all together they become more important, due to the area that is involved, and clearly point out the need for far reaching regional and provincial planning programs.

Is the region going to be developed as a recreational region, for which it is admirably suited, or is it going to become a highly developed industrial region? Both of these goals cannot be pursued simultaneously, and a poorly planned industrial development could seriously decrease the region's recreational potential. There is the possibility of developing certain secondary industries that will maintain recreational values but the present trend is to develop primary industries such as a possible pulp mill in the Armstrong-Enderby area. The B.C. Government should take a careful look at its long range objectives for this region and implement far reaching economic studies on a regional basis with the aim of trying to determine what future development is most suitable for the region. Long range planning will do much to dispell the uncertainty under which many resource based industries at present find themselves. In a similar fashion, many conflicts might be avoided, or at least met with more rapid and decisive action.

At present, 1970, tourism is the most important economic activity in the Okanagan-Similkameen region. It is important as a convention center too. It is situated close to Vancouver and Seattle with good access roads to both urban centers. Given the great population increase observed in the northwest part of North
America, the Okanagan-Similkameen region becomes increasingly attractive as an ideal region for recreational development. If this is going to be implemented, the Government is faced with a difficult problem due to the fact that most of the land in the Okanagan and Similkameen Valleys is privately owned and has been developed in most cases. To regulate future development on this land is a difficult task. Urban sprawl and roadside developments have increased greatly in the last decade and will continue to do so, spoiling much of the region's scenic values along the main access highways. Even with extensive park land one cannot afford to lose sight of these values that after all, constitute the tourist's first impression of the region.

In this analysis of whether an extension to Cathedral Park is justified or not, it has been realized that the economic values involved are not of great significance when taken independently of other areas with similar problems. The most important value foregone would be the revenue which could be generated by utilization of the resource. Grazing values involved are not very substantial, whilst mining is of no importance at present, nor does it seem to have any importance in the near future. Thus the issue resides not in the economic values involved so much as in problems of management of the present and proposed park area, budgetary limitations to do so, and the existence of private inholdings within the Park. These problems are being met by slow, cautious action on part of the Government.
Very little is known concerning the use of the Park nor the possible future demand for such a Park as the proposed area of 83,000 acres. Rather than forego the economic values involved, it is felt that the area can become a favourable spot to practice an integrated use of the resources and at the same time determine whether the present government has created a capable mechanism to deal with such problems. The Land Use Committee created in 1969 can counsel the Government and propose basic guidelines as to the land use policy to be followed in these cases. It will be up to the Forest Service and the Parks Branch to implement this policy together with any other Department or organization as may be suggested by the Committee.

For some time the Forest Industries in this Province have stated the need for multiple use forestry; the region provides a good chance to practice it. The Forest Service is studying ways by which logging may be made more compatible with recreation and this area offers an excellent opportunity to practice those measures that are suggested.

It is proposed that the area become an experimental area in which measures permitting recreation, logging, and grazing be studied and implemented, with emphasis on the former. It would also serve as an experiment in interdepartmental co-operation and a test to determine whether the Government is capable of changing its policies to meet present multiple demands on a given resource.
SUMMARY OF CONCLUSIONS

1. The unacceptability of continued single use of British Columbia's forest land for timber alone has been realized by the British Columbia Forest Service though not implemented. Presently the Forest Service is studying ways by which recreation use on some of these areas may be incorporated with timber production.

2. The land use conflict in the Cathedral Park issue is of concern to the forest industries, graziers, miners, and recreationists. The short term planning evidenced by the Government is affecting, among other things, industrial long range planning and is the cause of insecurity to the region's small graziers.

3. The British Columbia Forest Service should work in close cooperation with the Parks Branch, Forest Industries, graziers, and organized preservation and recreation minded societies, to implement integrated resource use, recognizing recreation as a primary use, on the areas on either side of Cathedral Provincial Park.

4. Government long range planning should also be implemented on a regional basis.

5. Cathedral Park includes at present the highest quality
recreational areas to be found in the Ashnola area. Two areas with recreational potential are excluded, Haystack Lakes and Wall Creek Meadows, though the former is a proposed park. The rest of the 83,000 acres do not seemingly qualify for park land status.

6. Cathedral Park should be protected from excess use through adequate and effective park management. No additional road access should be developed and present vehicle access should be effectively controlled by the Parks Branch. Proper park-oriented recreation management should be implemented and the lake area be used on a day visit basis only.

7. The area on either side of the Park should be managed on a multiple use basis with recreation playing an important role. If future recreational use of this area warrants it, logging, mining, and grazing may be excluded.

8. The existence of private land in the Park and a company making use of it constitutes a problem which should be solved before any further plans be implemented.

9. Timber harvesting constitutes the greatest conflict with recreation on the area on either side of Cathedral Park. Grazing presents a conflict of lesser importance whilst mining at present
does not conflict with recreation. With present available data, it appears that the area on either side of the Park includes 56,796 M c.f. of timber which will permit an annual allowable cut equivalent to 684 M c.f. (12 per cent of the Ashnola PSYU's annual allowable cut). The wealth generated through the use of 684 M c.f. of timber amounts to $362,520 which discounted at an interest rate of 5 and 8 per cent gives a present worth of $7,250,000 and $4,531,500 respectively.

10. Cathedral Park's extension takes on greater importance when other areas under similar conflict in the region are considered. Existing, reserved, and proposed park acreage in the region under study add up to 325,335 acres or about 9.2 acres per person (on a provincial basis there is an average of 3.46 acres of existing park land per person).

11. It is proposed that the area under study become an experimental area in which measures permitting recreation, logging, and grazing be studied and implemented with emphasis on the former.
REFERENCES


AGRICULTURE AND RURAL DEVELOPMENT ACT, 1967. "Land Capability Classification for Outdoor Recreation." Canada Land Inventory, Canada Department of Forestry and Rural Development, Queen's Printer, Ottawa.

---------, 1969. "Land Capability Classification for Forestry." Canada Land Inventory, Canada Department of Fisheries and Forestry, Queen's Printer, Ottawa.


B.C. DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES. Annual Reports of the Lands Service. Queen's Printer, Victoria, B.C.

--------------------. Annual Reports of the Forest Service. Queen's Printer, Victoria, B.C.


B.C. DEPARTMENT OF RECREATION AND CONSERVATION. "Annual Reports." Department of Recreation and Conservation, Parliament Buildings, Victoria, B.C.

------------------------, 1957. "Department of Recreation Act." Department of Recreation and Conservation, Parliament Buildings, Victoria, B.C.


------------------------, 1967. "Park Act." Queen's Printer, Victoria, B.C.


OKANAGAN-SIMILKAMEEN PARKS SOCIETY. Newsletters, Briefs, and diverse publications and manuscripts.


PROVINCE OF B.C., 1967. "Forest Act." Queen's Printer, Victoria, B.C.


Conversations and Discussions were held with the Following People, Some of whom have been Referred to in the Text.

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WILSON, C. Rancher, Keremeos.
## APPENDIX 1

### Public Sustained Yield Unit (PSYU)
This is an area of Crown land, usually a natural topographic unit determined by drainage areas, managed for sustained yield by the Crown through the British Columbia Forest Service. They include all Crown lands within the currently established boundaries of the units, and exclude Federal lands, Provincial Parks, Experimental Forest Reserves, gazetted watersheds, and Tree Farm Licenses.

### Regulated Unit
Special Sale Areas (SSA's) are provided for under Section 27 of the British Columbia Forest Act, and describe a Crown area not under sustained-yield management in which timber may be sold at the discretion of the Minister of Lands, Forests, and Water Resources. It is not planned that the allowable annual cut on these units will be maintained in perpetuity.

### Not-Sufficiently Restocked Forest (NSR)
Stands that have been disturbed over 75 per cent by fire, logging, wind, insect, disease or other disturbances, and have not restocked with sufficient numbers of commercial species.

### Non-Commercial Forest (NCC)
Includes all non-merchantable stands which are occupying productive forest land.

### Tree Farm Licence (TFL)
Were first instituted in 1948 in British Columbia and are designed to permit private interests to control large tracts of Crown forest land on a long term basis. They are subject to re-examination for renewal every 21 years; the timbered areas are managed by private companies under the Crown's supervision.
APPENDIX 2

ORGANIZATIONS AFFILIATED WITH THE OKANAGAN-SIMILKAMEEN PARKS SOCIETY

Members and Donors

1. Cowichan Valley Natural History Society
2. Hixon Junior Warden Club #402
3. Penticton Fish, Game and Rifle Club
4. Penticton Garden Club
5. South Okanagan Naturalist Club
6. South Okanagan Sportsman's Association
7. University Women's Club of Kelowna
8. Kelowna & District Fish & Game Club

Donors

1. B.C. Nature Council
2. Capilano Rod & Gun Club
3. Lower Mainland of B.C. Gun Club
4. Ooela Fish & Game Club
5. Oliver Kiwanis Club
6. Osoyoos Fish and Game Club
7. Quesnel Rod & Gun Club
8. 1120 Rock Club, Kelowna
9. Sapperton Fish & Game Club
10. X Alpha Gamma Chapter & Beta Sigma Phi, Penticton

Members

1. Beaver Valley Outdoorsman's Assn.
2. Burnaby Fish & Game Club
3. Canadian Audubon Society
4. Central Okanagan Naturalist Club
5. Keremeos-Cawston Rod & Gun Club
6. Kiwanis Club of Summerland
7. Loyal Order of Moose, Penticton Lodge No. 1885
8. North Peace Gun & Rod Club
9. Okanagan Falls Chamber of Commerce
10. North Okanagan Naturalist Club
12. Oliver District Chamber of Commerce
13. Otter Valley Fish & Game Club
14. Penticton Art Club
15. Penticton Women's Institute
16. Rotary Club of Oliver
17. Save Our Parkland Assn. (Vancouver)
18. B.C. S.P.C.A. Penticton Branch
19. Summerland Art Club
20. Summerland Camera Club
21. Summerland Chamber of Commerce
22. Summerland Horticultural Society
23. Summerland Women's Institute
24. The Vernon & District Garden Club
25. Life Science Society, Simon Fraser University
26. Royal Canadian Legion Branch 97, Oliver
27. Victoria Natural History Society
28. Penticton Chamber of Commerce
29. Vancouver Natural History Society
30. Twisp High School Future Farmers of America, Washington
31. Rotary Club, Summerland
32. Penticton Rotary Club
33. Penticton Kiwanis Club
34. Okanagan Historical Society, Penticton Branch

Total Organizations involved - 52
APPENDIX 3