

BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

HAT CREEK PROJECT

Strong, Hall and Associates Ltd. and Bob Ward Management Services -
Hat Creek Project - Detailed Environmental Studies - Preliminary
Inventory of Indian Socio-Economic Characteristics - March 1978

ENVIRONMENTAL IMPACT STATEMENT REFERENCE NUMBER: 63

ERRATA

Inventory and Projections of Regional Socio Economic Conditions - Appendices

Table L6 - standard of 4.25 hospital beds per 1000 population should only apply to acute beds.

Preliminary Inventory of Indian Socio-Economic Conditions

P 4.3, paragraph 1, line 2 - 60% should read 50%.

P 4.3, paragraph 2, line 8 - should read: high participation rates and levels etc.

P 3.2, paragraph 1, line 3 - Band membership should read 2548.

HAT CREEK INDIAN STUDIES
PRELIMINARY INVENTORY OF INDIAN SOCIO-ECONOMIC CHARACTERISTICS

prepared for:
B. C. HYDRO AND POWER AUTHORITY

by:
STRONG HALL & ASSOCIATES LTD.
and
BOB WARD MANAGEMENT SERVICES

MARCH 1978

TABLE OF CONTENTS

SUMMARY

1. INTRODUCTION

- 1.1 Preface
- 1.2 Purpose
- 1.3 Background
- 1.4 Methodology and Study Limitations
- 1.5 Definitions
- 1.6 Description of the Project
- 1.7 Definition of Study Areas

2. SETTLEMENT PATTERNS AND CULTURAL CONSIDERATIONS

- 2.1 Cultural Heritage and Past Settlement Patterns
- 2.2 Retention of Cultural Identity
- 2.3 Present Settlement and Organization

3. DEMOGRAPHIC CHARACTERISTICS

- 3.1 Current Status and Historical Trends
- 3.2 Conditions Without the Project

4. LABOUR FORCE AND EMPLOYMENT

- 4.1 Introduction
- 4.2 Historical Characteristics
- 4.3 Current Status
- 4.4 Barriers to Indian Employment
- 4.5 Employment Without the Hat Creek Project

5. INCOME

- 5.1 Employment and Transfer Income
- 5.2 Subsistence Income
- 5.3 Income Without the Hat Creek Project

6. EDUCATION, HEALTH AND HOUSING

- 6.1 Education
- 6.2 Health
- 6.3 Housing

7. SOCIAL AND COMMUNITY SERVICES

- 7.1 Justice
- 7.2 Human Resources

8. NATURAL RESOURCE UTILIZATION

- 8.1 Historical and Current Conditions
- 8.2 Resource Utilization Without the Project

APPENDICES

- A. Review of Indian Study Development
- B. Bibliography

LIST OF TABLES

Table

- | | |
|-----|---|
| 2.1 | Reserves Held by Bands in Primary Study Area |
| 3.1 | Total Band Population, Primary Area Compared to Secondary Area and Total British Columbia Status Indian Population (Selected Years 1965-1975) |
| 3.2 | Percentage of Total Band Members on-Reserve (Selected Years 1965-1975) |
| 3.3 | Off-Reserve Status Population in Selected Local Communities, 1971 |
| 3.4 | Age Distribution of on-Reserve Populations of Bands in Primary Area Compared to Other Selected Communities, 1971 |
| 3.5 | Age/Sex Characteristics of on-Reserve Population of Bands in Primary Area Compared to Selected Communities, 1971 |
| 4.1 | Male and Female Participation Rates Primary Area Bands and Local Communities, 1971 |
| 4.2 | Experienced Labour Force by Industry Number of Reserve Residents, 1971 |
| 4.3 | Employment Status, Number of Reserve Residents, 1971 |
| 4.4 | Canada Manpower Centre, Ashcroft Monthly Client/Vacancies Analysis Quarterly Averages, 1976/1977 |
| 4.5 | Analysis of Vacancies at CMC, Ashcroft Quarterly Averages of Monthly Figures, 1976/1977 |
| 5.1 | Income Characteristics of Primary Bands, 1970 |

Table

- 8.5 Net Economic Value of Game Harvest, 1976
- 8.6 Estimated Carrying Capacity of Bonaparte Reserve
Lands
- 8.7 Indian Irrigation Water Licences Hat Creek Valley
and Bonaparte River
- 8.8 Existing Indian Band Water Licences, 1976

facilities, and overcrowded, with an average of 1.7 persons per room.

The study examines the availability of funding for on-Reserve housing construction, and the limitations on housing adequacy imposed by the availability of funds. It also predicts some changes in the availability and use of funding programs, and predicts that various factors should result in the standards of Reserve accommodation being raised. However, the time scale for this to be effected in the study area could not be defined with any certainty.

Study of the interaction of local Indians with the Justice system was hindered by the lack of ethnically categorized statistics, but local interviews suggested that crime is not a significant problem among Indian people in the primary study area. Throughout the province, the rate of admission of Indian people to corrective institutions is over three times that of non-Indians, and the rate of admissions to probation is nearly three times that of the non-Indian population. This imbalance does not appear to exist in the primary study area.

A similar imbalance occurs provincially for the rate at which children from Reserve homes are taken into care by the Provincial Department of Human Resources, (the rate of children-in-care from Reserve homes is over six times that of the general population) but again this imbalance was not found in the primary study area. The local Department of Human Resources does find, however, that dependance on social assistance is much higher among Indian people than among the general population. D.H.R. administered transfer payments only to Indians living off-Reserve, so the disproportionate number of Indian clients merely indicates that unemployment levels among off-Reserve Indians is likely to be as significant as it appears to be on-Reserve.

Agriculture, and mineral resource development by local Reserve residents or Bands were examined, and revealed little activity in these areas.

1. INTRODUCTION

1.1 Preface

The inventory document describes, within the limitations later discussed, some of the salient characteristics of the Indian population that are relevant to the assessment of possible social and economic impacts incurred as a result of the proposed Hat Creek Project.

It begins with a general description of the proposed project. It then examines the cultural heritage of the Indian people, relating their heritage to their settlement in the Hat Creek area and laying the foundations for understanding current social and economic conditions, and Indian perceptions. Section 3 describes the Indian population in terms of demographic and family characteristics and constructs a demographic scenario expected to occur without the Hat Creek development.

Indian economic activity is discussed in Sections 4 and 5 in terms of occupational characteristics, employment levels and barriers to employment. Recent income levels and the sources of that income are also described. These sections provide an indication of the extent to which the Indian people are involved in the local economy and rely on that economic activity for their livelihood. This is compared with summary information from Section 9 as to their current reliance on locally available traditional subsistence resources.

Educational levels and general health conditions among the Indian people, discussed in Section 6, provide an indication of the extent to which they are able to be involved in the economy of the area as well as provide insight into the social stability of the Indian community. Further indications of existing social and economic conditions can be reflected in experiences of Indian

people with the established Justice and Human Resources Department. These are indicated as far as possible in Section 7.

The final section deals with the subsistence economy of the Indian people in terms of their utilization of the area's terrestrial and aquatic resources.

1.2 Purpose

The purpose of this study is to provide an inventory of the social and economic characteristics of the Indian people in the vicinity of the proposed Hat Creek Project. The definition of the area and the people involved are identified in Section 1.5.

As one of a number of studies addressing the implications of the proposed project, it is dependent on the results of many of the other studies if it is to be taken beyond the inventory stage. It has been, however, structured in a manner which would permit its utilization as baseline material for an impact assessment.

1.3 Background

This study was undertaken without the cooperation or involvement of the Indian people of the Hat Creek area, or, except on a very limited basis, of the Department of Indian Affairs (DIA). Therefore, the report has specific limitations which are explained in subsequent sections.

Mutually beneficial results from a socio-economic impact assessment can best be obtained through dialogue between the developer, the socio-economic analyst and those individuals who could be

impacted. Therefore, it was considered useful to examine attempts to establish this dialogue in the Hat Creek socio-economic study of the Indian people. Hopefully, an understanding of the process will increase the likelihood of such a dialogue in future studies of this nature.

An examination of the B. C. Hydro files was undertaken in order to determine the development of the restrictions in this study. The records show that, for over two years, attempts have been made to obtain the joint involvement of B. C. Hydro and the local Indian Bands in socio-economic impact studies of the Hat Creek Project.

Prior to November 1976, the efforts were directed to joint involvement in a single study funded by B. C. Hydro, but by that date the local Indian Bands had obtained a commitment of federal funding for their own separate study. The records consistently indicate that both B. C. Hydro and the local Bands wish to coordinate their separate studies to reduce duplication and establish a system of information exchanges between the two studies. To date, the federally-funded study does not appear to have actually started.

The local Bands were not willing to cooperate with the B. C. Hydro funded Indian studies until their own studies were underway and they asked DIA to prohibit access to the Department's records by B. C. Hydro's consultants.

In the early spring of 1977, discussions were held between B. C. Hydro and Strong Hall & Associates Ltd. to determine the means of assessing potential project impacts on the local Indian people as a part of their overall socio-economic studies. A number of alternatives were discussed, and the benefits and limitations of each were

thoroughly examined. In order to meet the overall study deadlines defined by B. C. Hydro, it was decided that basic background data be collected in a form useful for the expected future information exchanges with the Indian people. Alternatively, if these cooperative exchanges are not established, the data should provide the basis for an "arms length" impact statement. The consultants were requested to carry out such work as they could within the limitations to contact with both the Indians and DIA.

By September 1977, constraints necessitated the completion by Strong Hall & Associates Ltd. of the inventory report on the socio-economic characteristics of Indian people in the Hat Creek area despite the lack of Indian input.

A chronological summary is found in Appendix A, outlining the events which led to the production of this report without the benefit of Indian dialogue. These events were ascertained from the correspondence files of B. C. Hydro.

1.4 Methodology and Study Limitations

The inventory was undertaken without the involvement of the Indian people in the study area or of the Department of Indian Affairs. The importance of this lack of involvement cannot be overstated. It fundamentally affects the quality of the material inputs to the study, and reduces the confidence with which conclusions can be drawn and potential impacts identified.

As a result, information for this study had to be obtained from published statistics, published research materials and reports, and personal interviews with government, corporate, and private individuals involved with the Indian and non-Indian communities of the study area. In some cases, information was available for

specific Bands in the study area; in other cases, it was necessary to utilize information covering a wider group of Indians, and judge its applicability to the Indian people of interest to the study. Again, such judgements would have been improved if contact with the Indian people had been possible.

A library search revealed only a limited amount of published material of value to the study, as listed in the bibliography at the end of the report. There is almost a complete lack of current, quantitative material about the Indian people in the study area.

The few published anthropological and ethnographic references were able to be supplemented when the preliminary Inventory of Cultural Heritage Resources in the Upper Hat Creek Valley, part of B. C. Hydro's detailed environmental studies, was made available.

Several books, by both Indians and non-Indians, have been written about Indian lifestyles, attitudes, and value systems and, while none of them is directly concerned with the study area, they provided a focus for the study.

Of the socio-economic, demographic and resource studies available on Indian people in B. C. as a whole, the three found to be the most current and relevant to this study were:

• Pokotylo, D.L. and Beirne, P.O., "Preliminary Inventory, Assessment and Impact Evaluation of Cultural Heritage Resources in the Upper Hat Creek Valley, B. C.", University of British Columbia, 1978.

- (i) A fairly comprehensive report on socio-economic strategy for Indians in British Columbia, published in 1977, by a team assigned by the Union of B.C. Indian Chiefs under the direction and agreement of the National Indian Brotherhood and the Department of Indian Affairs.*
- (ii) A detailed study of certain socio-economic aspects of Indians living off-reserve in B.C. published by Professor W.T. Stanbury of the Department of Commerce, University of British Columbia, in 1975.**
- (iii) A detailed socio-cultural examination of subsistence resource utilization activities, emphasizing the salmon fishery of the Fraser River Basin, which was conducted under the joint auspices of Environment Canada and the Union of B.C. Indian Chiefs, 1973.***

Other socio-economic studies on Indian people in British Columbia were purportedly carried out in recent years by Canada Manpower and others, but are not available to the public as yet.

Several published studies and reports on the difficulties facing Indian people entering the wage economy were utilized in the study. However, they contain little or not attempt to predict future trends in Indian wage employment characteristics.

The Canada Census, 1971, provided the most comprehensive data base available for Indian residents of the study area. Reserves are specifically enumerated and data for off-reserve Indians can be deduced since some figures are available by ethnic grouping. However, there were a number of problems associated with using Census data for this

-
- B.C. Socio-Economic Development Commission, 1977, "Socio-Economic Study of the Indian Population of British Columbia", Union of B.C. Indian Chiefs.
 - ** Stanbury, W.T., "Success and Failure - Indians in Urban Society", University of British Columbia Press, 1975.
 - *** Bennett, M.G., "Indian Fishing and the Cultural Importance in the Fraser River System", Department of the Environment and Union of British Columbia Indian Chiefs, April, 1973.

study. The Census sampling procedure and method of data rounding to ensure confidentiality means that the data are quite imprecise for small populations as are found on the Indian Reserves in the study area. Therefore, throughout the study, precise statistical comparability is not possible, and statistical relationships developed must be viewed as general, rather than exact, estimates.

A second problem with Census data is their questionable current validity. Data are over six years old, and given the small Indian populations, small absolute changes since 1971 become relatively large percentage changes. Also, economic data based on employment conditions in 1971 seem to significantly differ from conditions today. Results from the 1976 Census are not yet available, and this Census was considerably less detailed than that of 1971.

Compilation of the 1971 Census data into forms useful to the study was achieved using the facilities of the Provincial Government Department of Economic Development.

Following the examination of published materials as described above, personal interviews were held with government departments and agencies providing services to Indian people in the study area. In general, statistics are not kept by ethnic background, and the interviews yielded only qualitative information reflecting the depth of personal knowledge and, in some cases the perceptions of those interviewed. The consultants used their judgement in assessing the applicability of information obtained by personal interviews.

Interviews were also held with local employers and persons identified as being knowledgeable of conditions and activities in the study area.

1.5 Definitions

The Indian people of British Columbia commonly are classified into two groups: Status (or Registered) Indians and non-Status Indians.

Status Indians are defined as those people coming under the jurisdiction of the Indian Act (1957). Their names appear on the Official Indian Register. Most appear on a specific Band List, but a few are not associated with a specific Band and appear on a General List. Legal status as an Indian is acquired at birth if one's father is an Indian, or by marriage to a Status Indian husband. Illegitimate children of a Status Indian woman are usually granted Indian status. Indian women lose their Indian status if they marry a non-Indian male. This is one example of enfranchisement, the voluntary giving up of legal Indian status. Enfranchisement is also possible if an Indian chooses to give up the rights, privileges, and restrictions of the Indian Act. A number of Indians chose enfranchisement when various laws were in force that restricted the freedom of Indians to carry out activities available to the non-Indian population (e.g., entry to premises serving alcohol).

An Indian Band is defined by the Indian Act as "a body of Indians (i) for whose use and benefit in common, lands, the legal title to which is vested in Her Majesty, have been set apart before or after the coming into force of this Act; (ii) for whose use and benefit in common, moneys are held by Her Majesty or; (iii) declared by the Governor in Council to be a Band for the purposes of this Act."

The Act defines an Indian Reserve as "a tract of land, the legal title to which is vested in Her Majesty, that has been set apart by Her Majesty for the use and benefit of the Band."

Indians do not lose their status as a result of living off-Reserve. In this study, Status Indians living off-Reserve may be referred to as "off-Reserve Indians".

Examination of the above definitions reveals that Status Indians are not necessarily of Indian racial origin, nor necessarily genetically "more Indian" than those who have chosen enfranchisement, or their offspring.

People of Indian racial origin who are not registered under the Indian Act are generally referred to as non-Status Indians.

Because six generations of Indians have been exposed to intermixing with non-Indians, and because many people of partial Indian blood have tended to be assimilated into the general population, it is difficult to estimate the number of non-Status Indians in British Columbia. However, it is estimated that there are approximately equal numbers of Status and non-Status Indians in British Columbia. In 1975, Department of Indian Affairs statistics showed 52,280 Status Indians in British Columbia.

During this study, it was impossible to determine the location or the numbers of non-Status Indians in the study area. Therefore the study is concerned primarily with Indian people living in Reserves in the area. However, when dealing with such questions as the numbers of Indians employed in the area, it was not possible to separate Indians living on-Reserve and off-Reserve and non-Status Indians. Therefore, in this report, unless stated otherwise, the term "Indian" refers to people of Indian racial origin.

The general population is referred to as "non-Indians" or occasionally as "white" or "Euro Canadians" where the context of the terminology was appropriate. The use of such terms is not intended to exclude other racial minority groups, but rather to reflect the cultural background and ethnicity of the majority of the non-Indian population in the study area.

Reference is made in the study to various bodies representing Indians in British Columbia, and the following notes are guidelines to the structure and function of these bodies. The notes are not meant to be comprehensive definitions of these Indian organizations.

Most Bands in British Columbia have grouped themselves into regional Indian District Councils.

These District Councils tend to be organized with the same boundaries as those of the district offices of the Department of Indian Affairs, and do not necessarily represent tribal boundaries. The Indian District Councils are usually composed of the elected chief of each Band in the District, and act as a body to represent the group interests of the Bands concerned.

The Union of B. C. Indian Chiefs is an organization representing many of the Indian Bands in the province. It acts as a resource group for member Bands, and provides leadership and guidance for its members. The Union has a full-time executive and staff. The executive is elected annually at a general assembly of the chiefs of all member Bands.

Each Band has a council to direct its activities. The number of councillors varies with the size of the Band, and they are normally elected by the Band members each two years. The leader of the council is the Band chief. Day to day administration of Band activities is carried out by a Band manager and staff, reporting to the chief or council.

1.6 Description of the Project

It has been proposed that the B. C. Hydro & Power Authority use the coal deposits in the Upper Hat Creek Valley as the fuel source for a 2,000 MW thermal generating station, to be constructed in the Trachyte Hills east of the proposed mine.

The Hat Creek Valley lies midway between Ashcroft and Lillooet in the Central Interior of British Columbia, some 200 kilometers north-east of Vancouver.

There are two major bodies of coal in the valley. For the purposes of this project, they are identified as No. 1 open-pit deposit and No. 2 open-pit deposit. Only the No. 1 deposit need be mined to provide the coal source for the planned 35-year life of the proposed

2,000 MW thermal plant. The coal would be mined by the open-pit method, and conveyed to the thermal plant using suitable transfer equipment. The plant will be located some 5 kilometers east of the mine.

The location of the coal deposits, thermal plant and ancillary developments are shown in Figure 1.1.

The ancillary developments include the building of transmission lines from the power plant, a buried water line bringing cooling water from the Thompson River to the plant, the diversion of Hat Creek so as to prevent flooding of the coal pit, the construction of an access road from Highway No. 1, the development of several ash ponds and waste storage areas, and the construction of a Class C airstrip.

Detailed descriptions of the location and operation of these various features are available in the appropriate Hat Creek Mining and Power Plant Description reports, published by B. C. Hydro & Power Authority.

There are several Indian Reserves in close proximity to the proposed developments, and these are also shown in Figure 1.1.

1.7 Definition of Study Areas

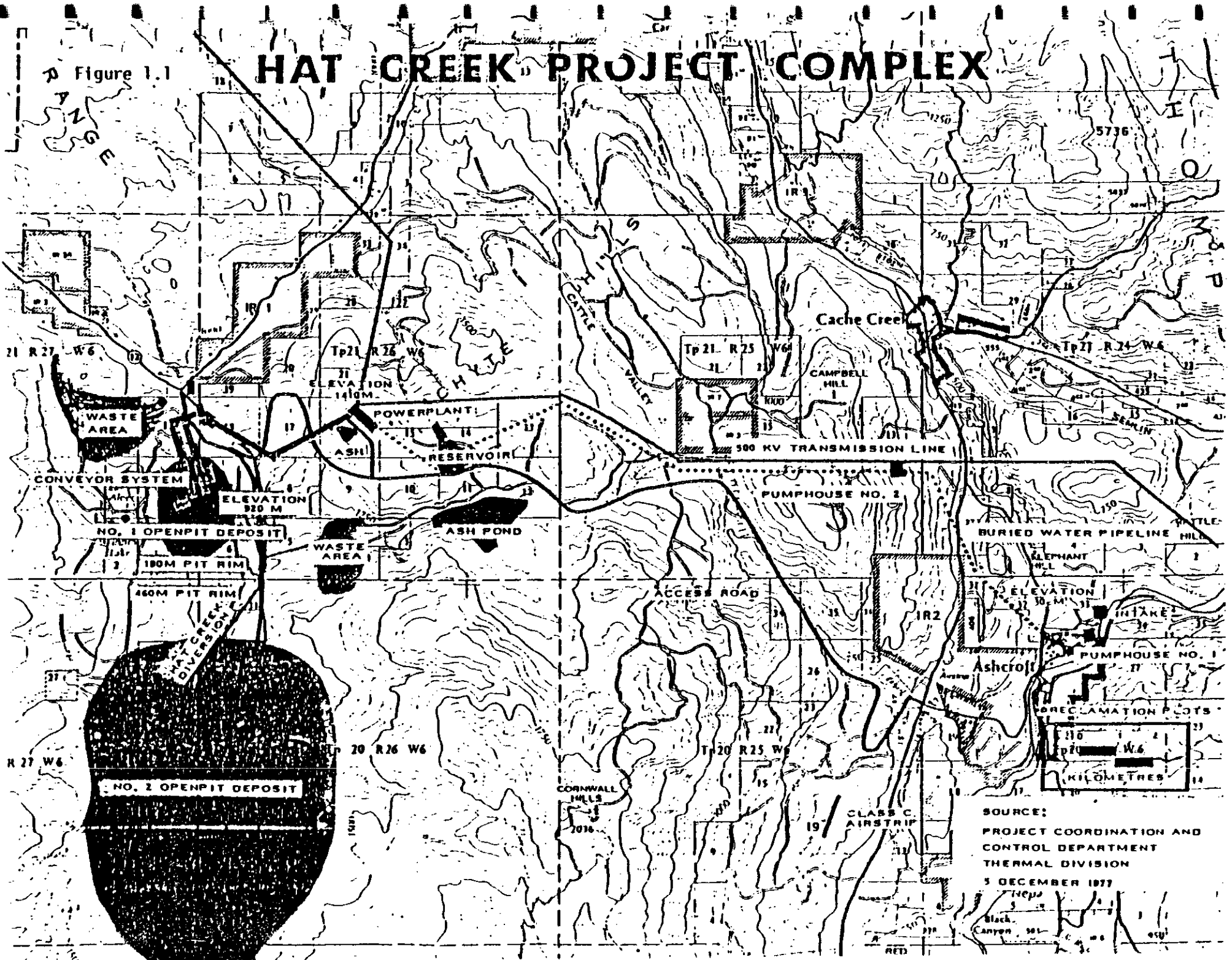
The definition of primary and secondary study areas poses several problems.

Lack of information about the extent and nature of environmental impacts from the proposed Hat Creek development, particularly those related to air quality and water quality, prevented realistic assessment of those Bands which might be affected significantly by such impacts.

Also, lack of contact with the local Bands or the Department of Indian Affairs prevented a meaningful initial assessment of the

Figure 1.1

HAT CREEK PROJECT COMPLEX



SOURCE:
PROJECT COORDINATION AND
CONTROL DEPARTMENT
THERMAL DIVISION
5 DECEMBER 1977

Black Canyon
RED

economy, lifestyle, or aspirations of local Bands, in order to consider their inclusion in the primary or secondary study areas. It was, therefore, decided to limit the detailed study to the four Bands whose Reserves are located so close to the proposed Hat Creek Development that they have been included in the primary impact study; namely, the Bonaparte, Pavilion, Ashcroft and Oregon Jack Creek Bands. The location of their respective Reserves is shown on the map which forms Figure 1.2.

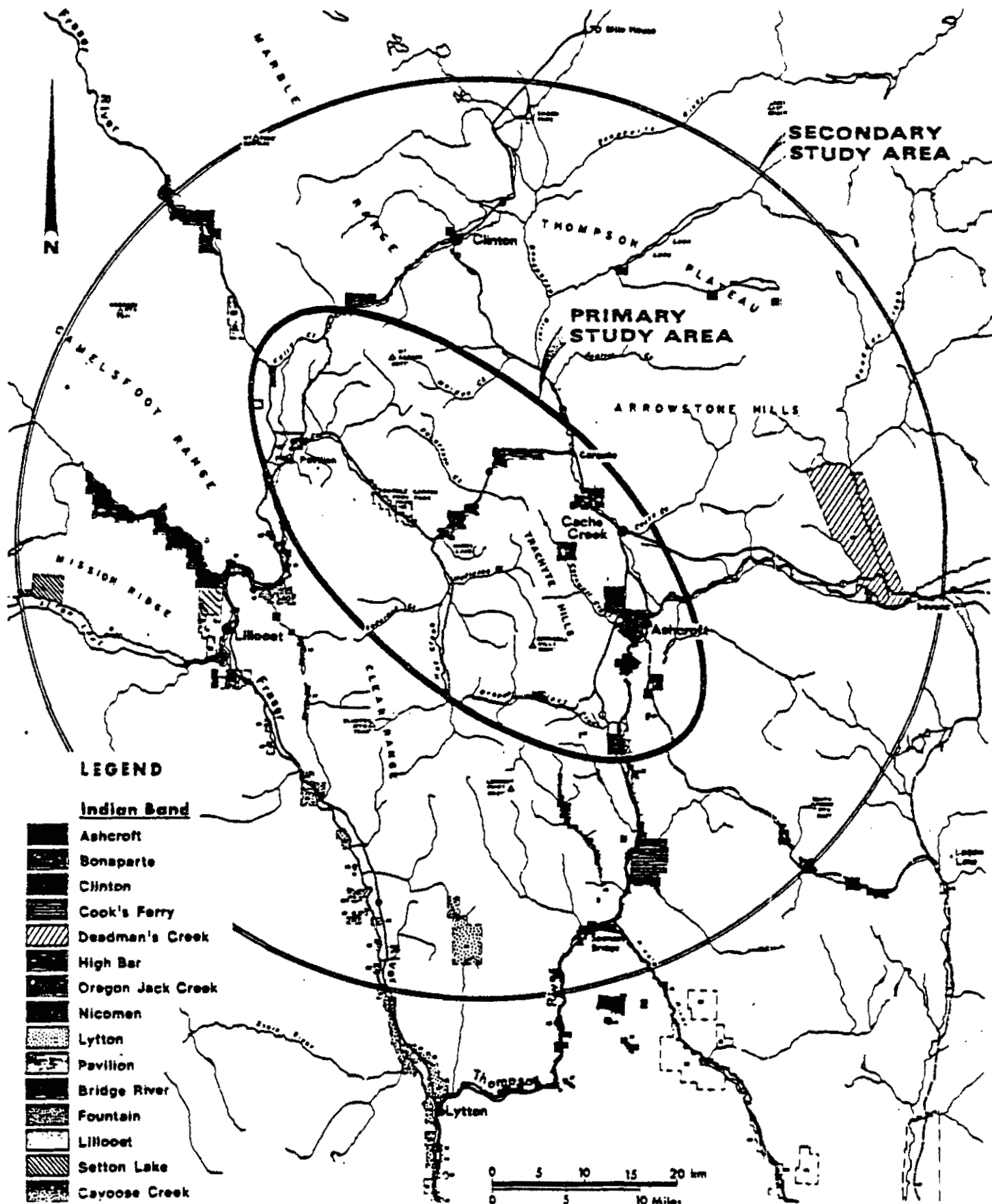
Similarly, to the extent that they can be identified, Status and non-Status Indians who live in the communities of Ashcroft, Cache Creek, and adjacent unincorporated areas should also be included in the primary study area.

The significance of the elliptical shape used to define the primary study area in Figure 1.2 is that it most conveniently encompasses the inhabited Reserves of those Bands most likely to experience impacts from the proposed Hat Creek Development.

After a preliminary review of the Bands in the study region, as defined by B. C. Hydro in its terms of reference, and discussions on the information available from the main socio-economic study, it was decided to define a secondary study area encompassing those Indian Bands who had Reserves within a 50 km radius of the proposed thermal generating plant site. This decision brought into the study the Bands who use the facilities and services of Ashcroft and Cache Creek (e.g., Deadman's Creek Band whose children attend school in Ashcroft) and also Bands whose members might be prepared to commute in order to obtain employment at Hat Creek (e.g., some of the Lillooet area Bands). This secondary study area might have to be modified when the various socio-economic and environmental resource impact studies become available. For example, the area could be expanded should air quality impacts be identified over an area that is inconsistent with the presently defined study boundaries.

Fig 1.2

MAP OF THE STUDY AREAS



LEGEND

Indian Band

- Ashcroft
- Bonaparte
- Clinton
- Cook's Ferry
- Deadman's Creek
- High Bar
- Oregon Jack Creek
- Nicomen
- Lytton
- Pavilion
- Bridge River
- Fountain
- Lillooet
- Setton Lake
- Cayoose Creek

There are 11 Bands in addition to the four included in the primary study area who have Reserves within the defined secondary area boundaries: They are:

- | | |
|--------------------|------------------|
| 1. Deadman's Creek | 7. High Bar |
| 2. Cook's Ferry | 8. Cayoose Creek |
| 3. Nicomen | 9. Lillooet |
| 4. Lytton | 10. Bridge River |
| 5. Clinton | 11. Seton Lake |
| 6. Fountain | |

Their Reserves are also shown on the map which forms Figure 1.2.

2. SETTLEMENT PATTERNS AND CULTURAL CONSIDERATIONS

Any attempt to assess the potential impact of development projects on local Indian people must recognize the fact that there are, in general, significant differences between Indian and non-Indian attitudes towards such development. The cultural backgrounds of Indians and Euro Canadians which have spawned their respective value systems are different.

There is considerable literature on these differences, but it is beyond the scope of this study to examine them in detail. It is useful, however, to recognize some of the more important differences between the two cultures, in general terms, and to examine the history and settlement patterns of the Hat Creek area Indians in particular.

2.1 Cultural Heritage and Past Settlement Patterns

Preliminary archaeological research in the Upper Hat Creek Valley has recovered evidence of aboriginal settlement and resource utilization which may extend as far back as 7,000 years.* The basin is inferred to have been utilized in seasonal fishing, hunting, and plant gathering activities by nomadic groups. It is probable that this pattern of settlement and subsistence prevailed up to the time of historic contact.

The prime sources of published material on Indian life in the study region prior to white contact are the various works of James Teit who travelled extensively in the area around the turn of this century. Teit's volumes on the Shuswap^{***} and the North Thompson^{***} Indians formed the

• Pokotylo and Beirne
Op. Cit., 1978

** Teit, J.A., "The Shuswap", A.M.S. Press, 1975. Reprinted from original 1909, New York.

*** Teit, J.A., "The Thompson Indians of British Columbia", A.M.S. Press, 1975. Reprinted from original 1900, New York.

major basis for the descriptions of pre-contact lifestyle patterns described in this section.

The Indian Bands in the study area are part of the Interior Salish, a large linguistic group whose territory covers much of the central and southern Interior of British Columbia, and stretches south into the States of Washington and Idaho. Figure 2.1 shows the territories of the Interior Salish, and Figure 2.2 shows the tribal boundaries of the Shuswap, Thompson, and Lillooet Indians; all sub-groups of the Interior Salish. The study area is located at the junction of the boundaries of the three tribal groups.

The Pavilion and Bonaparte Bands are Shuswap, while the Ashcroft and Oregon Jack Creek Bands are Thompson Indians.

Most of the Upper Hat Creek Valley was part of the hunting territory of the Thompson Indians, from Spences Bridge.* The lower reaches of the Valley were within the territories of the Bonaparte Band.**

While Teit and others noted differences between the Shuswap, Thompson, and Lillooet Indians, based to a great degree on the distribution and types of resources in their respective areas, they also identified many similarities. There was considerable inter-tribal warfare among the Interior Salish; but the Bonapartes did not fight with the Thompsons or upper Lillooets.*** Intermarriage between the Bonapartes and Thompsons Indians was also common.****

-
- Ibid. Page 170
 - ** Teit, J.A., "The Shuswap"
Op. Cit., Page 456
 - *** Ibid. Page 554
 - **** Ibid. Page 467

Map of the Northwest Tribes

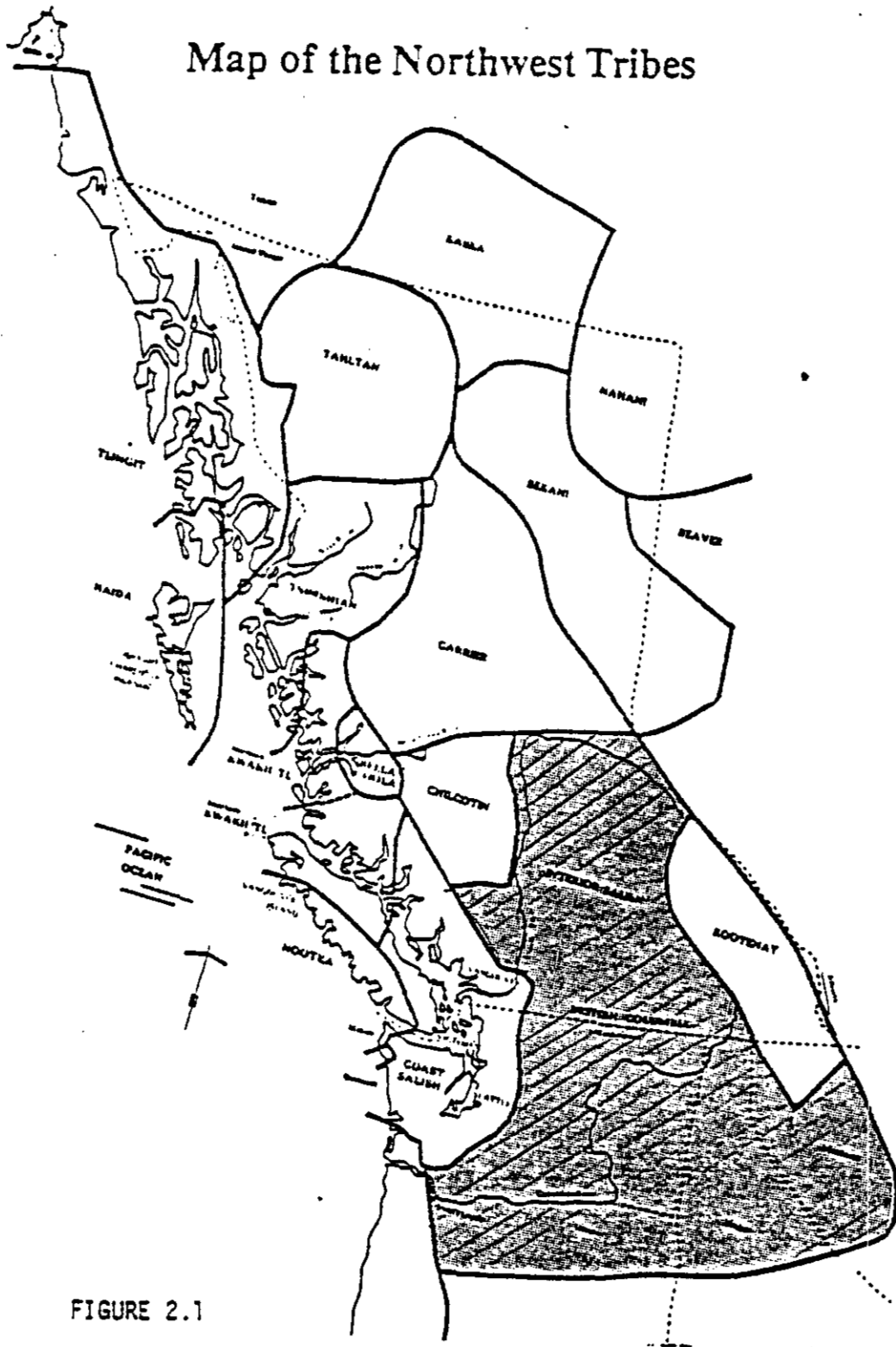
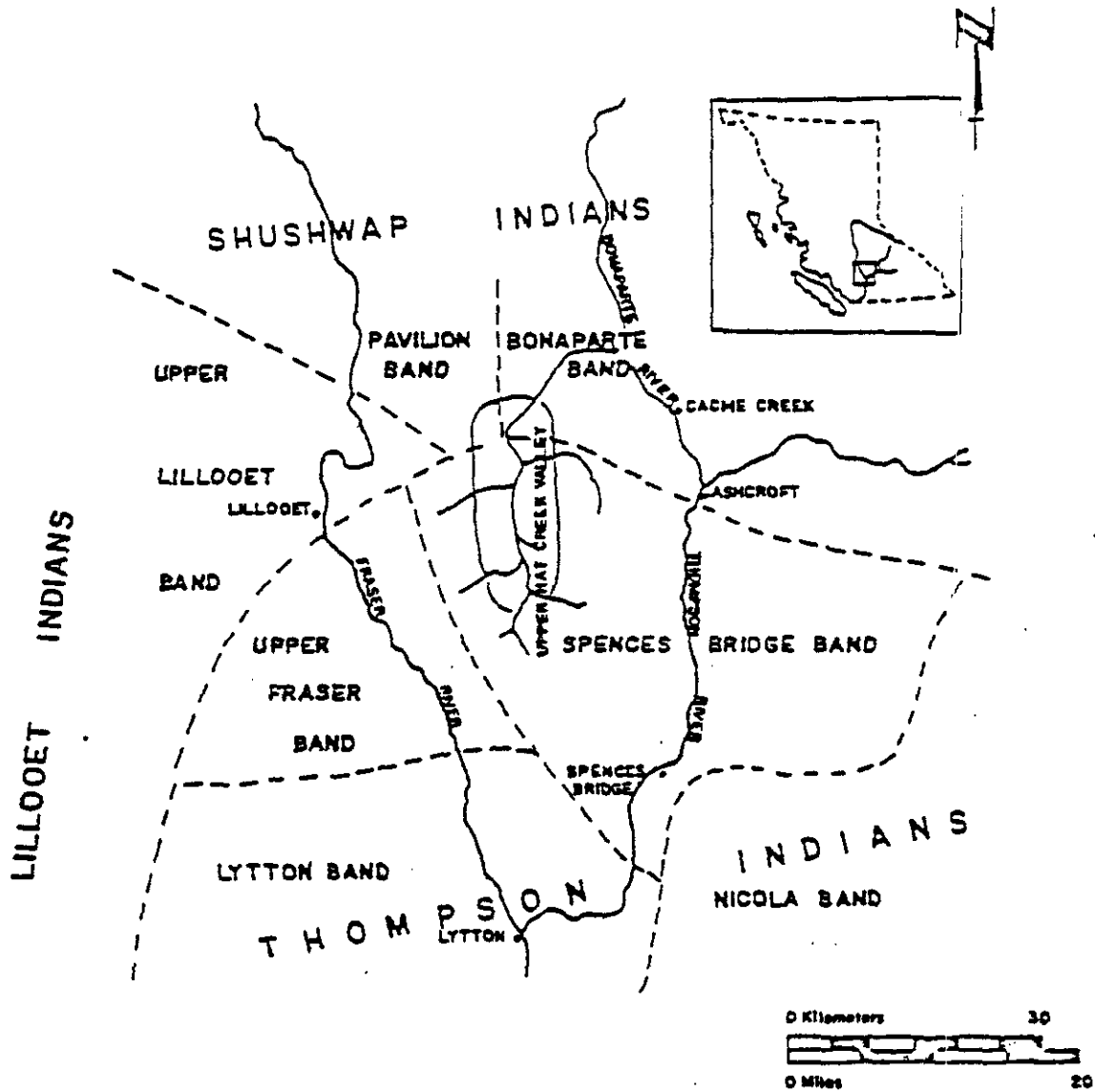


FIGURE 2.1

Map showing the Territories of the Interior Salish Indians (shaded)

SOURCE: Ashwell, R., "Indian Tribes of British Columbia", Hancock House Publishers Ltd.

Figure 2.2



NORTHERN INTERIOR SALISH ETHNOGRAPHIC GROUP BOUNDARIES (AFTER TEIT 1900)

It would seem reasonable to suggest that the proximity, intermarriage, trade, and good relationships among the Bands in the primary study area led to lifestyles so similar that they could be regarded as a homogeneous group.

The Interior Salish were semi-nomadic. The pattern of movement was dictated primarily by the seasonal availability of food. Over time, variations in the availability of different food supplies caused changes in the lifestyle and settlement patterns of the Bands. It appears that some 2,000 years ago salmon gradually replaced game as the mainstay of the Interior Salish diet.*

The Indians travelled mainly in small family groups but in the winter a number of groups would live together in their semi-permanent settlements. These settlements consisted of semi-subterranean huts, generally built in the valleys of the principal rivers, and in close proximity to the water. Families would either maintain their own hut or share a larger, communal dwelling.

Within tribal boundaries, the land and its resources were regarded as common property for the tribe or kin, including berry and plant grounds, hunting areas, and fishing sites.

When a number of family groups were together, the lifestyle was semi-communal. For example** whether a hunter went out alone or in a party, the meat was shared. However, skins obtained by trapping were kept by the individual, and when hunting was carried out in parties, the better hunters were given the largest share of the skins.

* Palmer, Gary, "Cultural Ecology in the Canadian Plateau: Precontact to the Early Contact Period in the Territory of the Shuswap Indians of British Columbia", Northwest Anthropological Research Notes, Volume 9, Fall 1978. Page 238

** Teit, J.A.
Op. Cit. Pages 192, 573

Trading, and also warfare, between tribes was fairly common. Through his prowess in hunting, trapping, trading, warfare, or other activities, a person could accumulate personal wealth, and the ranking of a person in a tribe or Band was partly determined by his wealth and partly by his personal qualities such as hunting, warfare, or oratory skills.

Bands did not have a single chief. Rather, different chiefs were required to preside over different activities, chosen for their prowess in that particular activity. Decision making tended to be democratic and Band members were consulted on important decisions, and continued leadership depended on public acceptance.*

It seems likely that this lifestyle remained basically unchanged for thousands of years before white contact, two hundred years ago. In the Interior, white contact was initially slow, with a limited number of fur traders moving into the area. This early contact was probably beneficial to the Interior Salish Indians, and the newcomers were welcomed. However, in the mid-nineteenth century the gold rushes came, first to the mid-Fraser and then to the Cariboo. Large European populations arrived in the Interior. The results of this period were not beneficial to the Indians. Along with the gold miners came ranchers, farmers and other settlers. White settlement and the acquisition and development of private land by individuals (a practice alien to the Indians, who regarded land and resources as being for common use), affected the available supply of wildlife and other resources on which the Indians were dependent. Also, the introduction of new types of disease and commodities such as alcohol, had disastrous effects, as reflected in the decrease in the Interior Salish population from 13,500 in 1835 to 5,800 in 1885.** .By the end of the nineteenth century the

* Ibid. Page 289

** Duff, W., "The Indian History of British Columbia, Volume 1, Impact of the White Man", Provincial Museum of National History, 1952

majority of the present Reserves in the primary study area had been established (these are listed on page 1 - 15).

Thus, the activities of only a 60-year period had resulted in the destruction of a lifestyle that had basically been unchanged for thousands of years. The Indian population was halved, lands which had produced traditional subsistence resources had been taken as private land, by the newcomers, and replaced by small Reserves. The Indians were surrounded by people with a vastly different culture, lifestyle, and value system.

This new society then "organized" the Indians. The semi-nomadic lifestyle, having been made severely constrained, the Indians were settled permanently on their Reserves and were given "proper" housing. They were introduced to the system of a single elected chief, to an educational system which was designed to allow the Indian to be integrated into the new society and which often involved taking the children away from their homes and families into residential schools. They were introduced to the Christian religion, and discouraged from pursuing their own culture, language, religious values and lifestyle.

The opportunity to pursue the traditional, self-sufficient economy had been severely reduced by harvesting pressures on resources and altered land use patterns. Also, the Indians were faced with severe physical, psychological and social problems associated with rapid changes in their lifestyle and surroundings, the introduction of alcohol, new illnesses, and the general infringement of the new society. Indians were faced with the choices of trying to make the best of the old economy, joining the new society's wage economy, or becoming dependent on the government for their subsistence. Although some were able to join the wage economy at the lowest levels, the most common pattern of Indian living became one of dependency on government welfare, supplemented by some subsistence hunting and fishing, and coping with the emerging social problems.

hunting, trapping, and fishing, and thus the economic value of these activities has fallen. It is felt, therefore, that relatively little weight should be given to their contribution to cultural identity.

More important are the patterns of social behaviour and attitudes towards the environment and its resources among the Indian people of the study area.

Unfortunately, very little information on these aspects was available to the study. Although racial tension in the communities seems to be low, there does not appear to be a great deal of social integration within the primary study area. The Indian people do not appear to use the social and recreational facilities in the local non-Indian communities to any degree. Social interaction seems to be mainly within their own Reserve and with other Indian communities.*

There are many reasons for the low level of social interaction between the Indian and non-Indian societies, and while it undoubtedly produces some adverse effects, it also contributes to a maintenance of Indian self-identification. Similarly, the Reserve system has been a major factor in maintaining and strengthening Indian cultural identity. The Reserves have enabled family and tribal links to be maintained strongly through a period when exclusion from non-Indian society, government administration, and the growth of social problems all contributed to the removal of Indian pride and independence. A sense of common identity was automatically maintained, and this was strengthened as the Bands began to administer their own affairs, and as the motivation to achieve a greater degree of self-determination grew.

It has not been possible to examine the other factors relevant to a feeling of "Indianness", such as family and group relationships, association with the cultural heritage, and pride in being Indian. It is, therefore, not possible to draw definitive conclusions as to the level and strength of cultural identity among the Indian people of the study area.

* This is possibly decreasing among the younger Band members.

2.3 Present Settlement and Organization

The four Bands in the primary study area have a total of twenty three (23) Reserves, with a total area of over 15,500 acres. These reserves are listed in Table 2.1.

Although the full extent to which the Reserves are occupied or developed cannot be documented at this time, it is possible to indicate the location of the most important domestic settlements on the Reserves, obtained by observation from the main highways.

Most of the Ashcroft Reserve residents live on Ashcroft Reserve #4, located near the junction of Highway #1, and the south Ashcroft connector road. There are nine houses on this Reserve, set back some 150 metres to the south side of the connector road.

About half of the Bonaparte Band lives on Reserve #3, which straddles Highway 97 about 2 miles north of Cache Creek. The balance of the Band is divided about equally between the two Bonaparte Reserves which straddle Highway 12 between the junction with Highway 97 and the junction with the Hat Creek road. All of the houses on these two Reserves are on the southern side of the highway; they are fairly evenly spread along the Reserve and are, for the most part, some 150 metres from the road.

There are some houses on Pavilion Reserve #3, about 3 miles west of the Hat Creek Junction along Highway 12, but most of the Pavilion Band members live on the main Reserve, some 13 miles to the west of the Hat Creek Junction.

Figure 1.1 shows the location of the Reserves relative to the proposed development.

It appears that all four Bands function independantly, administering their own financial and organizational affairs. Pavilion Band is a member of the Lillooet Indian District Council, while the other three

Bands are members of the Thompson River District Council (note that these councils do not follow tribal boundaries, as described in Section 2.1).

The Lillooet Indian District Council has recently embarked on a number of socio-economic development programs. The Council has hired full time economic development staff to develop business and employment opportunities for its member Bands. It has also hired some full time alcohol counsellors, and Canada Manpower has an Outreach (a special program for developing native employment opportunities, and using primarily native staff) team working with the District Council.

The development of the Hat Creek Indian Communications Committee to represent local Bands in their dealings with B.C. Hydro on the proposed Hat Creek project, has already been discussed in Section 1.3 of this report.

3. DEMOGRAPHIC CHARACTERISTICS

3.1 Current Status and Historical Trends

a) Population

Table 3.1 presents total on-Reserve and off-Reserve Status populations for the Bands in the primary and secondary areas.

TABLE 3.1
TOTAL BAND POPULATION, PRIMARY AREA
COMPARED TO SECONDARY AREA AND TOTAL BRITISH COLUMBIA
STATUS INDIAN POPULATION
(SELECTED YEARS 1965-1975)

	<u>1965</u>	<u>1970</u>	<u>1975</u>	<u>Average Growth</u> <u>1965-1975</u>
Bonaparte	285	331	342	1.9%
Ashcroft	71	76	78	1.0%
Oregon Jack Creek	17	16	16	-
Pavilion	<u>150</u>	<u>182</u>	<u>185</u>	<u>2.1%</u>
Total Primary Area	513	605	621	1.9%
Secondary Area	2,264	2,426	2,548	1.2%
British Columbia	44,081*	47,888	52,280	1.7%

* Data for 1966

SOURCE: Department of Indian Affairs, published statistics.

At the end of 1975, the four primary area Bands had 621 members of whom 354 (57%) were living on-Reserve. The 11 Bands in the secondary area had a total of 2,598 members, of whom 1,655 (64%) were living on-Reserve.

During the last decade, the total Band population of the primary area has been increasing at an average growth rate of 1.9% annually compared to 1.3% for the secondary area Bands and about 2.0% for the Status Indian population in British Columbia as a whole. Among the primary area Bands, Bonaparte and Pavilion have shown the strongest increases, Ashcroft has grown marginally and Oregon Jack Creek has been essentially constant. Growth during the latter five-year period has been significantly lower than the previous five years.

The size of Status Indian populations at any point in time is not only a function of birth and death rates, but also of marriage preferences. Birth and death rates calculated over a short period for a small population can be very deceptive, but from the limited statistics available (for 1975 and 1976 only) the birth and death rates for the primary Bands are more in line with those for the general population of British Columbia than for the Status Indian population. The most notable difference in the limited death rate statistics between the primary Bands and the total British Columbia Indian population was the absence of a high infant mortality rate in the former group. This is discussed further in Section 7, dealing with health.

The difference between the Indian birth rates and death rates suggests a natural population growth in the area of about 2.4 percent annually over over the last decade. That the recorded growth was 1.9 percent during the period, would indicate that marriage preferences are a factor in the population growth of these Bands.

The historical relationship between on and off-Reserve populations is shown in Table 3.2. Throughout British Columbia there has been a trend of population migration away from the Reserves. On-Reserve populations have increased marginally during the past decade while off-Reserve populations have increased by 66.6%. Within the primary area, Reserve populations declined somewhat during the years prior to 1970, but have since increased to about their mid-1960s level. Off-Reserve populations have been steadily increasing and now stand 21.0% higher than in 1965.

TABLE 3.2
PERCENTAGE OF TOTAL BAND MEMBERS ON-RESERVE
(SELECTED YEARS 1965-1975)

	<u>1965</u>	<u>1970</u>	<u>1975</u>
	<u>%</u>	<u>%</u>	<u>%</u>
Bonaparte	71.2	52.0	52.0
Ashcroft	64.8	40.8	52.5
Oregon Jack Creek	76.5	50.0	81.3
Pavilion	66.7	73.1	65.9
Average Primary Area	70.5	56.8	57.0
Secondary Area	72.4	62.0	63.7
British Columbia	73.8*	67.5	63.2

• Data for 1966.

SOURCE: Department of Indian Affairs,
published statistics.

Although the rate of growth of off-Reserve populations is lower among the Bands in the primary area than in British Columbia as a whole, the proportion of Band populations living off-Reserve is significantly higher. Among primary area Bands 44.7% of Band members live off-Reserve compared to 36.8% throughout British Columbia.

In his study of off-Reserve Status Indians, Stanbury found that the three most significant reasons given for living off-Reserve were lack of local employment opportunities (28%), lack of housing on-Reserve (12%) and a general preference for off-Reserve life (23%).* He concluded that "The evidence we have gained from our own study, and our review of other studies, reinforce the conclusion that there are many reasons for Indian migrancy to urban centres, but that economic necessity is the single most important reason."

However; in examining the desire to return to the Reserve, Stanbury found that employment opportunity was not the major reason given for planning to return. It constituted only 9% of the sample, where availability of housing accounted for 29% and "to retire" accounted for 20%. Overall, some 41% of the off-Reserve Indians interviewed by Stanbury indicated that they would return to live on-Reserve.

The off-Reserve Status population living in the primary area is estimated for 1971 in Table 3.3. It is recognized that the data shown are questionable, due primarily to definitional problems in the Census, and sampling error. However, attempts to refine the data have been unsuccessful and must remain so in the absence of primary data.

b) Age/Sex Characteristics

The Indian population is significantly younger than the non-Indian population of the study area. Tables 3.4 and 3.5 examine age/sex distributions for the primary Bands, and selected communities. The characteristics of the Bands in the Primary study area are very similar to those of the total B. C. Indian population.

* Stanbury, W. T., "Success and Failure - Indians in Urban Society". University of British Columbia Press, 1975.

TABLE 3.3
OFF-RESERVE STATUS POPULATION IN SELECTED
LOCAL COMMUNITIES, 1971

	<u>1971</u>
Ashcroft	25
Cache Creek	35
Lillooet	40
Clinton	85
Rural	<u>25</u>
Total	210

SOURCE: Statistics Canada, User Summary Tapes, Census, 1971.

Among primary Band members, 64% are under 25 years of age, compared to 52% of the general Ashcroft/Cache Creek area residents, 45% of the total British Columbia non-Indian population, and 66% of the total British Columbia Indian population.

The Ashcroft/Cache Creek area is itself a relatively young population, typical of hinterland communities dependent upon in-migration for population growth, but the local Indian population is significantly younger still. The youthfulness of the Indian population in general is due partly to a high birth rate and partly to a low life expectancy.

The youthfulness of the Indian population is particularly emphasised among the female Band members in the primary area where 73% are under the age of 25.

The overall male/female ratio on the primary area Reserves is similar to that of the general population of the area, with a slight male predominance reflected in the ratio of 1.1:1*.

• SOURCE: Statistics Canada , Census, 1971.

TABLE 3.4
AGE DISTRIBUTION OF ON-RESERVE POPULATIONS OF BANDS
IN PRIMARY AREA COMPARED TO OTHER SELECTED COMMUNITIES
(PERCENTAGE DISTRIBUTION 1971)

	<u>0-14</u>	<u>15-24</u>	<u>25-64</u>	<u>65+</u>
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Bonaparte	50.0	17.5	27.5	5.0
Ashcroft/Oregon Jack Creek	41.7	33.3	25.0	0
Pavilion	<u>47.5</u>	<u>19.0</u>	<u>23.9</u>	<u>9.5</u>
Total Primary Area Bands	45.4	18.6	28.8	7.2
Cache Creek/Ashcroft	34.8	17.2	44.7	3.3
British Columbia -				
On-Reserve Indians	44.5	21.8	28.9	4.8
Total Population	27.9	17.8	44.9	9.4

SOURCE: Statistics Canada, User Summary Tapes, Census, 1971.
Stanbury, W. T., "Success and Failure - Indians in Urban
Society". University of British Columbia Press, 1975

In general, a trend towards a lowering of the birth rate among Indian people in British Columbia is being observed, with the result that the age structure is moving towards that of the overall British Columbia population.

TABLE 3.5
AGE/SEX CHARACTERISTICS OF ON-RESERVE POPULATION
OF BANDS IN PRIMARY AREA COMPARED TO SELECTED COMMUNITIES

	<u>1971</u>			
	<u>% Males</u> <u>Under 15</u>	<u>% Males</u> <u>Under 25</u>	<u>% Females</u> <u>Under 15</u>	<u>% Females</u> <u>Under 25</u>
Bonaparte	45	60	55	75
Ashcroft/Oregon Jack Creek	45	68	50	63
Pavilion	40	80	43	72
Total Primary Area Bands	44	65	52	73
Ashcroft/Cache Creek	33	49	35	53

SOURCE: Statistics Canada, Census, 1971.

c) Family Structure

In examining family structure among Indian communities, it is important to bear in mind that, in spite of pressure applied by white society over the last 200 years to adopt its values, Indian society retains a value system that is significantly different from that of Canadian non-Indian society. Civil marriage, divorce and illegitimacy are not as important as in white society, but family relationships and acceptance of elders are more highly valued. This is not to say that indicators such as the illegitimacy rate (among all Status Indians, the illegitimacy rate was 34.6% in 1961, and by 1969 had increased to 50%, according to Stanbury), are the sole result of the conscious application of a particular set of values. They also strongly reflect levels of social and economic problems, pressures on women to avoid losing their Indian status, and other factors.

The 1971 Census data contained information on family and household sizes and structure. They indicate a near constant distribution of family size from 2 persons to 9+ persons, with an average size of 5.7 persons per family. Most families live as a single unit in their own home. Only 10 households in all four Bands are shown as containing more than one family. A further 15 households are shown as not containing a family group as such, of which 10 are occupied by a single person.

3.2 Conditions Without the Project

It has already been noted that death rates and birth rates for the Primary area Bands have been moving towards general rates for the population of the province as a whole. The population of those Bands has been rising over the decade, but at a decreasing rate. Through this period, the number of Band members living on-Reserve has been stable, indicating a continual movement of members off-Reserve. Marriage preferences appear to have affected the rate of growth of Band populations and also the proportion of Indians living off-Reserve.

The rate of growth in future on-Reserve populations will be strongly affected by the perceived relative attractiveness of life on and off the Reserve, and, recently, perceptions appear to be changing.

As mentioned previously, the Stanbury studies found that lack of local employment opportunity, lack of suitable on-Reserve housing, and a general preference for off-Reserve life were the most important reasons for Indians leaving the Reserve.

Section 4.5 of this report forecasts an improvement in the levels of Indian employment in the study area, without the Hat Creek Project. This will serve to reduce the pressure on Reserve residents to move away in order to obtain employment.

The increased financial stability that employment would bring to residents is likely to be reflected in a general improvement of the socio-economic environment of the Reserves and, therefore, will

probably further serve to negate some of the pressures that have been found to cause Indians to leave their Reserves.

It is forecast, therefore, that the percentage of Band members leaving the Reserves in the study area will stabilize over the study period. Since the total Band population will increase, the on-Reserve population will also increase. This growth can be expected to be in the order of 110 to 140 persons to the year 1990.

4. LABOUR FORCE AND EMPLOYMENT

4.1 Introduction

The employment and labour force characteristics of the Indian people provide an indication of the nature and extent of their involvement in the economy of the study area. Both traditional economic activities and industrial participation are examined on the basis of Statistics Canada, Canada Manpower, Environment Canada, secondary literature and personal interviews with local employers.

Although Indians on Reserve are separately identified by some government agencies, neither Canada Manpower, UIC, nor employers, keep records according to ethnic background. The assessment of current employment, therefore, is based on the judgement of institutional and corporate representatives familiar with local conditions.

4.2 Historical Characteristics

The 1971 labour force of Reserve residents has been estimated by the Census at about 100 persons. This would include both employed persons and those looking for work but would likely not include Indians employed solely in traditional subsistence economic pursuits.

The labour force can be characterized as young and male dominant but not differing significantly in this respect from the non-Indian communities of the study area. Over 40% of the total labour force is under the age of 25 and, given the demographic structures of the population, this group is expected to increase in relative terms.

Males comprise over 75% of the Indian labour force. Table 4.1 reveals that male participation, on average, is well below their counterparts in the local communities. Female Indian participation, on the other hand, was similar to that for women in the local area, although it varies considerably among Bands.

TABLE 4.1
 MALE AND FEMALE PARTICIPATION RATES
 PRIMARY AREA BANDS AND LOCAL COMMUNITIES
 1971

	<u>%</u> <u>Male</u>	<u>%</u> <u>Female</u>	<u>%</u> <u>Total</u>
Bonaparte	62	40	52
Ashcroft/Oregon Jack	100	100	100
Pavilion	40	0	25
Average	67	40	56
Cache Creek	92	55	74
Ashcroft	92	43	70
Local Rural	81	39	63

SOURCE: Statistics Canada, User Summary Tapes, Census, 1971.

Table 4.2 indicates that Indian involvement in the local economy is concentrated in four sectors: Agriculture, mining, manufacturing and services. In addition, Indian people participate in the construction industry, but their numbers are few.

TABLE 4.2
 EXPERIENCED LABOUR FORCE BY INDUSTRY
 NUMBER OF RESERVE RESIDENTS
 1971

<u>Band</u>	<u>Agri- culture</u>	<u>Mines</u>	<u>Manufac- turing</u>	<u>Service</u>	<u>Public Administra- tion</u>	<u>Unspeci- fied</u>	<u>Total</u>
Bonaparte	10	0	10	10	0	10	40
Ashcroft/ Oregon Jack	5	10	5	5	5	0	30
Pavilion	0	0	0	0	0	0	0
TOTAL	15	10	15	15	5	10	70

SOURCE: Statistics Canada, User Summary Tapes, Census, 1971.

At the time of the Census, the Indian labour force was almost fully employed, however, only 60% of them had full time employment. Seasonal participation in the agriculture and service industries likely accounts for the overall high rate of employment during mid-1971 presented in Table 4.3.

TABLE 4.3
EMPLOYMENT STATUS
NUMBER OF RESERVE RESIDENTS

<u>Band</u>	<u>Working Age Population</u>	<u>1971</u>		<u>Employed At Time of Census</u>	<u>Full Time</u>
		<u>Labour Force Male</u>	<u>Labour Force Female</u>		
Bonaparte	100	40	20	60	30
Ashcroft/ Oregon Jack	35	30	10	30	25
Pavilion	55	10	-	5	0
TOTAL	190	80	30	95	55

SOURCE: Statistics Canada, User Summary Tapes, Census, 1971.

The levels of employment and the nature of their economic activity varies among the Bands of the primary area. The Ashcroft and Oregon Jack Creek Reserve residents exhibited extremely high participation levels of employment. About 90% of the working age population were not only in the labour force but were employed at the time of the Census, mostly on a full time basis. The main source of employment was mining (presumably at the Bethlehem Copper Mine) with agriculture, the service industries, manufacturing and public administration accounting equally for the remaining work force. Participation among Bonaparte residents is also reasonably high. Among the 60 members of the Bonaparte labour force, all were experienced, and all were employed at the time of the Census. However, only half had full time employment. Agriculture, manufacturing and the service industries dominate their areas of involvement.

The Pavilion Band shows a significantly worse employment position. Only 10 of 55 working age people were in the labour force; half had not worked in the previous 18 months; and none were employed full time. No female participated in the labour force and no single industrial category was significant enough to be specified as providing the employment.

Although the degree of variation around the Census estimates is relatively high, due to the small number of persons involved, it would appear that the economy of the Indian people during 1971 was substantially better than it is currently. Although this decline is shared throughout most of the Hat Creek region, the less mobile Reserve populations are more vulnerable to downturns in their local area than their non-Indian counterparts.

4.3 Current Status

The employment situation among the four primary area Bands appears poor at the current time, but there are opportunities for future improvement.

Stable, full time employment is scarce. Bethlehem Copper Mines employ an estimated 8 to 10 Indian people from the Ashcroft and Cache Creek areas. It was not possible to determine whether they are Status or non-Status, to which Bands they belong, or whether they live on-Reserve.

Competition for employment at the mine is very high, especially for entry-level positions. The mine's turnover rate is low and there are only about six vacancies in an average month, the majority of which are for semi-skilled entry-level positions. Applications for employment received by the company are in the order of 150 per month.

It appears that the Indian employees have, in the main, been with the company for a long time, some as long as eight or nine years.

Resident location, indications of potential stability, and long-term employability are major factors in selecting recruits. Lack of a stable work history among currently unemployed Indians from the Primary study area is probably the major factor in limiting immediate prospects for further Indian employment at the mine.

It appears that few, if any, Indians are employed at the Lornex Mine. Their labour force is, in the main, drawn from Kamloops, Merritt and other areas of the province.

Since the 1971 Census, three significant, but small-scale, sources of Indian employment have been established: The Steel Brothers Canada Ltd. lime plant located on Pavilion Reserve No. 4; the Gulf Agricultural Chemicals Ltd. plant located on Ashcroft Reserve No. 2; and the Basque Ranch owned by the Cook's Ferry Band.

The Steel Brothers plant was opened in 1974 and employs 18 full-time employees. The three management and administrative positions are staffed by non-Indians, but 13 of the 15 hourly-paid full-time employees are Indians. About half of these are Pavilion Band members, one is from Bonaparte Band, and the balance are from Fountain and Lillooet Bands.

The plant operates on a shift system, with some areas operating continuously seven days per week. Employment is year-round and stable, except for occasional shutdowns due to market conditions. Rates of pay are higher than average for the area (current labourer's rate is \$8.54 per hour) and, being located on-Reserve, Status Indian employees pay no income tax.

For those desiring stable, well-paid employment, the plant offers many advantages. These are reflected in the willingness of employees to commute from Lillooet, and the low employee turnover of only seven people in nearly three years of operation.

Some of the equipment operators were experienced when hired, but the majority of plant and equipment operators have been trained since joining the company. Evening and weekend plant supervision is provided by Indian staff members.

The plant is unionized, but there is an informal agreement on preferential hiring for local Indians, with Pavilion Band members having first opportunity. The employees, through their shop steward, a member of the Pavilion Band Council, participate in the selection of new employees. That the plant is not manned exclusively by Pavilion members suggests either a relatively low employability or low desire to work, among Pavilion Band members. Further research would be required, however, to substantiate this conclusion.

In addition to the employment benefits provided, Steel Brothers provide revenue to the Pavilion Band in the form of lease payments.

The Gulf Agricultural Chemicals plant, located on the Ashcroft Reserve, presents a similar picture, but on a smaller scale. The plant, which manufactures explosives for the mining industry, was opened in 1974. It employs only two people on a full-time basis (one being the non-Indian manager) but some six times per month will employ an additional eight people for a single shift. This additional labour force, which is required only at times of loading product for dispatch, is recruited from a casual list of about 45 people.

The Basque Ranch was acquired in 1974 by the Cook's Ferry Band as a land-swap compensatory measure with Bethlehem Copper Ltd., whose operation impinged on two of the Band's Reserves in the Highland Valley.

Grazing leases for Crown Land are held by the Band in the area shown

on Figure 9.1 with cattle grazing capacity indicated in the permit application. It is estimated that the ranch would likely employ some five people, but no information is available as to which Band(s) (if any) the employees belong.

Among the four primary area Bands, agriculture offers a limited amount of present and potential future employment both on and off-Reserves. It has been estimated that about eight Indians are employed full time and another eight part-time by the ranches of the Hat Creek Valley.* Use of local Indians as seasonal or part-time ranch hands seems to be decreasing. This work is poorly paid and inconsistent and offers little incentive for participation, especially among the more aware, more ambitious younger Indian population. There is a popular view that Indian people prefer employment in the outdoor, seasonal occupations such as ranching, but this is decreasingly the case. Surveys carried out elsewhere tend to suggest that Indians prefer employment offering stability, good working conditions, higher pay, and opportunities for skill development, rather than seasonal, outdoor, unskilled work such as ranching.** A few horses and cattle have been observed grazing on Indian Reserves, but with the exception of the ranch associated with the grazing permits identified in Figure 9.1, there is little additional evidence of Indian agriculture in the area.

A recent study assessed the potential for agricultural development on the Bonaparte Reserves and concluded the Reserves had some potential for providing additional full time agricultural employment, but the full extent of potential development was not delineated.***

• Detailed Environmental Studies, Hat Creek, Appendix A4.

** Walter Lampe; "Native People's Perceptions of Factors Associated with Job Acceptance and Retention" 1974.

Derek G. Smith; "Natives and Outsiders: Pluralism in the Mackenzie River Delta", 1975.

*** Acres Consulting Services Ltd; "Bonaparte Indian Band Development Study, Agriculture" 1972.

All four Bands in the primary area have Reserve Lands that seem to offer some potential for employment generation, either through farming, ranching, or tourist/commercial development, given capital funding for irrigation, livestock, or appropriate development. However, to determine whether such developments would be commercially viable would require detailed study.*

Administration of the affairs and programs of the local Bands also provides some employment. Without details of which programs are self-administered, no accurate estimate can be made. About ten full time positions likely exist in the administration of the four local Bands.

The retail and service sectors, primarily oriented to the tourist trade, offer some employment opportunities in the primary study area. The work is usually seasonal and relatively poorly paid. It appears from observation, that Indian participation is relatively low. No commercial, retail, or service ventures in the area are owned by Indians. Indian employment in the retail industry is minimal but there is some employment in the various hotels, restaurants, and gas stations in Cache Creek. This is primarily for females, and primarily at the chambermaid/waitress level.

It has not been possible to distinguish between Status and non-Status Indians, between on-Reserve and off-Reserve residents, or between full time members of the labour force and students working part-time or during vacations. A reasonable estimate, however, of total Indians working in the service sector would be ten persons. Much of this employment would be seasonal and part-time.

* There are several businesses located on Reserves in the study area at the present time that provide income to the Bands in the form of lease payments, but which offer no employment benefits. These include a trailer park on the Bonaparte Reserve, a fishing camp on the Loon Lake Reserve, a small sawmill on the Ashcroft Reserve, and leased grazing lands.

The biggest single source of employment among Reserve residents in the study area at the present time is federally funded, temporary work projects, operated through Canada Manpower. Within the Ashcroft CMC area, which roughly corresponds with the secondary study area, there were over 20 such projects among Indian Bands or Indian organizations that provided temporary employment during the first nine months of 1977. Resulting employment ranged from 40 man-weeks to 308 man-weeks, depending on the individual project. Six of the projects were sponsored by Bands in the primary area, and provided a total of 1,200 man-weeks of employment to local Band members. The use of such Canada Manpower programs in the study area was higher in 1977 than in 1976, particularly among those Bands that form the Lillooet District Indian Council.

The project applications provide some insight into the problems and aspirations of the local Bands. Among the primary Bands, projects included fencing of Reserves, upgrading of houses and community buildings on-Reserve, the building of recreation facilities, and a major arts and crafts program on the Pavilion Reserve.

The three Ashcroft Band projects undertaken or planned in 1977 include, the building of a recreation playground for the children of the Reserve; the clearing of up to 600 acres of sagebrush for future agricultural development; and the construction of six homes on the Reserve. The applications stress not only the tackling of some of the social problems (housing and recreation) on the Reserve, but also the acquisition of skills for future use.

A LIP (Local Initiative Project) application submitted by the Ashcroft Band in 1975 stated that 95% of the Band's labour force was out of work and living on either welfare or UIC.

The Bonaparte project was a fairly large-scale (300 man-weeks) program of fencing grazing land, and upgrading and redecorating buildings on the main Reserves. The application includes the following statement:

"The continuing community improvement program will continue to foster the "work habit" among the eligible workers on the Reserve. The initial LIP Project was able to lay the foundation of this attitude among the workers quite successfully. Since then, however, unnaturally wet and windy weather conditions, and a chronically economically-depressed condition in the area have made it extremely difficult or impossible for the labour force to find employment. The major industry here is ranching, and this, at the best of times, can only supply seasonal employment during the haying season."

Two log community buildings were built by the Pavilion Band under LIP funding. The main community hall is presently being used to house a Canada Works Project in which six Band members, experienced in Indian crafts, are training 18 other Band members in tanning, leather work, beading, silver work, pottery, carving and other crafts, with a view to establishing a cottage industry. The products will be sold from a retail outlet on-Reserve, and through other undefined retail outlets.

The application stresses the remoteness of the Pavilion Reserve from job opportunity centers, and the hope that the project will provide work, pride, and a new life style for some Band members.

There is a considerable gap between statements of intent and the actual implementation of stable employment programs. There are, as will be discussed later, many real and perceived barriers to Indian participation in the economy, whether as employees, or entrepreneurs.

For some years, there has been discussion of the Ashcroft Band establishing a shopping mall on its Reserve (the project is referred to as the "Cornwall Mall" proposal). The prospects of this being achieved in the near future would appear to be low. Similarly, the establishment of an economic base for a significant number of Band members through the Pavilion Crafts Center might prove very difficult to achieve.

Nevertheless, the use of the temporary work projects, the aims expressed in the application, and the stability being experienced among Indian employees at the Bethlehem Mine, the Steel Bros. plant, and the Gulf Chemicals plant, all indicate a growing wish and ability to participate in the wage economy.

From the preceding information, it was estimated that about 50 Indian people are currently employed in the primary study area on a regular basis (discounting temporary government projects). This is a decrease from the number of Reserve residents indicated in the 1971 Census as being employed at that time. Since then the Reserve population has remained fairly static, but the Reserve working age population will have risen, due to the previously noted demographic characteristics. In addition, the estimate of the current work force will include some off-Reserve and non-Status Indians.

It is reasonable to conclude, therefore, that there is currently a high level of unemployment among the Reserve residents of the primary study area. This was also stated repeatedly by Indian groups in their applications for funding under federal temporary work programs.

The high levels of unemployment were also suggested by Canada Manpower who supplied information on client registrations, vacancies, and placements for the area covered by their Ashcroft office. These appear in Tables 4.4 and 4.5.

The statistics indicate strong competition for employment opportunities. There is some seasonal variation, but generally there are about 13 clients, whom Canada Manpower consider to be actively seeking work, for each vacancy listed at the Manpower office.

It should be noted that the local mines do not generally use the services of Canada Manpower, but it has already been mentioned that competition for jobs at the mines is even greater than that reflected in the CMC statistics.

TABLE 4.4

CANADA MANPOWER CENTRE, ASHCROFT
MONTHLY CLIENT/VACANCIES ANALYSIS
QUARTERLY AVERAGES
1976/1977

	<u>April to June</u>	<u>July to September</u>	<u>October to December</u>	<u>January to March</u>
A. Active Clients	647	574	535	516
B. Vacancies	48	41	47	49
Ratio A/B	13	14	11	11
Placements	67	42	61	58

SOURCE: Canada Manpower Centre, Ashcroft, B. C.

TABLE 4.5

ANALYSIS OF VACANCIES AT CMC, ASHCROFT
QUARTERLY AVERAGES OF MONTHLY FIGURES
1976/1977

<u>Category</u>	<u>April to June</u>	<u>July to September</u>	<u>October to December</u>	<u>January to March</u>
Service	29	20	10	19
Farming	4	4	3	2
Construction	2	2	13	7
Fabricating	7	5	10	5
Others	5	9	11	16
TOTAL	49	40	47	49

SOURCE: Canada Manpower Centre, Ashcroft, B. C.

The analysis of CMC vacancies by industrial category indicates, as would be expected, that the service industry offers the greatest opportunities, followed by product fabricating, construction, and farming.

Although the CMC statistics cover the Secondary study area, and it was not possible to break out details for the Primary study area, it is likely that the same pattern applies to the smaller area.

It was not possible to estimate accurately the number of CMC clients who were Indian, but it was felt by the local manager that about half of her clients were Indian. This relationship reflects the high Indian populations and low employment opportunities in the Lytton and Lillooet areas.

While the CMC statistics indicate that opportunities for employment do exist in the area (and noting that the CMC statistics reflect only a proportion of the total job opportunities), it is apparent that there is high competition for these positions.

In considering whether these opportunities are available to local Indian people, it would be appropriate to consider some of the special problems that Indian people face in seeking employment.

4.2 Barriers to Indian Employment

It is appropriate to consider the special problems that Indian people face in obtaining and retaining employment in the wage economy. There have been several recent studies and reports on this subject.*

* Thomas Owen & Associates, "Barriers to Native Labour Entry and Employment", 1976.

- Beth Van Dyke, "Barriers to the Recruitment and Employment of Indians in Northeastern British Columbia", 1976.

From these studies emerge the following:

Physical isolation of Reserves from employment opportunities, and the problem of lack of reliable and independent transportation present real barriers to many situations.

The establishment of unnecessarily high standards of education and experience is often another barrier. Several studies concluded that educational and experience prerequisites are being raised gradually, while real job requirements are remaining constant. It is a fact that, while levels of formal academic achievement among Indians are being raised at a rapid rate, they are still considerably below that of the general population. The development of experience is often a "chicken and egg" situation. Lack of experience is a barrier to employment, and employment is necessary to achieve experience. In addition, the other barriers to employment serve to prevent the accumulation of experience. The emphasis placed on educational requirements for apprenticeships is particularly significant in presenting barriers to the acquisition of tradesmen status by Indians.

In addition, both industry and organized labour tend to follow practices that act as barriers to Indian employment. To bring about Indian participation in the wage economy on a meaningful scale often requires that special programs be initiated which recognize the specific real and perceived barriers to employment. However, both unions and employers often resist such "preferential" programs.

Indian representation on both sides of industry is so low that commitment to special training programs, etc. often only comes about because of situations where Indians can exert significant political pressure, or where Indian employment is seen to offer significant economic or political benefit to employers.

Social problems, such as alcohol abuse and a developed "structural dependence" on welfare also form real barriers to employment, but again this is often a "chicken and egg" situation, where meaningful employment could be the basis for solving the social problems.

Prejudice, paternalism, and misunderstanding of Indian aims act as further barriers to Indian employment. Even though discrimination on ethnic grounds is illegal, prejudice does exist on a fairly high scale and is often practiced in such a way as to avoid solid bases for legal action. In any case, legal action does not often result in the establishment of improved real opportunities.

The conception that Indians are primarily interested in outdoor activities of a seasonal or short-term nature, with no degree of responsibility, is fairly widespread, but one study* has shown that the employment/career aspirations of Indians are more or less in line with those of the non-Indian population. Stability, high pay, and convenient location, were ranked as the most important objectives. This basic misunderstanding and stereotyping of Indians in the minds of employers tend to have the effect of either barring employment, or becoming self-fulfilling prophecies. Employers who have preconceptions of Indian employment aspirations will tend only to offer them that type of work.

It is not uncommon among people who have been unemployed for a considerable time to find that they have accumulated debts which result in the

* Lampe, W.J.P., "Native People's Perception of Factors Associated with Job Acceptance and Retention", Department of Indian Affairs and Northern Development, May 1974.

garnisheeing of wages when they do obtain employment. Without counseling to put such matters into perspective, or to resolve the debt situation in a better manner, the prospect of encountering such action does act as a barrier to seeking wage employment, and this is generally more prevalent among Indian people than among non-Indians.

Finally, lack of motivation, either from within the individual, or from the surrounding society, acts as a major barrier to employment. It is often perceived by Indians that well-paid, meaningful positions do not really exist within the non-Indian wage economy, and the unskilled, poorly paid jobs that are seen to exist do not provide much incentive to counter this view. Stanbury found that many Indians who have undergone higher education or special training end up in unskilled positions which do not use their training or education.

Faced with these barriers to employment, it is hardly surprising that employment levels among Indians are low, and that many are seen as simply not being interested in work. This is not to say that all unemployed Indians are the victims of circumstances beyond their control. As in the non-Indian society, there are people who have decided to adopt a lifestyle that does not include working. However, in order to understand employment and unemployment among Indian people, it is necessary to realize that they face very real, specific problems in obtaining and retaining meaningful employment. Further, while the solution to some of these problems is within their control, many require adjustment on the part of industry and non-Indian society for their resolution.

It has not been possible to determine the extent to which specific employment barriers are operative among the Indians in the study area. Some of these barriers are particular to individuals while others affect Indians as a group. In spite of this limitation, it is considered possible to construct a general scenario regarding future employment conditions among the Indian people.

4.5 Employment Without the Hat Creek Project

The local Indian population is predominantly young, with a large number in the five to 24-year age group. Over the next several years, therefore, it is likely that the potential labour force will increase fairly rapidly. Thus, employment will be of increasing importance to the local Indian community.

Even without the Hat Creek Project, steady economic expansion is being predicted in the local area, largely on the basis of expected mineral-related developments in the Highland Valley, some 25 miles east of Ashcroft. These developments are likely to generate in the order of 2,500 permanent direct, indirect and induced opportunities in the area over the next 15 years,* as well as a large number of short-term construction jobs.

Natural turnover in the present economy of the study area in itself generates a significant number of job opportunities. Canada Manpower placed over 600 people in jobs in 1976-77 out of their Ashcroft office, and there are many employees who do not use their services.

The preceding section on current employment and population characteristics indicate that there are currently some 70 Indian members of the labour force not regularly employed, and that in the order of 100 people will need to be accommodated in the labour force over the next 10 to 15 years.

It would seem reasonable, therefore, that many of these could be employed over that period if the barriers to Indian employment discussed in the preceding section can be overcome.

* Strong Hall & Associates Ltd., Hat Creek
Detailed Environmental Studies, Appendix C₂,
1978.

There are several factors which indicate that the trend will be towards the reduction of these barriers and for Indian employment levels to move closer to those of the non-Indian population. The extent to which this will happen over a given period of time is open to conjecture. However, it is the consultant's judgement that the next 15 years will see a substantial decrease in these barriers and a corresponding increase in the level of Indian employment in the study area. The reasons for this optimism are as follows:

Human rights legislation has contributed to the removal of some barriers to Indian employment.

Formal educational levels of Indian people are improving, and this will contribute to the overcoming of others.

Canada Manpower and the Department of Indian and Northern Affairs both offer several programs aimed specifically at increasing levels of employment among Indian people. Several joint task forces have been, or are, working to assess and improve the effectiveness of such programs. The findings of these task forces are not yet available, but interviews with members of the two federal departments yielded opinions that Indian employment levels are increasing and will continue to improve.

Increasingly successful experiences of employers in the hiring of Indian people will have a positive effect in overcoming the attitudinal barriers to employment that were discussed in the preceding section.

Lastly, and perhaps most significantly, there are indications that forces within the Indian population itself are effectively working to improve the success of Indian participation in the wage economy. Reducing dependency on government transfer payments and increasing financial self-sufficiency has received considerable attention from Indian organizations at all levels in the province in recent years. There is increased involvement in the designing and operating of

government socio-economic improvement programs and the success of Indian-controlled projects at such places as Burns Lake, Hazelton, and the Nicola Valley are, perhaps, indicative of future trends. The socio-economic programs being operated by, or in conjunction with, the Lillooet Indian District Council have been mentioned earlier in the study.

Because of the above factors, it is the opinion of the study team that the trend will be towards an increasing ability of Indians to compete successfully in the economy of the area, both as employees and employers, along with a greater level of understanding among non-Indian people who constitute the present employers of the area. The eventual result will be that unemployment among Indians will tend towards that of the general population.

There is a natural tendency by employers to favour applicants who have resident ties in the local area, other things being equal, as this has proved to be a significant factor in labour stability. Thus, the local Indian labour force will tend to be brought into the local employment scene at the expense of in-migrant workers.

There is enough turnover in the present economy of the Primary Study Area and enough growth forecast without the Hat Creek Project to take up virtually all Indian employment, provided the various barriers to employment are overcome on both the part of employers and of the Indian people.

While it would be overly-optimistic to expect the gap between the employment levels of the Indians and non-Indian people of the study area to be completely removed within the next 10 to 15 years, it is likely that considerable progress will have been made in that direction.

5. INCOME

5.1 Employment and Transfer Income

The 1971 Census provides the only source of income information available to the study. The information is restricted to on-Reserve residents and again the Oregon Jack Creek Band is included with the Ashcroft Band.

Total income, average income and its distribution are summarized in Tables 5.1 to 5.3, and tend to confirm the employment situation described earlier in Section 4.

TABLE 5.1
INCOME CHARACTERISTICS OF PRIMARY BANDS, 1970

	<u>Total Income \$</u>	<u>Total Employment Income \$</u>	<u>Employment Income as a % Total Income</u>	<u>Income Per Capita \$</u>	<u>Income Per Family \$</u>
Bonaparte	241,000	205,000	85	1,120	4,020
Ashcroft/ Oregon Jack	189,000	181,000	95	2,910	10,820
Pavilion	55,000	18,000	31	645	7,370

SOURCE: Statistics Canada, User Summary Tapes, Census, 1971.

Ashcroft/Oregon Jack Creek Bands showed a very high proportion (95%) of income as deriving from employment. This is consistent with the high participation rate reported earlier. The average individual total income of \$5,400 compares favorably with the average of \$5,460 for the general population of the primary study area in 1970.

Table 5.1 reveals that income per capita was also relatively high at \$2,910 and because there was more than one income recipient per family for the Ashcroft and Oregon Jack Creek Bands, the average family

had an income of \$10,800. This is higher than the average of \$9,774 for all families in the study area, particularly since most families on Reserve will have no payments associated with housing or property.

Bonaparte Band also showed a high proportion of income derived from employment (85%). However income levels were considerably lower than for Ashcroft. Average total income of \$3,016, and income per capita of \$1,120 are lower than average, and the average family income of \$4,020 was the lowest for the four primary Bands.

The Pavilion Band statistics reflect a low level of employment (only 31% of total income derived from employment), a low average income, and a significantly low per capita total income of only \$645. The average family income of \$7,370 is deceptively high, and must result from an unusual family structure where there are significantly higher numbers of income recipients, albeit each poorly paid, in some families.

TABLE 5.2
AVERAGE INCOME OF INDIVIDUALS 15 YEARS AND OLDER
PRIMARY BANDS - 1970

	<u>Persons 15+</u> <u>With No Income</u>	<u>No. of People</u> <u>With Income</u>	<u>Income Average For</u> <u>Persons with Income</u>
Bonaparte	45	80	3,016
Ashcroft/ Oregon Jack	10	35	5,398
Pavilion	15	30	1,830

SOURCE: Statistics Canada, User Summary Tapes, Census, 1971.

Examination of the distribution of income among Band members, presented in Table 5.3, reveals that 75% of income recipients received less than \$3,000 annually in 1971, compared to half that percentage among the non-Indian local area population. At the other end of the distribution

spectrum, only 3.5% of the Indian people, compared to 15% of the non-Indian population, earn in excess of \$10,000 annually. Among female labour force members, nearly 90% earn less than \$3,000.

TABLE 5.3
TOTAL INCOME DISTRIBUTION OF INDIVIDUALS
15 YEARS AND OLDER BY SEX
PRIMARY BANDS - 1970

	<u>Total Persons With Income</u>		<u>Less Than \$3,000</u>		<u>\$3,000 to \$6,000</u>		<u>\$6,000 to \$10,000</u>		<u>More Than \$10,000</u>	
	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>	<u>M</u>	<u>F</u>
Bonaparte	55	20	35	20	15	0	10	5	0	0
Ashcroft/ Oregon Jack	25	15	15	10	0	0	10	0	5	0
Pavilion	<u>20</u>	<u>10</u>	<u>20</u>	<u>5</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total	100	45	70	40	15	0	20	5	5	0

SOURCE: Statistics Canada, User Summary Tapes, Census, 1971.

The high proportion of Indians earning low incomes, in spite of relatively high participation and low levels of unemployment at the time of the Census, largely reflects their dependence on part-time rather than full-time employment positions.

No current income information is available. However, the relatively poorer employment situation that appears to exist today among most members of the Bonaparte and Ashcroft Bands is likely to be reflected in income levels that have fallen significantly in comparison to the general population.

Due to the recent establishment of the Steel Brothers plant, the Pavilion Band is likely to present an income picture that is slightly improved.

However, there is no evidence available to suggest that overall income levels have improved in relative terms.

It must be remembered that the income equivalent of food fishing, subsistence hunting, trapping and the gathering of natural vegetation would not have been reflected in the Census statistics. These economic and cultural activities represent real income gains to the Indian people.

5.2 Subsistence Income

It has been possible to develop general estimates, in Section 9 of this report, of the income represented by some of these activities. It must be remembered that the data on which these estimates are developed are tenuous, however, they represent the best estimates available from secondary sources and the judgement of officials managing these resources.

The Indian food fishery appears to be the largest natural resource income source for the Indians of the primary area. Hunting provides a marginal real income while the trapping of fur bearers is almost non-existent. Indian people also engage in the collection of natural vegetation for food and medicinal purposes, but the importance of this activity is unknown.

An indication of the income value of these traditional activities is shown in Table 5.4 in relation to the total income reported by Statistics Canada. The 1976 income values have been deflated to 1970 to provide a reasonably consistent comparison.

Subsistence economic activities are estimated to represent at least 23% of the total income of Indians in the primary study area. As such they provide a significant buffer to the fluctuations of Indian employment and income earned in the wage economy.

TABLE 5.4
TOTAL INCOME ESTIMATED FOR BANDS
IN THE PRIMARY STUDY AREA
1970

	Total Income (\$ 1970)	%
Employment Income	404,000	71
Other Cash Income	81,000	14
Income from Subsistence Activities*		
Fishing**	85,000	15
Hunting***	-	-
Trapping	-	-
Natural Vegetation Gathering	<u>NA</u>	<u>NA</u>
TOTAL	\$570,000	100.0

• Subsistence income has been deflated using the Consumer Price Index for meat, fish and poultry, Vancouver.

** Fishing values are the average estimates for the four primary area Bands estimated in Section 9.4, rounded to the nearest thousand dollars.

*** Hunting values are the average estimates for the four primary area Bands estimated in Section 9.1, rounded to the nearest thousand dollars.

SOURCE: Statistics Canada, User Summary Tapes, Census, 1971.

5.3 Income Without the Hat Creek Project

A quantitative projection of Indian income without the Hat Creek project cannot be confidently developed. The extent to which employment, transfer and subsistence income will grow in real terms depends on the expansion of employment opportunities, changes in the resource base being utilized, and changes in the barriers to employment discussed in Section 4.

Should involvement in the wage economy evolve, as suggested earlier, this could take place without significantly reducing income earning opportunities in subsistence activities, provided the quality of the resource base is maintained.* It would appear likely that income levels among Band members will rise in real terms, but the rate of increase over time is highly uncertain.

* An adequate assessment of that future resource base is not yet available.

6. EDUCATION, HEALTH AND HOUSING

6.1 Education

A recent study carried out in conjunction with the Union of B. C. Indian Chiefs, concluded that education is one of the most important concerns of Indian families.* It was seen as probably the main factor in improving their employment and income potential, and as the means by which cultural identity is maintained and strengthened.

There is no reason to suppose that this is not true of the Indian people of the Hat Creek area.

The 1971 Census provided information on the levels of education achieved by populations ages 15 and over. Table 6.1 compares these achievements for the Bands in the primary study area with those of the Indian population of B. C., the total population of B. C., and the residents of Ashcroft and Cache Creek.

The table shows a considerable gap between the education levels of the Indian and non-Indian population. Only 26% of the B. C. population has not achieved higher than elementary education, compared to 63% for the total Indian population, and 56% for the on-Reserve residents in the primary study area. While the proportion of local Reserve residents with a secondary education (grades 9 to 13) is similar to that of the general population, the significant short-fall is in the achievement of post-secondary and university education. Only 2% of the local Reserve residents, in 1971, had post-secondary education, compared to 30% of the general B. C. population, and 9% of the total B. C. Indian population. No local Reserve residents had obtained a university degree.

* B.C. Socio-Economic Development Commission, "Socio-Economic Study of the Indian Population of British Columbia", 1977.

TABLE 6.1
LEVELS OF EDUCATION, PERCENTAGE OF POPULATIONS
AGE 15 AND OVER
1971

<u>Highest Schooling Achieved</u>	<u>Primary Area** Indians</u>	<u>Cache Creek</u>	<u>Ashcroft</u>	<u>B.C. Indians</u>	<u>B.C. Total</u>
Elementary (To grade 9)	56	27.7	24.9	63.0	26.2
Secondary (9-13)	42	63.8	66.5	28.0	44.1
Post Secondary	-	-	-	7.2	17.8
Some University	2	7.6	4.2	1.4	6.9
University	-	2.5	4.6	0.4	4.9

* On-Reserve residents only

SOURCE: Statistics Canada, Census, 1971
 Socio-Economic Survey of the Indian Population
 of British Columbia, UBCIC

It should be recognized that in an area of relatively low employment potential and with no higher educational facilities, such as the primary study area, it could be expected that many Band members pursuing or obtaining higher levels of education would not be on-Reserve but would have migrated, even if on a temporary basis, to one of the urban centres. Without knowledge of off-Reserve populations, therefore, it is not possible to draw firm conclusions about the educational levels of the total Band memberships nor about non-Status Indian populations of the study area.

For Reserve residents, Table 6.2 shows the level of educational achievement in 1971. The comparatively high levels of education of the Pavilion Band are in contrast with the significantly lower employment and income levels for 1971 described in earlier sections, and suggest that their relative remoteness from employment opportunities might be a significant factor in the low economic profile of that community.

Studies by Stanbury and others have examined the education gap between Indian and non-Indian people, and have drawn the conclusion that this gap is rapidly closing.* There are indications that this is the case within the study area.

* Stanbury, W. T., "Success and Failure - Indians in Urban Society". University of British Columbia Press, 1975.

TABLE 6.2
LEVELS OF EDUCATION,
PERCENTAGE OF POPULATION AGE 15 AND OVER ON-RESERVE,
PRIMARY AREA BANDS
1971

<u>Level of Schooling</u>	<u>Bonaparte</u>	<u>Ashcroft/ Oregon Jack</u>	<u>Pavilion</u>	<u>Total</u>
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Less than Grade 5	20	40	10	25
5 - 8	40	10	30	35
9 - 10	20	10	30	20
11 - 13	20	25	30	20
Some University	0	10	0	0
University	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
	100	100	100	100

SOURCE: Statistics Canada, User Summary Tapes, Census, 1971.

Table 6.3 shows the number of Indians attending Ashcroft Secondary School in the years 1974-1977. The table clearly shows increasing numbers of young Indians graduating and indicates high retention rates through to grade 12, although it was not possible to obtain meaningful drop-out and retention rates as such, these being complicated by transfers between schools in the district (e. g., from Clinton Junior Secondary to Ashcroft High School after grade 10) and by a fairly high mobility among some of the local Indian families.

Twenty-two Indian students graduated from Ashcroft High School in the last three years, and within the next three years the graduation

figures would be in the order of 20 to 35 students per year.*
(See Table 6.5).

TABLE 6.3
NUMBERS OF INDIAN PUPILS
AT ASHCROFT HIGH SCHOOL
1974-1977

<u>Grade</u>	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>
8	23	25	32
9	11	24	25
10	6	13	21
11	3	10	12
12	5	11	10
Graduates**	3	10	9

** Includes partial graduations.

SOURCE: Ashcroft Secondary School records.

During recent interviews with each of the local school principals, with student councillors, and with members of the local school board administration, a number of factors pertinent to Indian education were raised that received general agreement. These include:

- (i) That levels of educational achievement among local Indian people were increasing
- (ii) That, while drop-out rates and daily attendance rates for Indian pupils were higher than for non-Indians, there was a steady improvement over the years (these could not be substantiated with statistics)

* Includes partial graduation where a student is deficient in only one subject. The students sometimes return to retake the one subject, but sometimes they do not, since many colleges or employment opportunities will accept partial graduation as fulfilling entrance requirements.

- (iii) That there was increasing evidence of Indian parental and Band interest and involvement in the school system. Examples quoted were a new on-Reserve tutoring system being tried by the Ashcroft Secondary School, and greater participation in the Cache Creek kindergarten classes
- (iv) That participation by Indian pupils in extra-curricular activity was increasing from the very low level of a few years ago
- (v) That racial harmony in the school had improved over the last 10 years and that racial tension is not a significant problem in the schools

There are two other factors which indicate that the educational levels among Indian people in the study area are rising rapidly, and can be expected to continue to do so. Although unsubstantiated without direct communication with the Indian people, it is understood that about seven members of the Bonaparte Band alone are currently engaged in university or post graduate courses, and several more are involved in vocational training. Also, an adult upgrading course (BTSD - Basic Training for Skills Development) has just been established in Cache Creek. There are 18 seats in the program which provides courses up to grade 10 equivalent, and at least 75% of the students are Indians. The course has been arranged by Canada Manpower, primarily as a result of a cooperative effort between the Ashcroft High School and the Bonaparte Band Administration. Apparently over 30 members of the Bonaparte Band alone have indicated willingness to participate in this program.

It would appear, therefore, that the levels of education among the Indian people of the primary study area are rapidly being advanced, and that most of the young people who will be leaving school in the immediate future will have the educational background to be competitive in the labour market, or to pursue further training or education. In addition many of the existing adult Indian population in the primary study will have the opportunity of educational upgrading through the BTSD program.

These educational factors are likely to be significant in increasing the socio-economic status of the Indian people of the primary study area, with or without the Hat Creek project, although it should be emphasized that educational levels have been only one of the barriers to Indian employment. Higher levels of education do not necessarily result in higher levels of employment. However, it is likely that generally increased levels of education will contribute to a breaking down of all of the barriers to Indian employment discussed in the earlier sections.

The without project forecasts of student population and facility expansions, developed for the overall Hat Creek socio-economic studies, do not appear to raise any issues that would significantly alter or influence the trends in local Indian education. The growth forecast for the primary study area is relatively gradual and is mainly related to further developments in the mining industry. It is likely therefore that the incoming population associated with this growth will be similar in characteristics to those who have been coming into the area as a result of the present mining developments. The in-coming population will be mostly non-Indian, so the proportion of Indian people in the community will be reduced still further from its present, relatively low, level. Whether this in itself will produce any adverse effects on racial harmony and, consequently, Indian educational achievements, will be mainly a factor of the attitudes of the local Indian people themselves. Further research would be required to adequately assess this potential situation.

6.2 Health

An examination of the health conditions of a population can provide a useful perspective on its economic status and future economic potential. It can also contribute to an understanding of demographic trends and social conditions.

Birth rates and death rates were the only health related statistics available specifically for Indian people in the study area. These were available only for the years 1975 and 1976. Although it is impossible to show trends in these rates, it is reasonable to compare them with the rates for the general population of B. C. and for the Indian population of B. C.

Indian birth rates are considerably higher than the provincial average, however, while both are steadily declining, the rate of decline of Indian birth rates is about 50% higher than for the general population. In 1967, the Indian birth rate was about twice that of the general population (33.1 per 1,000 compared to 16.9 per 1,000) but, by 1975, the gap had closed to rates of 24.6 per 1,000 against 14.8 per 1,000. The 1975-1976 statistics obtained for the Bands in the primary area show a live birth rate of 13.7 per 1,000. This is less than the provincial average, and almost half of the average for B. C. Indians as a whole.

The crude death rate for Indians throughout B. C. is also falling gradually, and is generally in line with that of the provincial average. In 1975, the B. C. Indian crude death rate was 8.2 per 1,000; the provincial average was 8.0 per 1,000; and among the Bands in the primary area, was 8.1 per 1,000.

The most significant difference between Indian and non-Indian death statistics lies in the rates of violent deaths and infant mortality. The provincial violent death rate for Indians is over three times that of the general population. In 1975, over 40% of deaths among

Indians were violent compared to a provincial average of only 13%. The limited statistics available showed that violent deaths among the Indians of the primary study area were also about 40% in 1975-76.

Data on infant mortality (children less than one year old) is inconclusive as it pertains to Indians of the primary study area. While Indian infant mortality throughout the province is almost twice the provincial average (53 Indian deaths out of 1,000), no such deaths were recorded among Indians in the primary area during the two years for which data are available. Given the low numbers of births during that time, two years' data would be insufficient for drawing conclusions.

The balance of the study of Indian health in the study area relied on interviews with representatives of the Federal Department of Health and Welfare, the Provincial Department of Health, two local doctors, and local employers.

The primary study area is serviced by the Ashcroft District Hospital, and by the four-doctor medical center in Ashcroft. In addition, a health nurse from the Federal Department of Health and Welfare, based in Kamloops, and a dentist sponsored by the Department of Indian Affairs, visit the Reserves on a regular basis. The hospital has no resident doctors, but uses the services of the four doctors in the Ashcroft practice. In addition, at least two of the four Bands have a Band member trained as a resident health nurse.

It is the general opinion of the individuals interviewed that there are no significant health problems specific to the Indian population in the study area. Doctor and hospital visits were estimated to be about the same per capita as for the general population. Alcohol was not seen as being the major social and health problem that it is known to be among many Indian communities.

The respondents were also of the opinion that Pavilion Band had slightly more medical problems than the other three Bands in the area. Health is very much related to socio-economic wellbeing

and, as the Pavilion Band has been shown to have a lower level of economic welfare than the other Bands, it would not be surprising to find that the Band also had a higher incidence of health problems.

Stanbury, conducting studies on the subject, has determined that throughout British Columbia, Indian health is significantly worse than that of the non-Indian population. A number of specific points were raised.

a) In 1971, Indians living on-Reserve spent twice as much time in hospital per capita as the general population, while the per capita rate for off-Reserve Indians was over four times that of the general population.

b) Although the rate of Indian infant mortality (children under one year of age) is falling rapidly, in 1971 the rate among B. C. Indians was over three times that of the general B. C. population.

c) Life expectancy of Canadian Indians is over eight years less than that of the Canadian population as a whole, and the proportion of B. C. Indians who live beyond the age of 75 is less than one-third the proportion of non-Indians who achieve that age.

d) Indians suffer a much higher rate of deaths due to accidents and violence, and the prime ingredient in this type of death is alcohol. The 1976 annual report of the Pacific Regional Federal Medical Services states that the true percentage of deaths from accidents and violence in which alcohol was the cause or a contributory factor was close to 80%.

Stanbury and others have concluded that much of the "health problem" among Indians is in fact a poverty problem, and that the "health gap" between Indians and the general population will remain until social and economic conditions among Indians are vastly improved.

Without the Hat Creek project, it is expected that population and economic growth in the study area will increase steadily over the next decade. The future health standards of the Indian people might be expected to reasonably correlate with the extent to which their involvement in this growth alters their economic and social welfare.

A point of general concern expressed to the study team, and reported in the general socio-economic study carried out by Strong Hall & Associates Ltd., is the lack of adequate mental health treatment and facilities in the area. However, no specific information is available on mental health treatment needs among local Indians.

The general Hat Creek socio-economic study also indicates that as long as staff increases are commensurate with population growth, there should be no significant capacity problems among the area's health services that might create particular concerns for the Indian people. The major community deficiencies identified relate to dental and mental health facilities. To the extent that population growth encourages the provision of these facilities, health services would be improved for both Indian and non-Indian people in the local area.

6.3 Housing

The 1971 Census provided the only specific source of information on housing on the primary area Reserves. This is presented in Table 6.4.

The statistics indicate a housing situation common to many Indian Reserves - basic houses, many with few or no services.

The housing situation on the Pavilion Reserve was worse than on other Reserves. Houses were more crowded, at 1.7 persons per room, compared to 0.8 persons per room for local non-Indian housing, and no houses are shown as having bath, toilet, or hot water facilities.

TABLE 6.4
RESERVE HOUSING IN PRELIMINARY STUDY AREA - 1971

	<u>Bonaparte</u>	<u>Ashcroft/ Oregon Jack</u>	<u>Pavilion</u>	<u>Total</u>
No. of houses	35	15	10	60
Average no. of rooms per house	5.1	4.4	4.5	4.7
% Houses with more than 5 rooms	30	30	30	
Average no. of people per room	1.3	1.0	1.7	1.2
% Houses owned	90	65	100	80
% Houses with bath	40	60	0	40
% Houses with toilet	40	65	0	40
% Houses with hot water	40	80	0	40
Source of water:				
% Communal system	30	0	100	30
% Private well	20	50	0	25
% Other	50	50	0	45
Sewage disposal:				
% Mains	0	0	0	0
% Septic tank	30	100	100	55
% Other	70	0	0	45

Note: No. of rooms includes kitchen and living room, but not bathroom.

SOURCE: Statistics Canada - 1971 Census Data

From the Census information, the Ashcroft/Oregon Jack Creek Bands appear to have the best housing situation, with the majority of houses having bath, hot water, and toilet facilities, and an occupancy of slightly less than one person per room.

However, it was noted that, in an application for "Works Canada" funding in 1977, the Ashcroft Band requested funds to build six houses on its Reserve, and stated that the present housing was generally inadequate and overcrowded, with up to three families having to share one house.

Observation during the study showed that the houses on the Bonaparte Reserve appeared to be of a better standard than those on the other Reserves, but this might simply be due to the external painting carried out in 1977 under a Reserve-beautification LIP project.

It is difficult to predict the extent to which housing conditions on the study area Reserves will improve in the future. The inadequacy of the housing situation is of major concern to Indian groups and government.

The 1973 Biennial Housing Survey carried out by the Department of Indian Affairs showed that of the 6,124 homes on Reserves in British Columbia, 1,042 were in need of major repair, and that a further 2,468 new houses were needed.*

The 1971 survey indicated the need for 1,042 new houses, suggesting that the situation is deteriorating. The B. C. Socio-Economic Development Commission, in its 1977 report**, concluded that aging housing, new family formations, and perhaps rising expectations, are creating a heavy demand for new units. The same report concludes that, at most, 318 new units were built on Reserves in British Columbia in 1976, a rate which will not have much effect on the backlog of housing

* Biennial Housing Survey for B. C. - Dept. of Indian Affairs - 1973

** B. C. Socio Economic Development Commission, 1977, Op. Cit. P.90

needs identified in the Biennial Survey.

Funds for on-Reserve housing construction comes from three main sources, individual equity, Central Mortgage and Housing Corporation (CMHC) loans and Department of Indian Affairs funds. Individuals wishing to build on-Reserve are eligible for a grant from the D.I.A. capital fund of up to \$10,000, depending on income.

The funds are distributed through, and allocated to individuals by the Bands. This individual limit tends to dictate and limit the quality of on-Reserve housing. The accumulation of significant equity by personal savings is difficult considering the low income levels of most Indian people, and CMHC loans are made available only in limited circumstances. The CMHC loans generally have to be guaranteed by the Dept. of Indian Affairs, and are currently available only to those people with adequate employment, income and credit standing. In the years 1970 - 76 an average of only 68 CMHC loans per year were approved for homes on-Reserve.*

It would appear that improved housing standards on Reserves will only be achieved as a result of improving the employment/credit capability of Reserve residents, or by extending the amount of funds available for on-Reserve construction. There are indications that both of these things will happen in the future, to some extent.

The previous sections on employment and population suggested that the socio-economic status of Indians in the study area will improve in the future, and it is understood that CMHC is considering extending the range of its programs that is available on-Reserve. Recently CMHC has made its Rural Rehabilitation and Repair Program (RRAP), which makes forgivable loans available for homes requiring major repairs, available to certain Reserves in Northern British Columbia. Various low-income housing programs available to the general population are also being examined with a view to extending them to Reserve residents.

* Ibid Page 83

These various factors should result in the standards of Reserve accommodation being raised, but the time scale for Reserves in the study area to feel the beneficial effects of such programs cannot be defined with any certainty.

7. SOCIAL AND COMMUNITY SERVICES

Some indication of a group's economic and social condition can be provided through an understanding of the interrelationship between that group and various community and social service agencies established to service its needs. In addition to the medical and educational facilities discussed earlier, regarding the status of Indian formal educational achievement and health conditions, two further service areas have been identified as being potentially instructive: Justice and Human Resources.

7.1 Justice

The records of the RCMP, the courts, the probation service, and the B.C. Police Commission, are not categorized by ethnic background. Therefore it was not possible to obtain quantitative measures of the use by, or interaction of, Indian people in the study area with the justice system. Interviews were carried out with representatives of each of the above bodies to obtain a qualitative measure of the situation.

There existed a general consensus of opinion among the people interviewed that crime is not a significant problem among the Indian people in the primary study area. At the time of interview with the local RCMP representative, there had not been cause for the police to go to a Reserve residence in over two weeks, and that occasion was only for a minor family disturbance.

Throughout the province, the rate of admission of Indian people to corrective institutions is over three times that of non-Indians, and the rate of admissions to probation is nearly three times that of the non-Indian population. From the interviews carried out with the courts and probation service, it would appear that this imbalance is not to be found among the Indian people of the primary study area.

* B.C. Socio-Economic Development Commission
Op. Cit., Page 100

7.2 Human Resources

The Provincial Department of Human Resources has an office in Cache Creek which services an area encompassing 70 Mile House to the north, Spences Bridge to the south, Wahiachin to the east and Hat Creek to the west. This does not correspond to either the primary or secondary study areas, but it does contain three of the four primary area Bands, Pavilion being outside of the area.

The Department administers transfer payments including social assistance, mincome and handicapped allowance to all but on-Reserve registered Indians. It also is responsible for the welfare of children "taken into care", and in this responsibility it does include on-Reserve families.

Human Resources does keep some records by ethnic background, and was able, for the month of June 1977, to provide the information on transfer payments and children in care presented in Table 7.2. It would appear that reliance on transfer payments is considerably greater among Indian people than among non-Indians. The off-Reserve and non-Status Indian population within the DHR area is of the order 5-10%* of the total population, but the proportion of Indians among transfer payment recipients is considerably higher. This would indicate that the current unemployment situation among off-Reserve and non-Status Indians is likely to be as significant as it appears to be on-Reserve.

Similar transfer payments for Indians on-Reserve are administered by the Department of Indian Affairs, and therefore no statistics were available to the study.

In examining the children-in-care situation, it is first necessary to estimate the proportions of Indian and non-Indian children in the

* Off-Reserve and non-Status population estimated at no more than 400 among a total population of 5,500 persons.

community. In the DHR Cache Creek region there are probably no more than 700 Indian people in the total population of some 5,800 persons (including Reserves). From the earlier section on population it was noted that in 1971, 45.4% of the Indian on-Reserve population was under 15, while only 34.8% of the Cache Creek/Ashcroft population was of similar age. Therefore the approximate maximum number of Indian children within the DHR district is 315, out of a total of some 2,030 children, or about 30%. Since about 30% of the children-in-care with Human Resources are Indian, it follows that there is no greater problem among Indian people in the area than among non-Indians.

TABLE 7.1
CHILDREN-IN-CARE, AND TRANSFER PAYMENT RECIPIENTS
MADE FROM CACHE CREEK OFFICE OF
DEPARTMENT OF HUMAN RESOURCES
JUNE, 1977

	<u>Social Assistance</u>	<u>Handicapped</u>	<u>Mincome</u>	<u>Children-in-Care</u>
Registered Indians	18	4	2	15
Non-Status Indians	28	3	2	7
Non-Indians	<u>65</u>	<u>5</u>	<u>15</u>	<u>45</u>
Total	111	12	19	67
Total Indian %	41%	58%	21%	30%

SOURCE: Department of Human Resources - Cache Creek.

A recent socio-economic study concludes that throughout B. C. the rate of children-in-care from on-Reserve homes is over six times that of the general population.* This large imbalance is not to be found

* Socio-Economic Study of The Indian Population of British Columbia, 1977, Op. Cit.

in the study area, and the local Human Resources manager noted that the incidences of having to take Indian children into care were gradually declining.

8. NATURAL RESOURCE UTILIZATION

8.1 Historical and Current Conditions

a) Fishery Resource

(i) Introduction

The fishery resource of the total Hat Creek region is identified and an inventory presented in Appendix B, Regional Fishery report of the overall environmental studies. For the purposes of this assessment, the stream, lake and river fisheries of the primary study area are considered as well as the salmon fishery in parts of the Fraser River system.

The importance of the fishery to the Indian populations of the area must be viewed from two points of view. First, the trout fisheries of the numerous lakes and streams of the primary study area are no doubt fished by the Indian people as a recreational pursuit. Hat Creek and the Bonaparte River flow through the Bonaparte Reserve lands. Both of these watercourses support rainbow trout populations while the Bonaparte also contains relatively small salmon and steelhead populations. Numerous other streams and lakes throughout the area support trout populations and are fished by the people of the local area.

Data on recreational fishing activity are presented in Appendix A-5 Recreation, however, the estimates do not include Reserve Indian populations.* It is inevitable that the Indian people of the study area utilize the stream and lake fisheries; however, no data are available on the extent of their use.

* Off-Reserve Indians are included in the recreation estimates but it is not possible to disaggregate their specific fishing activity.

The second important aspect of the regional fisheries, of prime importance to the Indian people, is the salmon fishery of the Fraser River system. The main stem of the Fraser is fished relatively heavily on an annual basis. The Thompson is fished primarily during the dominant Adams River runs and during the odd-year pink salmon runs. The major traditional fishing locations on the Thompson are located between Nicomen Creek and Pitqua, at the mouth of the Bonaparte River and the mouth of Deadman's Creek.

The salmon resources of the Fraser River system have traditionally played an important role in the economy and culture of the Indian people who settled in its basin. The importance of the fishery varied, however, among the Bands of the basin according to the relative local abundance of fish and other natural food resources.

During the latter century, agricultural practices began to supplement traditional food gathering activities, particularly among Interior Indians. Although most Indian groups still obtain some portion of their food from the fish, game and natural plant growth of the basin, very rarely does this provide their principal source of subsistence.* In general, it is recognized that the fishery resource is less critical to the current way of life of Indian people, than was the case during aboriginal times, but it must still be considered important in the maintenance of their cultural heritage and as a supplement to their alternative sources of income.

(ii) Indian Catch

Pacific salmon and steelhead trout are the major species of the inland Indian food fishery. Table 8.1 shows the average percentage composition

* Bennett, M. G., "Indian Fishing and Its Cultural Importance in the Fraser River System", Department of the Environment and Union of British Columbia Indian Chiefs, 1973, p. 8.

TABLE 8.1

REPORTED CATCH OF THE INDIAN FOOD FISHERY
TOTAL FRASER RIVER SYSTEM
1972 - 1976
(THOUSANDS OF FISH)

	<u>Sockeye</u>	<u>Pink</u>	<u>Other Salmon</u>	<u>Steelhead</u>	<u>TOTAL NO. OF FISH</u>
1972	140	-	48	2	190
1973	159	53	46	2	260
1974	233	-	68	2	303
1975	250	41	57	2	350
1976	<u>240</u>	<u>-</u>	<u>75</u>	<u>2</u>	<u>317</u>
Average	205	19	59	2	285

SOURCE: Environment Canada Fisheries Branch,
unpublished data.

TABLE 8.2

REPORTED SOCKEYE CATCH AND NUMBER OF FISHERMEN
INDIAN FOOD FISHERY IN THE MIDDLE FRASER AND THOMPSON RIVERS
1972 - 1976

	<u>Middle Fraser</u>		<u>Thompson</u>	
	<u>No. of Fishermen</u>	<u>No. of Fish</u>	<u>No. of Fishermen</u>	<u>No. of Fish</u>
1972	590	62,000	435	6,000
1973	965	77,000	125	6,000
1974	1,061	106,000	153	11,000
1975	1,191	117,000	151	7,000
1976	1,132	109,000	10	500

SOURCE: International Pacific Salmon Commission,
Annual Reports, 1970 - 1976.

of the reported Indian food catch for the total Fraser River system.* Sockeye account for 75% of the overall system catch but, in the region north of Hope, they constitute about 95% of the total catch. Chinook and Coho are also important species for the fisheries downstream of Yale, but they are relatively insignificant further north. Pink salmon run only in the odd numbered years, and while in the lower reaches of the river they are suitable for eating, north of Lytton they are caught mainly for their roe.**

During recent years, the reported Indian sockeye catch has averaged about 205,000 fish. Over 45% of this catch has occurred in the middle regions of the Thompson and Fraser Rivers.*** The reported Indian sockeye catch has accounted for about 13.5% of sockeye escapement and 3.0% of the total Fraser run.****

It has not been possible to estimate the number of fish taken by the Bands in the study area. Table 8.2 shows the sockeye catch reported in the Fisheries Management areas closest to these Bands. However, the reportedly high degree of mobility among fishermen suggests that the identified catch from these areas likely includes fish taken by Bands outside our specific area of study. Conversely, it is unlikely that the Bands in the study area fish only within the areas identified.

An upward trend can be observed in both the reported catch and the number of permits issued to Indian people throughout the Fraser River system during the last decade. The rate of increase in both these factors is higher than the overall rate of growth in the Indian

* This information only reflects reported catch. Actual catch could be significantly higher.

** Environment Canada, Fisheries Management Branch, Kamloops, personal communication, 1977.

*** The middle Fraser refers to the river area between Hope and Churn Creek; the middle Thompson refers to the area from Lytton to Savona. Defined by Environment Canada, Fisheries and Management Branch.

**** Pacific Salmon Commission, Annual Reports, 1965-1976.

population. While this might suggest that the fishery is becoming increasingly important as a food source to the Indian people, it might also reflect more intensive fisheries management and control practices by the Fisheries Management Branch.

The basic fact regarding statistics on the Indian food fishery is that, although they are collected in a fairly rigorous manner, their reliability is low. For example, the annual catch for 1972 reported to Environment Canada indicated a total Fraser system Indian catch of 190,000 fish.* During that same year, a study conducted under the auspices of the same Ministry estimated a catch of 806,000 fish.** It is likely that the true catch falls somewhere within this range.

(iii) Indian Consumption

The average annual consumption of fish, during aboriginal times by Indians within the Fraser River system, has been estimated at 700 lbs per capita.***

On the basis of Bennett's more recent catch estimates, average annual consumption throughout the Fraser system is implicitly determined to be about 270 lbs per capita.**** If one accepts the reported catch

* Environment Canada, Fisheries Branch, unpublished statistics.

** Bennett, M. G., Op. Cit., 1973, p. 19.

*** Hewes, G. W., "Aboriginal Use of Fishery Resources in Northwestern North America", University of California, Berkeley, 1947, p. 226, quoted in Bennett, M. G., Op. Cit., 1973, p. 8.

**** Bennett, M. G. estimates that the Indians in the Fraser basin caught 806,000 fish in 1972. Assuming the average fish weighs 6.0 lbs, then the population of 17,899 catches (and presumably consumes) 270 lbs of fish per capita in that year.

estimates of Environment Canada, then average annual consumption is in the order of 90 lbs per capita. These estimates compare with average annual Canadian fish consumption of 12.9 lbs per capita.*

The fish consumption among Indians living in the primary and secondary impact zones is not known. However, it is suggested by Bennett that, whereas fish is the most important staple in the annual food economy of Indians living from Lytton to Mission City and from Quesnel to the headwaters, fish is no more important than game or wild plants to the Indians of the central Fraser system.**

Although Bennett provides an indication of the relative participation in these food gathering activities among Bands, no information is provided on the absolute or relative importance of these staples to the total food consumption of the Indian people.

One indication of its absolute importance can be obtained by comparing the consumption of fish to the total annual food consumption. Rushforth suggests that annual human food requirements range as shown in Table 8.3.

TABLE 8.3
HUMAN FOOD REQUIREMENTS PER YEAR
(POUNDS)

	<u>Minimum</u>	<u>Maximum</u>
Adult men	1,460	1,825
Adult women and adolescents	1,168	1,460
Children	730	915
Average	1,120	1,400

SOURCE: Rushforth, Scott, "Country Food", in Dene Nation, The Colony Within, Watkins, M., Ed., University of Toronto Press, 1977.

* Statistics Canada, Catalogue No. 32-226, 1975.

** Bennett, M. G., Op. Cit., 1973, p. 11.

The apparent retail weight of food consumed by Canadians in 1975 averaged 1,450 lbs per capita.*

Assuming that the annual per capita food consumption of Indian people in the Fraser basin is similar to the Canadian average, the subsistence salmon catch would constitute between 5% and 19% of total food consumed.

(iv) Economic Value of Subsistence Fishery

The economic value of subsistence fishing rights to the Indian people can be measured by the real net income gains represented by their annual catch (consumption). The appropriate criteria would be the replacement value of fish consumed less the costs of obtaining the fish.

Fishing costs can be of two basic types: The cost of fishing equipment and supplies and the income foregone as a result of time spent fishing rather than working at the best alternative employment.

Fishing equipment costs on an annual basis can be assumed minimal. Most fishing by the Bands in the study area is by dip net or gaff, and the costs of maintaining or replacing this equipment are small. An average annual real cost including direct transportation costs of \$40 per fisherman is assumed to be reasonable.

The opportunity cost of fisherman's labour is a second cost item worthy of consideration. In a fully employed economy, labour drawn from one economic activity to another results in the income that could have been earned in that other activity being lost to both the individual and society at large. However, when that labour would otherwise have been unemployed, society loses nothing by drawing it into employment even though the individual concerned may lose unemployment benefits.

* Statistics Canada, Catalogue No. 32-226, 1975.

If this opportunity cost concept were considered relevant to Indians engaged in the subsistence fishery, then it would reduce the value of the fishery to both the Indian and society at large. However, there are a number of factors which tend to minimize its relevance.

- . The average Fraser basin Indian fisherman fishes 450 hours per year.*
- . Most of the fishing activity takes place in the evenings, at night, in the early morning, and on weekends.
- . About 50% of the Indians on-Reserve in the study area are employed less than 1,500 hours per year out of a normal working year of 1,950 hours.
- . Unemployment among Indian people is high in the study area.

It is apparent then, that Indian people can, to a great extent, enjoy the benefits of subsistence fishing without impinging on alternative employment opportunities. In addition, the practical extent of alternative employment opportunities is limited. The opportunity cost of income earned in the Indian fishery can, therefore, be considered very low, and has been consequently ignored in this analysis.

The estimation of the 1972 income value of the subsistence fishery to Indian people is shown in Table 8.4.** It is estimated that the fishery added between \$1.5 million and \$6.8 million to the 1972 income of the Fraser basin Indian population. This represents between \$90 and \$400 income per capita.

Assuming Indian fish consumption in the primary study area approximates the average for the basin, the 1972 income value represented for those Reserve Indians is between \$32,000 and \$142,000.

* Bennett, M. G., Op. Cit., 1973, p. 18.

** Estimates were made for 1972 as it is the only year for which alternative data are available to compare with that produced by Environment Canada. Due to the recognized limitations of the available data, it is necessary to present this range.

TABLE 8.4
INCOME VALUE OF SUBSISTENCE FOOD FISHERY
TO INDIAN PEOPLE IN THE FRASER RIVER BASIN
1972

	<u>A*</u>	<u>B**</u>
Number of Fishermen	5,800	1,880
Total Catch (fish)	806,000	190,300
Catch per Fisherman (fish)	147	101
Average Weight***	6.0 lbs	6.0 lbs
Total Weight per Fisherman	882 lbs	607 lbs
Average Price Per Lb****	\$1.40	\$1.40
Gross Value per Fisherman	\$1,215	\$840
Direct Cost Per Fisherman*****	\$40	\$40
Net Value per Fisherman	\$1,175	\$800
Net Total Value	\$6.8 million	\$1.5 million
Population (1972 estimate)	\$16,900	\$16,900
Net Value per Capita	\$400	\$90

* Number of fishermen, total catch and catch per fisherman based on Bennett, M. G. estimates, Op. Cit., 1973, p. 19.

** Number of fishermen, total catch and catch per fisherman based on Environment Canada unpublished statistics.

*** Environment Canada, Fisheries Management Branch, Pacific Region, unpublished statistics.

**** Woodward, Kamloops, 1977 average price of Sockeye, deflated to 1972 using the Consumer Price Index.

***** Assumed at a level of \$40 per year.

SOURCE: Strong Hall & Associates Ltd.

b) Wildlife Resources

(i) Introduction

The wildlife resources of the study area are identified and presented in Appendix A2 of the overall environmental studies. The inventory reveals a diversity and relative abundance of wildlife species throughout the area, although the species cannot be considered unique within the overall Hat Creek region.

The Upper Hat Creek area appears to have an abundance of fur bearers. Beaver were found all along Hat Creek and along most of its tributaries. In addition, red squirrels, mink, weasel, wolf and coyotes were sighted. The consumptive utilization of the fur bearing resource is reported to be well below its physical self-sustaining capacity.*

The Indians of the primary area hunt wildlife as a source of subsistence food as well as for recreation. It is suggested that wild game is at least as important to Indian diets in the study area as is the subsistence fishery.** Ungulates are the primary species pursued and the activity usually involves only the adult male members of the Band.

(ii) Hunting

Indians hunt year round throughout the Hat Creek area. They reportedly hunt both on and off-Reserve, but, since the Oregon Jack and Bonaparte No. 1 and No. 2 Reserves afford good winter range, a significant

• Tera Environmental Resource Analysts Limited,
Preliminary Inventory Report,
Appendix A2, 1977.

** Bennett, M. G., Op. Cit., 1973, p. 14.

amount of their effort is reported to be on-Reserve. A hunting licence is not required, but when hunting off-Reserves, they are subject to seasonal and bag limit restrictions.

The major species hunted is mule deer and, although limited records exist on reported off-Reserve kills, data are not available on total kill. Fish and Wildlife Branch estimate that the total Indian kill ranges between 15 and 30 deer annually in the area.*

The game harvest represents real income to the Indian people in that it replaces meat and possibly clothing that would otherwise have to be bought. The net economic value is the replacement cost of the food and clothing products less the costs incurred in harvesting and preparing it.

An estimate of the 1976 net food value of the game harvest to the Indian people on-Reserve is determined at between -\$715 and \$1,780 or \$1.15 and \$8.70 per capita. The procedure for estimation is shown in Table 8.5.

Non-meat values of the deer have not been included. A small Vancouver market exists for deer hides, but prices are minimal and would not even cover transportation costs from Cache Creek to Vancouver. It is not known to what extent the Indian people are making clothing from the hides but a Canada Works Project currently operating on the Pavilion Reserve involves the training of 18 Band members in leather work, tanning, beading and other handicrafts with a view to developing cottage industry. To the extent that this development proves viable it could create a future local market for hides.

* Fish and Wildlife Branch, Lillooet, personal communication, 1977

TABLE 8.5
NET ECONOMIC VALUE OF GAME HARVEST
1976

<u>Gross Revenue</u>		
Mule Deer Killed (Low and High Estimate)*	15	30
Dressed Weight per Deer**	170 lbs	170 lbs
Gross Replacement Value Per Lb***	\$1.05	\$1.05
Gross Value of Harvest	\$2,860	\$5,355
 <u>Direct Costs</u>		
Total Hunters****	65	65
Direct Material Costs Per Hunter*****	\$55	\$55
Total Costs	\$3,575	\$3,575
 <u>Net Economic Value</u>	 <u><u>-\$ 715</u></u>	 <u><u>\$1,780</u></u>
 <u>Economic Value Per Capita</u>	 <u><u>-\$2.00</u></u>	 <u><u>\$5.00</u></u>

* Conversations with Fish and Wildlife Branch personnel, 1977.

** Conversations with Cache Creek Game Station personnel, 1977.

*** Woodwards, Kamloops, average 1976 beef sides, personal communication, 1977.

**** Assumed that 19% of Reserve population hunts. Bennett, M. G., Op. Cit., 1973, p. 13.

***** An annual direct cost of \$55 per hunter is assumed. The opportunity cost of labour for hunting is considered to be zero.

SOURCE: Strong Hall & Associates Ltd.

(iii) Trapping

The trapping of fur bearing animals has traditionally provided subsistence food as well as a means of obtaining income for the Indian people of the study area. Although no data on current activity exist, the opinions of Fish and Wildlife Branch officers suggest that the importance of trapping has declined substantially and has been reduced to a minimal level.

At the present time, there are 21 registered Indian trap lines located in the Clinton, Lillooet and Merrit districts. None is located in the area potentially affected by the physical disturbance of the Hat Creek project, and the majority are located west of the Fraser River.* Most of the Indian trap lines were registered prior to World War II, but it is not necessary to register annually and the trapping rights are transferrable.

No Indian trap line returns are included in the annual fur returns published for the Hat Creek region.** However, Indians are not required to report their catch unless they sell the pelts, at which time a royalty must be paid.

Although no specific data exist on the current extent of Indian trapping in the area, it would appear that they are minimally involved. It has been reported by Fish and Wildlife Branch that the area population of fur bearers could sustain a much higher level of trapping (Indian or non-Indian) than currently exists.

• The exact location of trap lines is not public information.

** Tera Environmental Resource Analysts Limited.
Op. Cit., 1977.

c) Vegetation

The natural vegetation has traditionally been used by Indian people for subsistence, medicinal and ceremonial purposes. The gathering of wild berries, plants and roots of various types usually engages the women and children Band members.

Bennett estimates that 43.7% of the Indian population of the general area of the primary study Bands participate in this form of food gathering.* In terms of numbers of persons involved, this compares to 19.2% involved in fishing and 19.0% in hunting. Among the Bands of the Upper Thompson, which includes the Bands of the study area, almost 45% of the population participates in berry and wild plant gathering.

No information is available on the amount of food or medicines produced from this activity, so that its economic importance cannot be estimated. An inventory of consumable vegetation in the study area is, however, in progress.**

d) Agriculture

The Indian people of the primary and secondary study areas are engaged in agricultural activities both as ranch hands and as entrepreneurs. Their involvement includes utilization of Reserve lands, as well as Crown lands. Definitive information, however, on the extent of their agricultural endeavours is limited and possibly dated. Indian employment in agriculture is discussed in Section 4.

* Bennett, M. G., Op. Cit., 1973, p. 13.

** Tera Environmental Resource Analysts Limited.

(i) Current Land Use and Productivity

Land on the Bonaparte Reserves is only partially developed for agriculture. Irrigation is limited to about 20 acres on IR No. 3, with water pumped from the Bonaparte River, while several small fields on IR No. 1 are irrigated by gravity flow from numerous small creeks and springs.* A few cattle are grazed by Bonaparte Band members and parts of their range are leased to neighbouring Indian and Non-Indian ranchers.

There are approximately 800 acres of irrigable land on the three Reserves, but over half of this total is contained in fields of less than 20 acres.** With the exception of a few small acreages, Reserve lands are generally only suitable for irrigated hay crops. Expected alfalfa yields would range between 4.5 and 6.5 tons per acre.***

The rangeland of the Bonaparte Reserves has an estimated carrying capacity of 945 AUM, as shown in Table 8.6.****

The McLean Lake grasslands, owned by both the Bonaparte and Ashcroft Bands, is the most productive Reserve rangeland in the area. At the present time, the total Reserve is leased to the Pavilion Band.

* Acres Consulting Services, "Report on Agricultural Potential on Bonaparte Reserves", 1972, p. 7.

** Ibid., p. 7. Irrigable criteria relate primarily to topographic and soil conditions.

*** Ibid. p. 13.

**** Ibid. p. 15. Animal Unit per Month (AUM) refers to one cow plus one calf for one month.

TABLE 8.6
ESTIMATED CARRYING CAPACITY OF
BONAPARTE RESERVE LANDS

	<u>AUM</u>
Indian Reservation No. 1	185
Indian Reservation No. 2	100
Indian Reservation No. 3A	100
Indian Reservation No. 7 (McLean Lake)	560

SOURCE: Acres Consulting Services, "Report on Agricultural Potential on Bonaparte Reserves", 1972. p. 7.

Members of the Oregon Jack Creek Band are also involved in agriculture. The current use of Reserve land is unknown, but Band members have grazing rights for 30 cattle on Bonaparte IR Nos. 1 and 2, as well as Crown Lands north of Highway 12.

The agricultural use of Pavilion and Ashcroft Reserve lands and the agricultural activities of these Bands is unknown.

Among Bands in the secondary study area, the Cook's Ferry Band has extensive lease holdings south and southeast of Ashcroft and grazing rights for 582 cattle extending from the Oregon Jack Creek Road south to Spences Bridge. The Fountain and Deadman's Creek Bands are also known to be involved in agriculture, but the extent of their activities is unknown. Grazing areas are shown in Figure 8.1.

(ii) Water Rights for Irrigation

Indian people in the primary study area have a number of water licenses for irrigation purposes, permitting withdrawals from Hat Creek and the Bonaparte River. The licence defines the total withdrawals permitted for the stated purpose, but no records are kept of actual withdrawals.

TABLE 8.7
INDIAN IRRIGATION WATER LICENCES
HAT CREEK VALLEY AND BONAPARTE RIVER

<u>Location</u>	<u>Water Source</u>	<u>Date</u>	<u>Volume Acre-Feet/yr.</u>
IR No. 1	Hat Creek, Two Springs Creek, Baines Spring	Sept. 26, 1888	350
IR No. 2	Hat Creek	Sept. 26, 1888	168
Via Oregon Jack Creek	Hat Creek	Apr. 8, 1871	41
Via Oregon Jack Creek	Hat Creek	Apr. 8, 1871	388
Via Oregon Jack Creek	Hat Creek	June 1, 1883	703
Via Langley Lake and Oregon Jack Creek	Hat Creek	Apr. 27, 1931	50
IR No. 3	Bonaparte River	Sept. 26, 1888	135.9
IR No. 3A	Perry Creek	Feb. 14, 1963	63.6
Ashcroft Reserve	Martley Brook Mahasket & Tingly Springs	Sept. 26, 1888	54
Pavilion Reserve	Marble Creek	Feb. 23, 1891	90

SOURCE: Monenco Consultants, "Hat Creek Diversion Study", January, 1977.
 Acres Consulting Services, "Report on Agricultural Potential
 on Bonaparte Reserves", 1972.

During dry years, when runoff may be insufficient to satisfy the requirements of all licences, the holders of the earliest water licences have first call to the available water. Thus, the early Indian licences are in a priority position.

Indian water licences are shown in Table 8.7.

e) Domestic Water

The Indian Bands of the primary study area obtain their domestic water supplies from the local rivers, creeks, wells and springs. The source of most of this available water supply is the snow melt from the Clear Range, the Cornwall and Trachyte Hills.

(i) Existing Domestic Water Licences

The known existing water licences for the Bands of the study area are shown in Table 8.8.

TABLE 8.8
EXISTING INDIAN BAND WATER LICENCES, 1976

<u>Location</u>	<u>Water Source</u>	<u>Date</u>	<u>Volume</u>
IR No. 1	Hat Creek, Two Springs Creek and Baines Spring	Sept. 26, 1888	1,500 gpd
IR No. 2	Hat Creek	Sept. 26, 1888	1,500 gpd
IR No. 3	Bonaparte River	July 15, 1963	2,500 gpd
Via Oregon Jack Creek	Hat Creek	June 1, 1883	3,000 gpd
Ashcroft Reserve	Mahasket and Tingley Springs	Sept. 26, 1888	2,000 gpd
Ashcroft Reserve	Cornwall Creek	May 19, 1942	1,000 gpd
Pavilion Reserve	Marble Creek	Feb. 23, 1891	500 gpd

SOURCE: Monenco Consultants Pacific Ltd.,
"Hat Creek Diversion Study", January, 1977.

Acres Consulting Services Ltd.,
"Bonaparte Indian Band Development Study",
May, 1972.

Water Resources Service, Department of the Environment,
Province of British Columbia, personal communication, 1977.

f) Minerals

The mineral and petroleum report that was part of the Hat Creek project detailed environmental studies examined the regional geology and inventoried all rock, mineral, and petroleum resources that could be affected by the Hat Creek project.*

It identified only two deposits on Indian Reserve lands that fell into this category - a gravel quarry on Bonaparte Reserve No. 2 and the limestone quarry being operated by Steel Brothers Canada Ltd. on Pavilion Reserve No. 3.

The Bonaparte quarry is mainly used by the Provincial Ministry of Highways for the repair and maintenance of local roads. The Steel Brothers plant is producing principally for nearby mine mills and pulp mills.

The report notes that, because present demand by the pulp, paper and copper industries is low, the Steel Brothers plant is not operating at capacity. The report also notes that limestone and gravel deposits in the area are extensive, and both are available in the Upper Hat Creek Valley, where the B. C. Hydro proposed mine and thermal plant would be located.

There is no reason to believe that the two mineral harvesting operations presently being carried out on Indian Reserves will not continue to serve their present role, with the continuation of the appropriate benefits to the Bands.

* B. C. Hydro and Power Authority - Hat Creek Project, Detailed Environmental Studies, Mineral and Petroleum - Generation Planning Department, 1978.

In anticipation of any possible future extension of mineral development activities on Reserves in the study area, the question of mineral ownership and rights of such deposits were examined. This was done by discussion with the Indian Minerals Division of the Department of Indian Affairs.

The question of ownership of mineral deposits below Indian Reserves has never been settled. The "B. C. Indian Reserves Mineral Resources Act of 1943" was an agreement between the Federal and Provincial Governments, basically covering the procedures for permitting the mining of certain minerals and for distributing the revenues obtained the sale or disposition of such mineral rights. Section 3 of the Act defines the minerals covered by the Act. Coal, petroleum, limestone, gravel and various other types of deposit are specifically excluded from the Act, and there is no equivalent legislation governing their ownership or control. The Act effectively covers only metallic minerals.

The Act does not attempt to settle the question of ownership of these metallic minerals. There has been some correspondence between the two governments since the Act came into being, but without any resolution of the problem of ownership. The Act basically says that the Province will administer the disposition and administration of minerals and mineral claims in accordance with the laws of the Province relating to mineral deposits which are not located under Reserves, subject to obtaining the permission of the Department of Indian Affairs. Fifty percent of all revenues collected by the Province in connection with the mineral deposits shall be paid to the Federal Government. The Department of Indian Affairs stated that they would only agree to the desposition of minerals or mineral rights if it had the agreement of the Band Council concerned, and that the Federal Government's share of the revenues would go to the Band.

On the question of the minerals excluded from the 1943 Act, the practice has been to treat the title to these deposits as being

held in the name of Her Majesty, but set aside for use of the Band, with all resulting revenues going to the Band involved, but again the question of ownership has not been conclusively defined.

The Department of Indian Affairs stated that they knew of no instances where a Band had mined the metallic, coal, or petroleum deposits below its own Reserves. They also pointed out that no Indians had been involved in the execution of the 1943 Act.

In those areas of the Province covered by an Indian Treaty (and the Hat Creek area is not one of them) the ownership of the subsurface mineral rights is defined for some specific Reserves, but not for all Reserves.

The ownership of metallic mineral rights for the study area Bands might well be of academic interest only. It seems unlikely that such deposits exist that would offer practical value to the Bands in terms of independent mining opportunities or leases.

8.2 Resource Utilization Without the Project

The future utilization of resources, without the Hat Creek Project, in the study region, by the Indian people, will be the result of a number of demand factors in relation to the available supply of resources. Given the paucity of available data, particularly on the demand side, a general scenario of likely future utilization trends is all that can be constructed.

Trends in Indian demand for resources will be a function of population growth, wage employment opportunities, income levels, and a variety of socio-cultural factors. The future supply of resources will be affected by the physical capacity of the resource base, and the management practices of the provincial, federal and regional governments.

Resource utilization scenarios will be discussed for each of the resource areas defined in Section 8.1. Before proceeding with these resource discussions, it is considered useful to summarize the pertinent characteristics of likely Indian development discussed in Sections 2 to 8, and relate these to resource use in a general manner.

It is expected that, over the next 15 years, the population of the primary area Bands will increase by about 2.0 percent annually, resulting in a 1990 estimate of 835 persons.

Due to the existing age structure of the population, it is likely that labour force will increase more rapidly than population. The young people entering the labour force will have received more formal education than their parents, they will be more capable of wage employment, and will be more able to choose the means by which they support themselves and their families. At the same time, they will have a strong interest in preserving and reviving many aspects of their cultural heritage in their daily lives. Band leadership is expected to continuously strengthen, greater amounts of capital will be available for Indian programs, and there will be an increasing number of cooperative Indian/non-Indian development programs in which Indian people will play an influential role. Real economic opportunities on the Reserves will continue to be minimal, but those that can be identified will have a greater likelihood of development.

As a general direction of development among the Bands, it is felt that this scenario is realistic. However, to assess the specific rate at which this evolution will occur is problematic, and it is the rate of change which is critical to assessing the short-run interest and capability of Indian people to participate in the regional development pattern forecast for the region without the Hat Creek Project.

As a further component of this scenario, it is not expected that there will be a major "back to the land" movement by the Indians in the study area as has been suggested for some Indian groups in Canada.* This is not to say, however, that Indian people will not demonstrate a growing interest in the area's natural resources to satisfy both cultural and economic interests. With an increasing awareness of new technologies, an improved capability to follow the lifestyle of their choosing, and an increasing interest in their cultural heritage, it would seem likely that the natural resource environment will play a continuously important role in their cultural identity and economic livelihood. It is expected, however, that their economic relationship will be more the result of choice than economic necessity.

a) Fisheries

The Indian salmon fishery is recognized as being a significant source of real income as well as an important contributor to the social and cultural strength of Indian families. It is also suggested that the relative economic importance of the fishery has declined over the centuries with the availability of cash income, food substitutes, and the competition for existing supplies being contributing factors.

There is some evidence that the Indian catch per capita has been growing in recent years, but the data on which this trend is observed are highly suspect.** It has been previously argued that there are conflicting demand forces, both economic and cultural, which will affect the desire of Indian people to increase their utilization of the salmon fishery.

• Canada Mackenzie Valley Pipeline Inquiry, "Northern Frontier, Northern Homeland: The Report of the Mackenzie Valley Pipeline Inquiry", Volume 1, Supply and Services Canada, Ottawa, 1977.

** Environment Canada, Fisheries Management Branch, unpublished statistics, 1977.

However, it is not felt that these factors will result in major changes in per capita demand. In addition, it is likely that the supply of salmon will be enhanced by on-going fisheries management programs.

Therefore, it is argued that Indian salmon consumption per capita will remain fairly stable through the projection period, but that overall consumption will increase commensurate with population growth.

The real value of the consumption is expected to increase in line with the historical relationship of fish prices to the general level of prices in the economy.*

Trout fishing by Indian people in the lakes and streams of the study area is also likely to increase in the future provided that stocks are maintained to sustain increased fishing effort. However, given the lack of data on current or historical Indian utilization, it is not possible to estimate the order of magnitude of future use.

b) Wildlife

The wildlife resources of the area offer potential hunting, trapping and cultural value to the Indian people. Trapping activity is reportedly minimal, in spite of the existence of 21 trap lines registered to Indians and a resource base that could sustain more intensive activity. Without a major change in the general profitability of trapping, it is considered doubtful that this activity will engage a significant number of Indian people in the future.

Hunting in the hills and meadows of the study area is reportedly a popular activity among Indian males. The current kill is estimated at about 15 to 30 mule deer annually. (See Section 8.1 b).

* The price of Sockeye salmon has been increasing at a rate of about 2% per annum faster than the consumer price index over the past decade.

The mule deer population of the area is relative sparse but could be enhanced by improved management. Population increases in the region through to 1990 will result in increased hunting activity. Growth in the Indian population is also likely to result in increased Indian hunting. Given the priority hunting rights of Indians, it is considered unlikely that their average kill will decline significantly. On the other hand, without substantial game management inputs, it is unlikely that the resource will expand. The expected result, therefore, is that the kill per Indian hunter will likely decline over time.

c) Vegetation

It is known that Indian people still make use of the natural vegetation resources of the area for food and possibly for medicinal and ceremonial purposes. However, the nature or extent of current use is not known and it is not possible to make any reasonable judgement as to their future use.

d) Agriculture

With the exception of the Basque Ranch and the operation owned by members of the Oregon Jack Creek Band, the entrepreneurial agricultural activity of the Bands in the Primary area is considered minimal. A number of Band members, however, are employed part time and full time on ranches both in the study area and outside it.

The only information available on future agricultural activity on Reserves suggests a 250-head livestock operation on Bonaparte Reserve #3 would be economically feasible, utilizing 80 acres of valley bottom land for irrigated hay production and making maximum use of Reserve grazing fields.** Bottom land would be irrigated from the Bonaparte River and would require in the order of 135 acre-feet of water per season.

* Tera,
Op. Cit., 1978

** Acres Consulting Services,
Op. Cit., 1972, p. 29

Similar potential is indicated for Reserves No. 1 and No. 2, however, specific feasibility was not investigated.

It is suggested that some agricultural development will take place on the Reserves during the next 15 years. Although the Acres report suggests a potential irrigable acreage of 800 acres on the three Bonaparte Reserves, in soil capability terms, the economic potential is likely not that high. The lands "are broken into many parcels, some of which are too small for large-scale mechanized agriculture".*

It is suggested in the Agricultural Report that there is unlikely to be any major economic incentive to expand agricultural output in the area during the foreseeable future.** Even so, it is considered likely that there will be some limited ranching development on the Bonaparte Reserve before 1990. If this involved 25 percent of the irrigable land on Reserves No. 1 and No. 2, it would imply about 80 acres of irrigated land and would likely require additional grazing land to that available on the Reserves.*** This operation would likely require about 135 acre-feet of water from Hat Creek. Although this level of use is well within the existing licences on the Creek held by the Bands, the level of current use is unknown. Therefore, total likely irrigation withdrawal cannot be estimated.

e) Water Resources

In addition to irrigation demands, water will be utilized for domestic purposes. On the assumption that rural water use for domestic purposes approximates 50 gallons per capita per day, current use on the Reserves should be in the order of 17,700 gpd. Since existing water licences

* Acres Consulting Services,
Op. Cit., 1972, p. 24

** Canadian Bio Resources Ltd., Appendix A4 Agriculture, 1978

*** Ibid.

held for the Bands total only 12,000 gpd, it is apparent that a substantial portion of their water needs are obtained from wells.

Reserve populations have been projected to approximate 475 persons by 1990. Assuming no major change in per capita water requirements, total use would be in the order of 23,750 gpd. It is not possible to determine whether this demand will require additional water licences or whether it will be met by an increase in groundwater withdrawals.

APPENDICES

APPENDIX A: REVIEW OF INDIAN STUDY DEVELOPMENT

In August 1974, B. C. Research and Dolmage Campbell & Associates Ltd. were commissioned jointly by B. C. Hydro to undertake a preliminary impact study of the proposed Hat Creek thermal-electric power development. During this initial study, these groups held meetings with local Indian Bands, and their report, published in August 1975, contained a summary of the concerns expressed by the Bands* and recommended further study of the Bands' situation relative to the project.**

The report noted that in the meetings the Indians made "a request for affirmation that information about the proposed project will continue to come to them (the Indians) and that further opportunities to discuss it will be made available".

Shortly after the publication of the report, B. C. Hydro sent letters to the Chiefs of Bonaparte, Pavilion, Oregon Jack Creek and Cook's Ferry Bands, inviting them to a meeting in Cache Creek during October 1975.*** Fifteen Indians attended this meeting to discuss the B. C. Research preliminary studies and the possibility of further studies. The question of Indian Land Claims and their relevance to the proposed project was raised at this meeting, as it had been during the B. C. Research study.

By January 1976, the regional planner of DIA had held meetings with B. C. Hydro at the request of the local Indian Bands to discuss Indian participation in further studies. The subsequent letters to the local chiefs mention the potential difficulties of including Land Claims issues

• B. C. Research, Dolmage Campbell & Associates Ltd. - Preliminary Environmental Impact Study of the Proposed Hat Creek Project, 1975, Page 132.

** Ibid. Page 13.

*** Letters: B. C. Hydro (Dawson) to Chief Antoine, Bonaparte Band, and others, 3 October, 1975.

in the studies,* and suggest that if the Bands wished to pursue Land Claims research, they should apply to DIA for specific, separate funding.

In February 1976, B. C. Hydro sent copies of the draft Terms of Reference for the proposed detailed environmental impact studies of the Hat Creek Project to DIA for comment.**

The following day, the Chief of the Bonaparte Band wrote to the Chairman of B. C. Hydro to advise him that the local Indian Bands had formed a committee, termed the Hat Creek Indian Communications Committee, representing 12 local Bands, to examine the proposed project; retained a Vancouver-based firm of consultants to represent them; and reiterated concern about the question of Land Claims.*** B. C. Hydro's reply in March 1976 included a copy of the draft Terms of Reference for the proposed detailed environmental and social studies of the project, but pointed out that B. C. Hydro did not have any jurisdiction on the question of Land Claims, and suggested that this issue be directed to the provincial government.****

During March 1976, B. C. Hydro set up an interdepartmental "Hat Creek Indian Committee" and, on March 23, a meeting was held between representatives of this committee, representatives of the Hat Creek Indian Communications Committee, and their consultants, for preliminary discussions on future work coordination. In a subsequent letter,***** B. C. Hydro

-
- Letter: Department of Indian Affairs (Cunningham) to Chief Antoine, Bonaparte Band, and others, 14 January, 1976.
 - ** Letter: B. C. Hydro (Guelke) to DIA (Cunningham), 16 February, 1976.
 - *** Letter: Chief Antoine, Bonaparte Band, to B. C. Hydro (Bonner), 17 February, 1976.
 - **** Letter: B. C. Hydro (Bonner) to Chief Antoine, Bonaparte Band, 9 March, 1976.
 - ***** Letter: B. C. Hydro (Martin) to Chief Antoine, Bonaparte Band, 12 April, 1976.

agreed that, subject to mutual agreement on the Terms of Reference, the Indian studies should be treated as a separate unit as far as possible, and that the local Indian Bands should participate in the selection of the consultants to carry out the work.

At the end of April, B. C. Hydro sent the Hat Creek Indian Communications Committee copies of the detailed social and environmental Terms of Reference, a list of all consultants requested to bid on the studies, a list of consultants who had expressed specific interest in the Indian studies, a short-list compiled from these sources, and a budget estimate for the Indian studies.*

Two weeks later, a meeting was held between representatives of B. C. Hydro, the Hat Creek Indian Communications Committee, and their consultants, on the Bonaparte Reserve. The local Indians had prepared a set of Terms of Reference themselves which were discussed at this meeting and given to B. C. Hydro for further study. Three months later, on 12 August, 1976, another joint meeting was held on the Bonaparte Reserve to discuss the proposed Terms of Reference and the selection of acceptable consultants. The Terms of Reference proposed by the local Bands at this stage contained elements devoted to Land Claims research. B. C. Hydro's lack of jurisdiction and inability to fund studies of this nature were major features of this meeting, as they were at a third joint meeting held at the Bonaparte Reserve two weeks later.

Following these meetings, B. C. Hydro wrote to the Communications Committee agreeing to a number of specific elements of cooperation that had been discussed, including Indian participation in selection of the consultant, opportunities to review final environmental and other study reports as they became available, the opportunity to get verbal reports on these studies as they progress, and regular involvement with the Indian

* Letter: B. C. Hydro (Dawson) to Chief Antoine, Bonaparte Band, 30 April, 1976.

studies as they progressed.* However, the letter again pointed out B. C. Hydro's lack of jurisdiction in the area of Land Claims and stipulated that the consultant would not be required to make any recommendations on such matters.

The reply to B. C. Hydro's letter on 8 November 1976** acknowledged that they were close to agreement on general Terms of Reference for the study.

However, on 24 November, the Communications Committee informed B. C. Hydro that they had met with the Minister of Indian Affairs and obtained a commitment for funding to carry out their own studies of the project impacts.*** The letter expressed the hope for maintenance of good relations and communications between B. C. Hydro and the Communications Committee, and for data exchanges between their consultants.

On 18 January, 1977, a meeting was held between B. C. Hydro, several of their consultants, the Hat Creek Indian Communciations Committee, DIA, and a consultant retained by DIA, to help the Communications Committee prepare its Terms of Reference. The consultant had prepared a written presentation of some 50 questions on the Hat Creek Project in order to update the Communications Committee's knowledge and assist in designing its study.**** The meeting was concerned mainly with some of these specific questions and with future arrangements for communication and information exchanges.

In February, B. C. Hydro's project-coordinating consultants advised that, due to the schedule for the detailed environmental report, the Indian studies could not be included if there were further delays in getting them

* Letter: B. C. Hydro (Martin) to HCICC (Edmonds), 18 October, 1976.

** Letter HCICC (Edmonds) to B. C. Hydro (Martin), 8 November, 1976.

*** Letter: HCICC (Edmonds) to B. C. Hydro (Thompson), 24 November, 1976.

**** Letter: B. LeBaron to B.C. Hydro (Thompson), 18 January, 1977.

underway.* Subsequently, B. C. Hydro instructed their socio-economic consultants, Strong Hall & Associates Ltd., to include Indian studies specifically in their work,** and by mid-March, Bob Ward Management Services had been subcontracted to participate in their Indian studies. By the end of May 1977, Strong Hall & Associates Ltd. had prepared Terms of Reference for their proposed Indian Studies*** which assumed information exchanges with the Communications Committee and their consultants, along the lines previously discussed between B. C. Hydro and the Committee.

The Strong Hall & Associates Ltd. team met with DIA at the end of March to determine the nature and extent of records available from the Department, but the following week DIA met with B. C. Hydro and informed them that "The Bands had expressed concern about access of B. C. Hydro's consultants to DIA material prior to the commencement of their own study. They asked that this access be denied until agreements could be worked out."****

Strong Hall & Associates Ltd. were instructed verbally by B. C. Hydro not to contact either DIA or any other federal or provincial government department, until further notice.

In July 1977, B. C. Hydro sent a letter to the new chairman of the Hat Creek Indian Communciations Committee suggesting a joint meeting in the near future.***** Within two weeks, B. C. Hydro met with several

-
- * Letter: Envirosphere (Lekstutis) to B. C. Hydro (Edwards), 17 February, 1977.
 - ** Letter: B. C. Hydro (Goldie) to Strong Hall & Associates Ltd. (Hall), 8 March, 1977.
 - *** Terms of Reference - Hat Creek Indian Studies - Strong Hall & Associates Ltd. - May 1977.
 - **** See Diary of T. Thompson (B. C. Hydro), 22 June, 1977, referring to meeting with DIA on 8 June, 1977.
 - ***** Letter: B. C. Hydro (Thompson) to HCICC (Morgan), 14 July, 1977.

and obtained the federal funding. The study was anticipated to start in December, 1977.*

On 5 December, 1977, the Communications Committee contacted B. C. Hydro to inform them that there had been a delay in the commencement of its study, and requesting a joint meeting to update the position.** The meeting was set for December 12, but was subsequently cancelled.

In mid-January, 1978, on a visit to the Hat Creek area, a B. C. Hydro representative learned there had been another change in the chairmanship of the Communications Committee.

* B. C. Hydro memo: Thompson to Hydro Indian Committee, 29 November, 1977.

** B. C. Hydro memo: Thompson to Edwards, 5 December, 1977.

BIBLIOGRAPHY

BIBLIOGRAPHY

- Acres Consulting Services Ltd. Bonaparte Indian Band Development Study Agriculture. Department of Indian Affairs, 1972
- Bennet, M.G. Indian Fishing and the Cultural Importance in the Fraser River System. Department of the Environment and Union of B.C. Indian Chiefs, 1973.
- B.C. Research, Dolmage Campbell & Associates Ltd. Preliminary Environmental Impact Study of the Proposed Hat Creek Project. B.C. Hydro and Power Authority, 1975.
- B.C. Socio-Economic Development Commission. Socio-Economic Study of the Indian Population of British Columbia. Union of B.C. Indian Chiefs, 1977.
- B.C. Hydro and Power Authority. Hat Creek Project, Detailed Environmental Studies, Mineral and Petroleum. Generation Planning Department, 1978.
- Canada Mackenzie Valley Pipeline Inquiry. Northern Frontier, Northern Homeland: The Report of the Mackenzie Valley Pipeline Inquiry. Volume 1: Supply and Services Canada, Ottawa, 1977.
- Duff, W. The Indian History of British Columbia, Volume 1: Impact of the White Man. Provincial Museum of Natural History, 1952.
- Hewes, G.W. Aboriginal Use of Fishery Resources in Northwestern North America. University of California, 1973.
- International Pacific Salmon Commission. Annual Reports. 1970-1976.
- Lampe, W. Native People's Perceptions of Factors Associated with Job Acceptance and Retention. Department of Indian Affairs, 1974.
- Monenco Consultants Pacific Ltd. Hat Creek Diversion Study. B.C. Hydro and Power Authority, 1977.
- Owen, T. & Associates. Barriers to Native Labour Entry and Employment. Department of Regional Economic Expansion, 1976.
- Palmer, G. Cultural Ecology in the Canadian Plateau: Precontact to the Early Contact Period in the Territory of the Shuswap Indians of British Columbia. Northwest Anthropological Research Notes. Volume 9: Fall, 1978
- Pokotylo, D.L. and Beirne, P.O. Preliminary Inventory, Assessment and Impact Evaluation of Cultural Heritage Resources in the Upper Hat Creek Valley, B.C. University of British Columbia, 1978.
- Smith, D.G. Natives and Outsiders: Pluralism in the Mackenzie River Delta. 1975.

Strong, Hall & Associates Ltd. Hat Creek Detailed Environmental Studies,
Appendix C2. B.C. Hydro and Power Authority, 1978.

Stanbury, W.T. Success and Failure - Indians in Urban Society. University
of British Columbia Press, 1975.

Teit, J.A. The Shuswap A.M.S. Press 1975, Reprinted from Original 1909,
New York.

Teit, J.A. The Thompson Indians of British Columbia. A.M.S. Press, 1975.
Reprinted from Original, 1900, New York.

Tera Environmental Resource Analysts Ltd. Preliminary Inventory Report,
Hat Creek Studies Appendix A2. B.C. Hydro and Power Authority, 1977.