

Final Report

**Site C Lands: Economic Opportunities Assessment  
Impact Assessment**

**BC Hydro**

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January 2002

# Table of Contents

<b>1</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
1.1	INTRODUCTION .....	1
1.2	HISTORICAL LAND USE SETTING .....	1
1.3	HISTORICAL AND CURRENT ECONOMIC AND COMMUNITY SETTING.....	2
1.4	IMPACT ANALYSIS .....	3
1.5	RECOMMENDATIONS.....	3
<b>2</b>	<b>INTRODUCTION .....</b>	<b>6</b>
2.1	PROJECT BACKGROUND.....	6
2.2	METHODOLOGY .....	6
<b>3</b>	<b>HISTORICAL LAND USE SETTING.....</b>	<b>8</b>
3.1	SITE C LANDS AND BC HYDRO ACQUISITION.....	8
3.2	SETTLEMENT PATTERNS .....	8
3.3	AFFECTED LANDS.....	9
3.4	HISTORICAL LAND USE .....	9
3.4.1	<i>Overview.....</i>	9
3.4.2	<i>Agriculture.....</i>	11
3.4.3	<i>Forestry.....</i>	12
3.4.4	<i>Recreation and Tourism .....</i>	13
3.4.5	<i>Miscellaneous Resources.....</i>	13
3.4.6	<i>Residential .....</i>	14
<b>4</b>	<b>HISTORICAL AND CURRENT ECONOMIC AND COMMUNITY SETTING.....</b>	<b>15</b>
4.1	ECONOMIC DEVELOPMENT ACCOUNT .....	15
4.1.1	<i>Population.....</i>	15
4.1.2	<i>Age Distribution.....</i>	17
4.1.3	<i>Labour Force.....</i>	19
4.1.4	<i>Location Quotient Analysis.....</i>	21
4.1.5	<i>Shift-Share Analysis.....</i>	24
4.1.6	<i>Unemployment.....</i>	26
4.1.7	<i>Business Activity.....</i>	27
4.1.8	<i>Average Family and Personal Income .....</i>	29
4.1.9	<i>Source of Personal Income and Farm Receipts .....</i>	31
4.2	COMMUNITY ACCOUNT .....	33
4.2.1	<i>Total Municipal Assessed Values .....</i>	33
4.2.2	<i>Municipal Assessed Values By Property Class .....</i>	33
4.2.3	<i>Average Residential Values .....</i>	34
4.2.4	<i>Farm Values.....</i>	35
4.2.5	<i>Municipal and Rural Housing Stock.....</i>	37
4.2.6	<i>Recreation.....</i>	37
4.3	MUNICIPAL REVENUE ACCOUNT .....	42
4.3.1	<i>Municipal Revenues.....</i>	42
4.3.2	<i>Municipal Tax Structure.....</i>	43
4.3.3	<i>Major Tax Contributors.....</i>	44

<b>5</b>	<b>IMPACT ANALYSIS.....</b>	<b>45</b>
5.1	DESCRIPTION OF SCENARIOS .....	45
5.2	SUMMARY OF ACCOUNTS .....	46
5.3	DISCUSSION OF IMPACTS .....	53
5.3.1	<i>Economic Development Account</i> .....	53
5.3.2	<i>Community Account</i> .....	56
5.3.3	<i>Municipal Revenue Account</i> .....	57
5.3.4	<i>Related Issues and Impacts</i> .....	58
<b>6</b>	<b>CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>62</b>
6.1	CONCLUSIONS.....	62
6.1.1	<i>Limitations to the Analysis</i> .....	62
6.1.2	<i>General Impacts</i> .....	62
6.1.3	<i>Population Impacts</i> .....	62
6.1.4	<i>Economic Impacts</i> .....	63
6.1.5	<i>Community Impacts</i> .....	63
6.1.6	<i>Other Impacts</i> .....	64
6.2	RECOMMENDATIONS.....	64
<b>7</b>	<b>APPENDIX 1 – STUDY AREA GEOGRAPHY.....</b>	<b>66</b>
7.1	1996 CENSUS ENUMERATION AREAS.....	66
7.2	1991 CENSUS ENUMERATION AREAS.....	67
7.3	1986 CENSUS ENUMERATION AREAS.....	67
7.4	1981 CENSUS ENUMERATION AREAS.....	67
7.5	1971 CENSUS ENUMERATION AREAS.....	68
<b>8</b>	<b>APPENDIX 2 – LIST OF INTERVIEWS.....</b>	<b>69</b>
<b>9</b>	<b>APPENDIX 3 – SUMMARY OF INTERVIEW COMMENTS.....</b>	<b>70</b>

# 1 Executive Summary

## 1.1 Introduction

- Site C would be the third part of the Peace River hydroelectric development. In order to prepare for Site C, BC Hydro (BCH) began a passive land acquisition program in the 1970s. As of 2001, BCH has acquired approximately 7,000 acres of property on the north side of the Peace River between Hudson's Hope and Fort St. John for the Site C hydroelectric project.
- The reserve of lands held by BCH has concerned local residents. Notwithstanding recent changes to lease arrangements, local residents have suggested that ownership, land use constraints and depopulation have constrained economic opportunities in the region.
- The objective of this study is to determine the regional economic implications of BCH and the Crown holding Site C lands for potential future hydroelectric development.
- The research methodology for this project involved two key areas. First, a literature review of primarily Site C planning studies and reports commissioned by BC Hydro in the 1970s and early 80s. This documentation has provided most of the content on historical land use and economics. The other research focus has been on creating a reasonably reliable picture of economic and community change from the 1970s to the present time.
- An interview program with landowners and lessees in Hudson's Hope and affected rural areas was conducted to determine study area land management issues and impacts. A total of 57 people were interviewed in-person, by telephone or in a group interview. One written submission was received. Interview respondents are listed in Appendix 2, while comments are summarized in Appendix 3.

## 1.2 Historical Land Use Setting

- **Land area** - The land which could be affected by Site C development can be grouped into four broad categories:
  - Land to be flooded by the reservoir – 4,600 hectares (11,500 acres)
  - Watercourse to be flooded by the reservoir – 4,840 hectares (12,100 acres)
  - Low bank land unavailable for residential use around the reservoir – 840 hectares (2,100 acres)
  - Other altered land – 480 hectares (1,200 acres)
- **Land use** - Land uses along the Peace River still reflect early settlement patterns. Within the Peace River Valley between Site C and Peace Canyon, agricultural, wildlife habitat and recreation have been favoured land uses because of a desirable micro-climate. Floodplain features, wind protection and a slightly longer frost-free period distinguish the valley from the surrounding plateau.
- **Agriculture** - In some instances, agriculture use does not necessarily reflect the potential of the land in terms of its capability and productivity for certain crops. In the late 1970s, most agricultural activities along the Peace River Valley reflected the agriculture of the region and involved the production of grain and forage crops. A number of the farm units had associated cattle operations that used a portion of the land base for pasture and livestock feed production.
- **Forestry** - According to a 1978 forest resource assessment, there has been an historical lack of logging activity within the proposed Site C pondage area. About 8% of the total land base affected by Site C is considered productive forest on the north bank.

- **Tourism and Recreation** - In the late 1970s, tourism activity in the study area was not significant in terms of total regional tourism. The river itself was the primary recreational feature. There were very few built tourism resources in the study area and only limited river access.
- **Miscellaneous Resources** - An operating gravel pit was purchased by BC Hydro in 1979 during the land acquisition program. There is potential for gravel and oil & gas production in the area.
- **Residential** - The primary residential impacts on land use would be concentrated in the Lynx Creek subdivision. Approximately 63 parcels were identified as being either subject to flooding or affected by poor drainage or road relocations.

### 1.3 Historical and Current Economic and Community Setting

- **Benchmarks** – Two benchmark communities were selected for comparison to Hudson’s Hope for the historical economic analysis. The communities were Taylor, BC and Grimshaw, Alberta.
- **Population** - The urban component of Hudson’s Hope population declined between 1971 and 1976 before recovering between 1976 and 1978. After 1978 the population trended downwards for the next 13 years, bottoming in 1991 before recovering slightly. The rural areas of Hudson’s Hope have also seen population declines over the last three decades. Meanwhile urban components of the two benchmark areas, Taylor and Grimshaw, have generally seen their populations increase, even though rural populations have been flat or declining during the 1971 to 2000 period.
- **Labour Force** - Labour force figures are often used as a surrogate measure of economic activity. The total labour force in the study area declined 42% between 1981 and 1996. Taylor’s labour force declined by 7%, while Grimshaw saw a vigorous expansion of 38% over the same period. The agriculture labour force declined in the study area between 1981 and 1996 by 30%, compared to increases in both benchmark areas.
- **Unemployment** - Unemployment levels were highest in the 1980s in Hudson’s Hope and Taylor. During the 1990s they leveled off and approached the Canadian unemployment rate. Since 1971, unemployment in the rural regions of the benchmark and study area has been consistently lower than in the three municipalities.
- **Business Activity** - The number of business licences issued by Hudson’s Hope grew sharply between 1976 and 1981, during the Peace Canyon construction period. Over the next ten years the number of licences dropped before stabilizing in the early 1990s.
- **Incomes** - The trend for average family income has been up for all areas between 1971 and 1996, with the strongest growth occurring in Taylor. Combined employment income and self employment income represented 84.4% of the income in Taylor in 1997, while Grimshaw had 79.2%, Hudson’s Hope 77.9% and BC 71.8%.
- **Land Values** - The total taxable assessment trend has been upward for all three communities. The key component of Taylor’s assessed value is the industrial category, which represented 63.4% of the total communities assessed value in 1998. While Hudson’s Hope’s assessed value is primarily based on the residential and utilities classes of property, collectively representing 93.4%.
- **Farm Values** - The trend for the farm value of land and buildings between 1971 and 1996 was up in all three areas. However, much of the price gains occurred between 1971 to 1981.
- **Recreation** - There were no provincial parks or BC Forest Service recreation sites in the study area in 1977. The majorities of the documented recreation facilities were on Crown land and had minimal site improvements. In the case of the majority of the boat launches, only rough road access was provided.

- **Municipal Revenue** - The trend for revenue growth for Taylor and Hudson’s Hope was similar between 1976 and 1981. After 1986, revenue growth in Taylor accelerated and quickly leapt ahead of the revenue collected by Hudson’s Hope and Grimshaw.
- **Municipal Tax Structure** - All three communities saw change in the percentage contribution of various revenue sources between 1989 and 1998. For Taylor, the main source of revenue growth has come from municipal taxation – primarily real property. Meanwhile, Grimshaw has seen a significant rise in sale of services. For Hudson’s Hope the grants-in-lieu category has grown and is an important revenue component.

## 1.4 Impact Analysis

- **Description of Scenarios** - The question being answered in this analysis is as follows: *What are the regional economic impacts of BC Hydro purchasing and managing about 7,000 acres of property acquired mainly in the late 1970s under the Site C purchase program?* In order to answer this question, two scenarios were established, the first being the **Status Quo** and the second (**No Purchase**) assuming the Site C lands had not been purchased.
- **Summary of Accounts** – A series of accounts were established to evaluate trends, comparisons and impacts. The trends and comparisons are summaries of the account analysis. Trends refers to changes in the account over time while comparisons refers to the performance of the study area versus the two benchmark areas.
- **Economic Development Account Impacts:**
  - **Population:** No identifiable impact on Hudson’s Hope.
  - **Incomes:** No impact on family income in rural and urban areas.
  - **Agriculture:** No regional impact but some negative farm level impacts.
  - **Mining and Forestry:** No impact.
  - **Other Goods-Producing Sectors:** No impact on manufacturing, construction or utilities.
  - **Service-Producing Sectors:** No regional impacts, but some minor impacts on tourism and secondarily, retail/commercial development in Lynx Creek.
- **Community Account Impacts:**
  - **Municipal Land Values, Farm Values:** No impact.
  - **Recreation:** No regional impact, small property level impacts.
- **Municipal Revenue Account Impacts:**
  - **Municipal Revenues:** No impact.
- **Related Issues and Impacts** - During the course of the project there were numerous issues raised about impacts of Site C land ownership and management in the study area. However, it was not always possible to come up with suitable measures against which the impacts could be objectively measured. General discussions about impacts were carried for the following issues:
  - Highest and Best Use of Land;
  - Land Stewardship;
  - Infrastructure Conditions; and
  - Business Climate.

## 1.5 Recommendations

- **Review of Leasing Policy** – survey respondents indicated that changes to BC Hydro lease policy, such as extending lease terms to 20 years, has created more interest in undertaking development on Site C lands. However, others have stated that there are still many barriers to leasing that deters

economic activity from moving forward. It may be that a combination of longer term leases with adequate compensation packages in the event the dam is built that would assist community development without foregoing future land use for Site C development. Other suggestions from the interview program included the following:

- The use of plain language leases so lessee's find it easier to review documentation.
- Develop a new land owner/lessee list for Site C lands, that accounts for all held, leased and adjacent lands. The current list includes a number of deceased.
- Undertake mapping and delineation of BC Hydro lands – owned, leased and impacted as well as adjacent properties. Identify status of all BC Hydro properties (ALR/ Residential).
- Determine best use of land, taking into account the land classification and logical use. In some cases (e.g. Lynx Creek, Bear Flats) leases made for grazing purposes were negotiated as though they were for town lots.
- Consider working with a local stakeholder group to develop leasing criteria and increase the transparency of land use decision-making.
- Undertake appropriate advertising of lease properties including:
  - Post Office in Hudson's Hope (flyer)
  - Monthly District of Hudson's Hope newsletter
  - Local newsletter (published bi-monthly)
  - Free regional papers (i.e. Peace Country Farmer, The Northerner, The Northern Horizon)
  - Letter or newsletter to impacted users (per above)
- **Enhance communications** by:
  - Stating the current “official” position of BC Hydro on Site C and other issues. Many stakeholders are not up-to-date as they are now the heirs of the original land owners and may not have been involved in original discussions and negotiations.
  - Distributing information about the lease program (e.g. offering of 20 year lease, shared-risk in the event of early lease termination, the rules of compensation) by BC Hydro.
  - Distributing information about BC Hydro in the community and valley, such as initiatives, key staff and contact information.
  - Promoting the results of this study focusing on neutral information that targets better land management and use.
- More participation with **stewardship** and agricultural issues, including:
  - Having a local land manager experienced in both agricultural and environmental practices, or with access to such expertise. This would assist with agriculture and community development. In combination with a more flexible leasing policy this may create a better environment for increased land productivity while managing leaseholder risk.
  - Delineating (per bullets under lease) and posting/advertising land status to better help private landowners and BC Hydro lessee's with trespassing problems.
  - Regularly reviewing, independently, lease lands to see that lessees are meeting lease conditions. Weed problems on leased lands that are affecting adjacent private land are the responsibility of the lessee, and appropriate controls should be enforced.
- **Further Clean Up of Lynx Creek** – although most buildings in Lynx Creek have been razed, there is still trash and debris, some of it considered a safety hazard, on many of the sites. Clean up would improve the look of the area perhaps stimulate more interest in seeking some productive use of the land.
- **Joint Economic Development Planning** – some joint planning between BC Hydro, the District of Hudson's Hope and the Peace River Regional District for future economic development should take place in relation to BCH-held lands. It is possible that many of the impacts related to lost

opportunities on these lands could be minimized, or even reversed, through strategic and collective action. Issues like land management policies, business climate and sectoral development (e.g. tourism) could be enhanced through joint planning.

## 2 Introduction

### 2.1 Project Background

BC Hydro's Peace River generation facilities are located within the District of Hudson's Hope in northeastern BC. The WAC Bennett Dam, which straddles the Peace River Canyon, was completed in 1968 and impounds the 1,773 square kilometre Williston Reservoir. At the dam is the GM Shrum generating station, where 10 generating units have a generating capacity of more than 2,730 megawatts.

The Peace Canyon Dam is just 23 kilometres downstream. It was put into operation in 1980. Water that has already generated power at GM Shrum generates electricity again at the Peace Canyon Generating Station. The Peace Canyon plant has a generating capacity of 700 megawatts. Together, Peace Canyon and GM Shrum provide 31% of the electricity for BC Hydro's system.

Site C would be the third part of the Peace River hydroelectric development. It would be located about 80 kilometres downstream of Peace Canyon Dam. It would also generate electricity with the water that passed through GM Shrum and Peace Canyon, and would have a generating capacity of about 900 megawatts – an increase of about nine percent to BC Hydro's generating resources.

In order to prepare for Site C, BCH began a passive land acquisition program in the 1970s, where owners of the land who would be directly impacted by the project had the option of selling their property to BCH. As of 2001, BC Hydro has acquired approximately 7,000 acres of property on the north side of the Peace River between Hudson's Hope and Fort St. John for the Site C hydroelectric project. More than 85 percent of this land was acquired prior to October, 1982.

The reserve of lands by BCH has concerned local residents. Notwithstanding recent changes to lease arrangements, local residents have suggested that ownership, land use constraints and de-population have limited economic opportunities in the region.

The objective of this study is to determine the regional economic implications of BCH and the Crown holding Site C lands for potential future hydroelectric development.

### 2.2 Methodology

The research methodology for this project involved two key areas. First, a literature review was undertaken focusing mainly on Site C planning studies and reports commissioned by BC Hydro in the 1970s and early 80s. This documentation has provided most of the content on historical land use and economics. The other research focus has been on creating a reasonably reliable picture of economic and community change from the 1970s to the present time. For this to happen, a series of key questions had to be answered by the study project team:

1. What would be the assessment model for analysing impacts?

This profile (and the impact analysis which will follow in the final report) is structured around a framework approved by the study project team in June, 2001. Three main accounts (economic

development, community and municipal revenue) and related sub-accounts were established for analysing the economic data. A series of measures and sources for each account was also designed and approved. The majority of measures required Census data from Statistics Canada.

2. What would be the base year for the analysis?

The bulk of the BC Hydro Site C lands purchase program took place during the 1978 to 1981 period. Therefore, a baseline would have to be established before 1978 with the 1976 Census year suggested as the logical starting point. However, extensive discussions with Statistics Canada economists and statisticians led to the decision that was supported by the project team to move the base year back to 1971 instead. The 1976 Census was impaired by numerous methodological problems which would not have enabled a consistent time series to be developed together with other Census years.

3. Which communities would serve as benchmarks for the analysis?

The project team wished to compare economic change in the study area with one or two benchmark areas. In order to facilitate the analysis, communities with a similar geography, economy and population would be required. Based on these criteria, the District of Taylor, BC and the Town of Grimshaw, Alberta were selected as benchmark areas for the analysis.

4. What would be the study area and benchmark geography?

Prior to collecting data, it was necessary to specify the geography for the study area as well as for the two benchmark areas against which study area data could be compared. It was not possible to use only municipal boundaries as this would have excluded rural area populations and economic activity (especially agriculture) from the analysis. Defining a rural area geography was particularly important in regards to Census information because Statistics Canada aggregates and publishes data only for municipalities and Census Subdivisions. The project team wished to establish the geography as near to the Site C reservoir area as possible which effectively excluded the available published Census information from StatsCan as a data set. While data for the District of Hudson's Hope was available, data for the downstream rural areas along the Peace River were rolled up into a single Census Subdivision covering the entire North Peace. A similar broad area roll-up hampered the benchmark areas. Enumeration maps were subsequently analysed and a more precise Census geography determined for all three areas. It was then possible to make a special data request from Statistics Canada for the three areas. A detailed description of the three area boundaries is provided in Appendix 1.

There are two other major sources of data for the profile. The recreation sub-account is based on information from BC Parks, BC Forest Service and other agencies including BC Hydro. The municipal revenue account uses data obtained from the Ministry of Municipal Affairs and the District of Hudson's Hope. Not all this data was available back to 1971 or even 1976 so some analyses work with a shorter time frame.

An interview program with landowners and lessees in Hudson's Hope and affected rural areas was conducted to determine study area land management issues and impacts. A total of 57 people were interviewed in-person, by telephone or in a group interview. One written submission was received. Interview respondents are listed in Appendix 2, while comments are summarized in Appendix 3.

## 3 Historical Land Use Setting

### 3.1 Site C Lands and BC Hydro Acquisition

BC Hydro owns about 7,000 acres on the north side of the Peace River between Hudson's Hope and Fort St. John for the Site C hydroelectric project. This property was acquired mainly in the 1970s and early 1980s under a passive acquisition program where land owners who were directly impacted by the project had the option of selling their property to BC Hydro.

In its *Land Acquisition Policy* pamphlet, BC Hydro explained its "Responsive Program" of land purchase prior to BC Utility Commission (BCUC) hearings. Some landowners had expressed a desire to sell their property to BC Hydro in advance of a final decision on the project. Negotiations were based on a fair market value. Approximately \$6.2 million was spent on purchasing properties, the majority during the 1977 to 1981 period when the larger rural land parcels were obtained. Many of the smaller, residential properties in Hudson's Hope (Lynx Creek) were purchased in 1990. Only land acquired in this manner is presently owned by BC Hydro. All of these sales are subject to a "buy back" policy in which former owners can repurchase their land at the original sale price in the event the project does not proceed.

At present, wherever possible, farmland and ranchland acquired by BCH is being maintained in productive use, either by leasing it back to the original owner or to another tenant where the original owner did not elect to remain. At the time of acquisition, the intent was that control of agricultural properties was to be accomplished through selection of tenant, terms of the lease agreement, and strict cropping, fertilization, weed and pest control and grazing practices. Currently, on lands leased out by BC Hydro, it is the responsibility of the tenant to control weeds. If it is brought to BC Hydro's attention that this is not being done, the company will contact the tenant to remedy the situation or remedy the situation itself. On non-leased land, BC Hydro has a program in place to manage weed control.

While there are no immediate plans to begin building Site C, BC Hydro intends to retain the lands to facilitate potential for future hydro electric generation. In the meantime, several modifications in land management have been made. BC Hydro has recently offered lease terms of up to 20 years and would consider proposals for risk sharing on physical improvements that would enhance the use of the land. As of September 1999, 6000 acres has been leased (about 40% by former owners) and 600 acres are available for lease. The remaining 400 acres are not suitable for lease.

### 3.2 Settlement Patterns<sup>1</sup>

From 1883 to 1930 the Government of Canada was responsible for land management in the "Peace River Block", a 3½ million acre block extending from about Hudson's Hope to the Alberta border and from some 30 miles north of Fort St. John to 10 miles south of Chetwynd and Pouce Coupe. The first major influx of settlers in the Peace River region occurred in the early 1900s. Township surveys were done at this time and lands around Pouce Coupe, Rolla and Fort St. John were occupied by pre-emption. About 40 families were established at Hudson's Hope by 1912.

<sup>1</sup> Thurber Consultants Ltd., Peace River Site C Hydroelectric Development General Land Use Studies, 1 March 1979.

During the 1930s and 1940s, settlement began to expand but almost all social and commercial contacts were with Alberta, since there were no rail or road connections with southern BC. A spurt of development occurred when the Alaska Highway was completed from Dawson Creek north in 1942 and opened to the public in 1946. Further settlement was encouraged by development of the John Hart-Peace River Highway between Prince George and Dawson Creek. Population growth and settlement in the 1960s and 1970s was associated with expansion of non-agricultural industries, principally forestry, oil and gas.

By 1952, a marked difference in settlement and ownership patterns had evolved on the north and south banks of the Lower Peace River. Except for pockets of private land on the south bank near Hudson's Hope, Taylor and the Alberta border, all land was still in Crown ownership. In contrast, all land along the north bank was privately owned except for a few pockets of Crown land near Attachie, Bear Flat and Golata Creek. After 1952, land alienation<sup>2</sup> extended northward from the Peace River between Hudson's Hope and Wilder Creek. Virtually no settlement has occurred on the south bank between Hudson's Hope and South Taylor. Another factor in settlement was the work of the Wenner-Gren interests in the 1950s. The Swedish industrialist, Dr. Axel Wenner-Gren, had ambitious plans for railway, hydro-electric and resource development in the region, which he referred to as the Rocky Mountain Trench project. The province provided Crown reserves on some of the surveyed lands in return for the investments made by Wenner-Gren. These reserves were protected from further alienation by the Crown.

### 3.3 Affected Lands<sup>3</sup>

Lands within the direct zone of influence of the Site C development can be grouped into four broad categories.

- Land to be flooded by the reservoir – 4,600 hectares (11,500 acres)
- Watercourse to be flooded by the reservoir – 4,840 hectares (12,100 acres)
- Low bank land unavailable for residential use around the reservoir – 840 hectares (2,100 acres)
- Other altered land – 480 hectares (1,200 acres)

### 3.4 Historical Land Use

#### 3.4.1 Overview

Land uses along the Peace River still reflect early settlement patterns and have not altered significantly even though there has been extensive development in forestry and oil & gas extraction in the last two decades.

Within the Peace River Valley between Site C and Peace Canyon, agricultural, wildlife habitat and recreation have been favoured land uses because of a desirable micro-climate. Floodplain features,

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<sup>2</sup> The process by which Crown Land is given a tenure that can be registered. In the region, this typically involved a lease-development purchase agreement, with an option to purchase.

<sup>3</sup> *Peace River Site C Hydroelectric Development Environmental and Socio-Economic Assessment Summary*, Thurber Consultants Ltd, March 1979.

wind protection and a slightly longer frost-free period distinguish the valley from the surrounding plateau.

Agricultural land uses have developed on all accessible benches along the north bank upstream of Site C. Residential uses consist of scattered farmsteads along the north bank and subdivision developments within the District of Hudson’s Hope. Industrial uses upstream of Site C are restricted to gravel pits and a few gas wells. There are very rustic campsites and recreational facilities along this portion of the valley, with the only commercially developed facilities at Lynx Creek and Cache Creek. Highway 29 is the only transportation corridor along the valley.

Farming and ranching operations have generally consisted of a combination of deeded land and Crown land held under lease-development-purchase, grazing lease or grazing permit. In general, ranches contain more Crown land than deeded land. The Crown land in most cases has not been highly developed. Rural residential holdings along Highway 29 had sizes of up to 100 acres, but residential lots within Lynx Creek and Hudson’s Hope sub-divisions were mostly less than one acre in size.

In 1977, BC Hydro conducted a parcel survey of about 400 private properties on the north bank of the Peace River. The primary use in 1977, the acreages affected and potential future uses were determined for parcels grouped together by common ownership. A summary of survey results by primary use (i.e. prevailing use at the time of the survey – many properties were used for multiple purposes but only primary use is shown) category is shown in Table 3-1.

**Table 3-1: Land Use Status of Surveyed Lands, 1977**

Primary Use	Acreage	Percent of Total	Location
Cultivated agricultural land	3,143.68	50.6	Lower benches and floodplain of Peace River Valley
Grazing and improved pasture	2,238.39	36.1	Upper benches of Peace River Valley
Industrial	400.90	6.5	Near proposed dam site at Fort St. John
Residential and related	356.45	5.7	Lynx Creek, Hudson’s Hope
Wildlife habitat	69.41	1.1	Near proposed dam site, Farrell Creek
Total	6,208.83	100%	

Source: *Peace River Site C Hydroelectric Development General Land Use Studies*, Thurber Consultants Ltd., March 1979.

As shown, more than 86 percent of the affected land was used for agricultural purposes, either as cultivated agricultural land or grazing/improved pasture. Most of this land is scattered along the north bank of the Peace River between the proposed dam site near the mouth of the Moberly River and Lynx Creek. The industrial land is clustered in five parcels on the north bank adjacent to the proposed dam site. The residential properties are located primarily at Lynx Creek, with minor pockets at Hudson’s Hope, Bear Flat, Attachie and Farrell Creek.

### 3.4.2 Agriculture

In the Canada Land Inventory (CLI) lands are grouped into seven classes depending on their potential and limitations for agricultural use. The basic criteria used for this grouping are the inherent soil, climate and landform characteristics.

The first three classes are considered capable of sustained production of a wide range of common cultivated crops with the range of crops decreasing from class 1 to class 3. Land designated class 4 is considered marginally capable of producing a narrow range of crops. Class 5 is capable of permanent forages, with class 6 capable of use for natural grazing. Lands rated as class 7 are considered to have no capability for agricultural use.

In the Site C reservoir area, where many of the subject lands are located, the majority of lands are classified as class 2 and 7.

**Table 3-2: Peace River Valley and Site C Land Area by Agricultural Land Capability Classification**

Capability Class	Description	Peace River Valley		Site C Reservoir	
		Ha.	% of Total	Ha.	% of Total
1	<i>Optimum potential, full range of crops</i>	2,464	9.6	100	1.6
2	<i>Wide range of crops, some restrictions</i>	12,502	48.7	2,300	37.9
3	<i>Wide range under good management</i>	1,765	6.9	520	8.6
4	<i>Restricted range, several limitations</i>	2,116	8.3	240	4.0
5	<i>Perennial forage crops, severe limitations</i>	932	3.6	340	5.6
6	<i>Natural rangeland, no cultivation</i>	3,212	12.5	580	9.6
7	<i>No agricultural capability</i>	2,656	10.4	1,992	32.8
Total		25,647	100.0%	6,072	100.0%

Source: Peace River Site C Hydroelectric Development Environmental and Socio-Economic Assessment, Agriculture, March 1979

Production on agricultural land in 1978 on the eight farms which would have been affected by Site C reservoir flooding was estimated as shown in Table 3-3. The use to which agricultural land is put is a reflection of market conditions, regional agricultural practices, land tenure, infrastructure and socio-cultural preferences of the producer. In many instances, use does not necessarily reflect the potential of the land in terms of its capability and productivity of certain crops. In the late 1970s, most agricultural activities within the Peace River Valley reflected the agriculture of the region and involved the production of grain and forage crops. These activities were generally all land-based with a number of the farm units having associated cattle operations that used a portion of the land base for pasture and livestock feed production. A minor amount of potato production occurred on one of the farms but no other vegetables were produced.

Before dam construction, a good deal of prime vegetable production land in the study area was subject to seasonal inundation, which restricted development. Market and infrastructure conditions also did not favour production. With the construction of WAC Bennett dam, interest in vegetable production picked up but the lack of a suitable infrastructure, difficulty in gaining access to information and marketing resources, unfavourable market conditions and the placement of flood reserves (which prohibit Crown land alienation on a conventional lease development basis) constrained development of the more intensive production options.

**Table 3-3: Agricultural Use Status on Site C Farms, 1978**

Status	Hectares	% of Total	% of Site C Reservoir Total	% of Site C Reservoir High Capability Land <sup>4</sup>
<b>Cultivated</b>				
Grain	424	47.9	7.0	14.5
Potatoes	36	4.1	0.6	1.2
<b>Uncultivated</b>				
Forage and grasslands	424	47.9	7.0	14.5
<b>Total</b>	884	100.0 %	14.6%	30.2%

Source: Peace River Site C Hydroelectric Development Environmental and Socio-Economic Assessment, Agriculture, March 1979

### 3.4.3 Forestry

According to a 1978 forest resource assessment commissioned by BC Hydro, there has been an historical lack of logging activity within the proposed Site C pondage area. Most of the forest land that would be flooded is on islands and alluvial flats on the north-facing bank of the river. Many of the alluvial flats on the south-facing bank have been cleared for agriculture and the steeper slopes are typically vegetated by open grassland with scattered aspen copses. The total forested area affected by the project is outlined in Table 3-4. As seen, only a small portion, about 8%, of the total land base affected by Site C is considered productive forest on the north bank.

**Table 3-4: Forested Areas Affected by Site C Project, 1978**

	Dawson Creek SSA*		Peace PSYU**		Total	
	Ha.	% of Total Site C Land	Ha.	% of Total Site C Land	Ha.	% of Total Site C Land
Merchantable Timber	709	13.0	241	4.4	950	17.4
Non-merchantable Timber	2,289	41.9	218	4.0	2,507	45.9
Total Productive Forest Land	2,998	54.9	459	8.4	3,457	63.3

\* SSA (Special Sale Area). Similar boundaries to the Dawson Creek TSA within the study area: i.e. the south bank of the Peace R.

\*\* Similar boundaries to the Fort St. John TSA within the study area: i.e. the north bank of the Peace River.

Forest resource assessments conducted in the late 1970s and 1980s only assessed Crown timber and did not document private inventories and sales. Other resource analyses, including both general land and agriculture, did not identify any timber harvesting or processing activities on private lands. Thus, the exact area of productive forest land on the subject properties is not known. A review of forest capability maps shows most of the capable forest land to be Crown-owned, either on Peace River islands, right around south-flowing drainages including Wilder, Cache and Farrell creeks and Halfway River, or along Highway 29 between Farrell Creek and Hudson’s Hope. The only subject properties with a significant area of merchantable forest volumes are immediately west of Bear Flat between the highway and the river.

In 1976, there were five principal licensees and mill operators in the Peace region, two in Chetwynd and one in each of Taylor, Fort St. John and Dawson Creek. There were no facilities in Hudson’s

<sup>4</sup> i.e., classes 1 to 3.

Hope. Sawmills were principally producing dimension softwood lumber for the US market. Hardwood species were utilized only in very low volumes.

#### **3.4.4 Recreation and Tourism**

In the late 1970s, tourism activity in the study area was not significant in terms of total regional tourism, as it was estimated that less than one percent of tourist days and slightly more than one percent of visitor spending were accounted for by the study area<sup>5</sup>. The river itself was the primary recreational feature. The bulk of activity occurred on Crown land, primarily for fishing and general recreation such as boating. Most fishing occurred between Peace Canyon and the Halfway River and was directed at rainbow trout, mountain whitefish and arctic grayling. Some good hunting opportunities existed for moose, deer and black bear as well as upland birds. General recreation typically involved sightseeing, nature study, hiking, camping, picnicking, snow shoeing, cross-country skiing and snowmobiling.

There were very few built tourism resources in the study area, as access to the river and built facilities were limited. Access was limited to seven mostly rustic boat launching sites along an 80 kilometre stretch, but only two of these were considered major access points. By and large, private land owners were not involved in the tourism sector. There were three guide outfitters licensed in the study area, but since their clients usually sought a wilderness experience they tended to guide in the backcountry and avoided developed or easily accessed areas such as the north bank of the Peace River.

#### **3.4.5 Miscellaneous Resources<sup>6</sup>**

An operating gravel pit was purchased by BC Hydro from Riverview Sand and Gravel in 1979 during the land acquisition program. The pit was located near the proposed dam site in the vicinity of the Fort St. John dump (Old Fort area). Although Site C development would have inundated numerous gravel bars, large quantities of gravel would have remained above full supply level between Bear Flat and Hudson's Hope. The gravel supplies below full supply level were not significant in relation to overall local supply and were barely used prior to 1979. Today, the Ministry of Transportation and Highways is extracting gravel from a BC Hydro property picked up during the purchase program – it is located just off Highway 29 approximately halfway between Bear Flat and Attachie.

The potential for additional oil and gas production from the strata underlying the Site C reservoir area was identified in the early 1970s, but the preferred locations for drill sites tended to be on the plateau and not in the valley. No mineral resources other than coal were identified, and the coal itself was considered virtually uneconomic because it was so deep underground.

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<sup>5</sup> *Peace River Site C Hydroelectric Project: Tourism Impact Study*, Canadian Resourcecon Limited, January 1980.

<sup>6</sup> *Peace River Site C Hydroelectric Development Environmental and Socio-Economic Assessment Resource Evaluation Study*, Canadian Resourcecon Limited, March 1979.

### **3.4.6 Residential<sup>7</sup>**

In 1979, Hudson's Hope had 350 housing units, split evenly between mobile homes and conventional detached and row structures. BC Hydro and its Peace Canyon contractor, Atkinson-Commonwealth, owned 132 of the conventional units and 43 pad lots for mobile units.

The primary impact of the Site C development upon residential land use would be concentrated in the Lynx Creek subdivision of the District of Hudson's Hope. Approximately 63 parcels were identified as being either subject to flooding or affected by poor drainage or road relocations.

Housing supply and residential development needs in the late 1970s in Hudson's Hope were considered adequate given the following circumstances:

- At least 210 hectares were available within the municipality and the immediate vicinity for residential development.
- The existence of 70 vacant serviced lots, many large enough to be subdivided.
- Large holdings by the Provincial Ministry of Lands, Parks and Housing within the serviced area of town.
- Winding down of Peace Canyon construction and the anticipated out-migration of construction workers.

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<sup>7</sup> *Peace River Site C Hydroelectric Development Environmental and Socio-Economic Assessment: Regional Economics Update*, Canadian Resourcecon Limited, December 1980.

## 4 Historical and Current Economic and Community Setting

### 4.1 Economic Development Account

#### 4.1.1 Population

Table 4-1 outlines the population for the Hudson’s Hope area (rural and municipal) as well as the two benchmark areas, Taylor and Grimshaw (rural and municipal). While the boundaries used for the municipal components have remained stable over time, the rural boundaries have fluctuated somewhat between census periods because they are made-up of varying enumeration areas.<sup>8</sup> However, the general population trends are still valid.

**Table 4-1: Population Change for Hudson Hope, Taylor and Grimshaw**

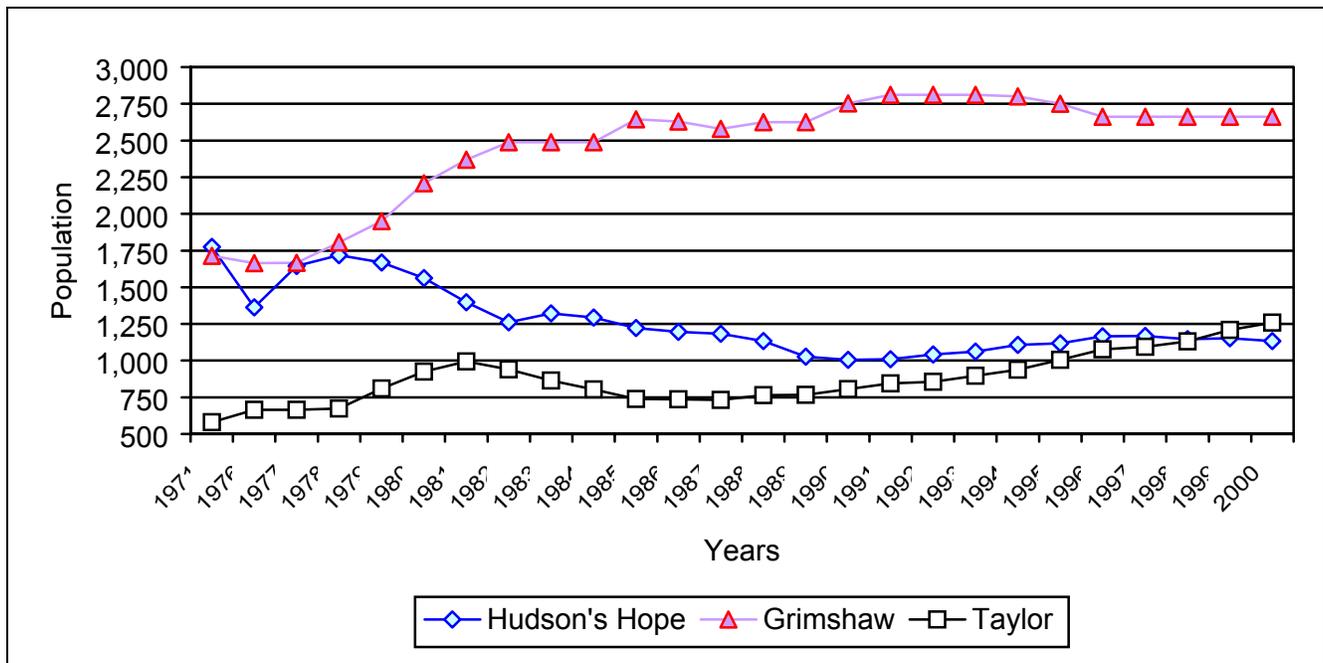
	1971		1981		1986		1991		1996	
	Pop	% of '81	Pop	% of '81	Pop	% of '81	Pop	% of '81	Pop	% of '81
Hudson’s Hope	1,755	120%	1,465	100%	1,055	72%	985	67%	1,125	76%
Rural Hudson’s Hope	2,555		2,385		1,620		970		1,275	
<b>Total HH Area</b>	<b>4,310</b>		<b>3,850</b>		<b>2,680</b>		<b>1,955</b>		<b>2,395</b>	
Taylor	580	57%	1,025	100%	715	70%	820	80%	1,030	101%
Rural Taylor	1,975		1,905		1,725		1,660		1,410	
<b>Total Taylor Area</b>	<b>2,560</b>		<b>2,930</b>		<b>2,435</b>		<b>2,480</b>		<b>2,440</b>	
Grimshaw	1,780	80%	2,240	100%	2,435	109%	2,810	125%	2,645	118%
Rural Grimshaw	2,170		1,690		2,030		1,685		1,785	
<b>Total Area</b>	<b>3,950</b>		<b>3,935</b>		<b>4,465</b>		<b>4,490</b>		<b>4,435</b>	
<b>Canada</b>	<b>21.6M</b>	<b>90%</b>	<b>24.1M</b>	<b>100%</b>	<b>25.0M</b>	<b>104%</b>	<b>26.9M</b>	<b>112%</b>	<b>28.5M</b>	<b>118%</b>

Source: Statistics Canada: Census periods 1971, 1981, 1986, 1991, and 1996.

Figure 4-1 illustrates the change in population for the urban components of Taylor, Hudson’s Hope, and Grimshaw between the census periods from 1971 and 2000. The year to year change in population provided by Figure 4-1 helps to pin point more precisely when population changes occurred for the municipalities of Taylor, Hudson’s Hope and Grimshaw.

<sup>8</sup> See Appendix 1 for discussion on the selection and make-up of the rural and municipal boundaries for the three study areas.

**Figure 4-1: Change in Population for Taylor and Hudson’s Hope (1971 to 2000)**



**Trend**

Figure 4-1 illustrates that the urban component of Hudson’s Hope population declined between 1971 and 1976 before recovering between 1976 and 1978. After 1978 the population trended downwards for the next 13 years, bottoming in 1991 before recovering slightly. In 1971 the Hudson’s Hope population was 1,755 while, in 2000 it was estimated at 1,135, highlighting the overall decline for the community.<sup>9</sup> The rural component of Hudson’s Hope has also seen the population generally trend down over the last three decades.

Meanwhile Taylor and Grimshaw have generally seen their population trend up over the 1971 to 2000 period. The urban component of Taylor experienced population declines between 1981 and 1988 before entering a growth phase that lasted from 1988 to 1999. In 1971, Taylor had a population of 580; however, by 2000 the population was 1,260. In Grimshaw the community entered a strong period of growth between 1976 and 1983 before settling into a more modest growth rate that lasted until 1993. Between 1993 and 1996 Grimshaw lost a small number of residents. Since 1996 the Grimshaw population has been flat with 2000 population estimated at 2,660 residents. The rural components for the two benchmark areas have generally experienced population declines over the 1971 to 1996 period.

**Comparison**

In 1971 Hudson’s Hope had the same population as Grimshaw and three times the population as Taylor. Over the entire 1971 to 2000 period, Hudson’s Hope has clearly lagged behind the two benchmark areas. Based on 2000 population estimates, Hudson’s Hope is now the smallest community – slightly smaller than Taylor and just under half the size of Grimshaw. While Hudson’s Hope has

<sup>9</sup> 2000 population estimates are from BC Stats for Taylor and Hudson’s Hope and Alberta Municipal Affairs for Grimshaw.

declined, both urban components of Taylor and Grimshaw have maintained growth that is comparable to the Canadian average between 1981 and 1996.

#### **4.1.2 Age Distribution**

As highlighted in the previous section, the population has declined in Hudson's Hope between 1981 and 1996, while managing to grow in the two benchmark areas. A closer look at the age distribution of the local population can provide some insights into the structure and implications of that change. Table 4-2 outlines the age distribution for the urban and rural areas for the study area and two benchmark areas and Canada between 1971 and 1996.

##### **Trend**

Several observations can be made regarding the trends in the various areas over the time period including:

- The number of residents in the **0 to 19 age group** has steadily declined over the 1971 to 1996 period in all areas.
- In 1971 the percentage of population in the **35 to 64 age group** for all three areas was noticeably below the average for Canada. However, over time the average for the Hudson's Hope area and the two benchmark areas had risen until in 1996 they had a larger percentage of the population in the 35 to 64 age group than Canada.
- The percentage of the population **over the age of 65** climbed in the Hudson's Hope area between 1971 to 1991 before dropping significantly between 1991 and 1996. Grimshaw and Taylor had relatively consistent percentage of their population in the over 65 age category over the 1971 to 1996 period.

##### **Comparison**

Several comparisons can be made regarding age distribution including:

- Over the period 1981 to 1996, both rural and municipal components of Grimshaw, Hudson's Hope, and Taylor had a significantly larger percentage of their populations **under the age of 19** than observed in Canada.
- The two benchmark areas and Hudson's Hope exceeded the national average in 1971 for percentage of the population in the **20 to 34 age group**. By 1981, the two benchmark areas continued to exceed the national average for percentage of the population in the **20 to 34 age group**, while Hudson's Hope was relatively close to the national average. However, by 1996 the 20 to 34 age group, typically the most mobile component of the labour force, had fallen below the national average in the two benchmark areas and the study area (including both municipal and rural).
- In 1996 the combined municipal and rural combined average in the **20 to 34 age group** was the lowest in the study area, although rural Taylor had the lowest individual score with only 13.8%.
- Between 1981 and 1996 Hudson's Hope has maintained the highest percentage of its population in the **35 to 64 age group** when compared to the other two benchmark areas and Canada.

**Table 4-2: Age Distribution for Hudson's Hope, Taylor and Grimshaw**

	Hudson's Hope	Rural HH	Total HH Area	Taylor	Rural Taylor	Total Taylor Area	Grimshaw	Rural Grimshaw	Total Grimshaw	Canada
<b>1971</b>										
<b>0 to 19 years</b>	45.9%	50.8%	<b>48.7%</b>	53.6%	47.0%	<b>48.3%</b>	46.1%	44.1%	<b>45.2%</b>	<b>39.4%</b>
<b>20 to 34 years</b>	26.2%	24.1%	<b>25.1%</b>	25.0%	21.6%	<b>22.3%</b>	24.4%	15.6%	<b>19.6%</b>	<b>22.2%</b>
<b>35 to 64 years</b>	26.5%	21.8%	<b>23.6%</b>	19.6%	26.4%	<b>25.0%</b>	23.3%	31.5%	<b>27.8%</b>	<b>30.4%</b>
<b>65 + years</b>	1.4%	3.3%	<b>2.5%</b>	1.8%	5.1%	<b>4.3%</b>	6.2%	8.7%	<b>7.4%</b>	<b>8.1%</b>
	100.0%	100.0%	<b>100.0%</b>	100.0%	100.0%	<b>100.0%</b>	100.0%	100.0%	<b>100.0%</b>	<b>100.0%</b>
<b>1981</b>										
<b>0 to 19 years</b>	42.0%	41.3%	<b>41.5%</b>	40.4%	44.1%	<b>42.6%</b>	36.9%	39.8%	<b>38.2%</b>	<b>32.3%</b>
<b>20 to 34 years</b>	20.8%	29.1%	<b>25.9%</b>	38.4%	28.2%	<b>31.7%</b>	32.4%	20.8%	<b>27.4%</b>	<b>27.1%</b>
<b>35 to 64 years</b>	32.4%	27.0%	<b>28.8%</b>	21.2%	25.1%	<b>24.0%</b>	24.5%	32.9%	<b>28.3%</b>	<b>31.5%</b>
<b>65 + years</b>	4.8%	2.5%	<b>3.8%</b>	0.0%	2.6%	<b>1.7%</b>	6.3%	6.5%	<b>6.1%</b>	<b>9.1%</b>
	100.0%	100.0%	<b>100.0%</b>	100.0%	100.0%	<b>100.0%</b>	100.0%	100.0%	<b>100.0%</b>	<b>100.0%</b>
<b>1986</b>										
<b>0 to 19 years</b>	31.7%	36.9%	<b>34.6%</b>	39.7%	34.9%	<b>35.7%</b>	37.3%	39.5%	<b>38.2%</b>	<b>29.2%</b>
<b>20 to 34 years</b>	26.9%	24.3%	<b>25.1%</b>	29.1%	23.3%	<b>25.5%</b>	28.7%	21.5%	<b>25.6%</b>	<b>27.0%</b>
<b>35 to 64 years</b>	35.1%	36.3%	<b>35.8%</b>	31.2%	37.2%	<b>35.3%</b>	26.4%	33.5%	<b>29.6%</b>	<b>33.8%</b>
<b>65 + years</b>	6.3%	2.5%	<b>4.5%</b>	0.0%	4.7%	<b>3.5%</b>	7.6%	5.5%	<b>6.6%</b>	<b>10.0%</b>
	100.0%	100.0%	<b>100.0%</b>	100.0%	100.0%	<b>100.0%</b>	100.0%	100.0%	<b>100.0%</b>	<b>100.0%</b>
<b>1991</b>										
<b>0 to 19 years</b>	31.4%	32.8%	<b>32.2%</b>	36.2%	35.2%	<b>35.6%</b>	38.2%	31.7%	<b>35.7%</b>	<b>28.0%</b>
<b>20 to 34 years</b>	20.1%	19.7%	<b>19.8%</b>	23.9%	27.0%	<b>26.5%</b>	27.1%	17.1%	<b>23.3%</b>	<b>25.2%</b>
<b>35 to 64 years</b>	37.1%	38.9%	<b>37.9%</b>	35.0%	32.6%	<b>33.1%</b>	26.8%	42.8%	<b>32.8%</b>	<b>35.9%</b>
<b>65 + years</b>	11.3%	8.6%	<b>10.1%</b>	4.9%	5.3%	<b>4.8%</b>	7.9%	8.4%	<b>8.2%</b>	<b>10.9%</b>
	100.0%	100.0%	<b>100.0%</b>	100.0%	100.0%	<b>100.0%</b>	100.0%	100.0%	<b>100.0%</b>	<b>100.0%</b>
<b>1996</b>										
<b>0 to 19 years</b>	32.1%	35.6%	<b>33.8%</b>	35.6%	38.2%	<b>37.2%</b>	34.1%	31.3%	<b>32.8%</b>	<b>27.5%</b>
<b>20 to 34 years</b>	17.6%	16.8%	<b>17.1%</b>	27.7%	13.8%	<b>20.0%</b>	22.9%	18.0%	<b>21.0%</b>	<b>22.3%</b>
<b>35 to 64 years</b>	42.5%	42.4%	<b>42.7%</b>	31.2%	41.3%	<b>37.2%</b>	34.7%	43.9%	<b>38.2%</b>	<b>38.6%</b>
<b>65 + years</b>	7.7%	5.2%	<b>6.3%</b>	5.4%	6.7%	<b>5.6%</b>	8.3%	6.8%	<b>7.9%</b>	<b>11.5%</b>
	100.0%	100.0%	<b>100.0%</b>	100.0%	100.0%	<b>100.0%</b>	100.0%	100.0%	<b>100.0%</b>	<b>100.0%</b>

Source: Statistics Canada: Census periods 1971, 1981, 1986, 1991, and 1996.

- The study area and two benchmark areas have retained significantly lower percentages of the **retirement age** population than is generally observed in Canada over the 1981 to 1996 period. In 1996, Canada with an average of 11.5% of the population in the **over 65 age category** had nearly twice the percentage of population in the seniors category as Taylor and Hudson's Hope. Grimshaw also lagged far behind the national average with only 7.9% of its population over the age of 65.

#### **4.1.3 Labour Force**

Labour force figures are often used as a surrogate measure of economic activity – the level of employment and its relative change over time is believed to be a valid indicator of the health and competitiveness of a particular economic sector. Total labour force by industry figures for the study area and benchmark areas are shown in Table 4-3. All figures are for the combined rural and municipal geographies for each community. Key trends and comparisons are discussed in the following paragraphs.

##### **Trend**

Key trends include the following:

- The total labour force in the study area declined 42% between 1981 and 1996. Taylor's labour force declined by 7%, while Grimshaw saw a vigorous expansion of 38% over the same period.
- In general, the primary sectors of mining (including oil and gas) and construction have trend downward over the period for all three areas.

##### **Comparison**

Several key comparisons can be made including:

- The agriculture labour force declined in the study area between 1981 and 1996 by 30%, compared to increases in both benchmark areas. During the same period, the Canadian agricultural labour force remained virtually unchanged. While the number of agricultural workers has declined in the study area, it has not dropped as much as the overall labour force (42% reduction between 1981 and 1996).
- There appears to be some divergence in rural versus municipal agricultural employment that is reflected in the study area as well as the two benchmark areas. In the 1990s, declining rural agriculture employment has been offset by stable or increasing municipal agriculture employment. The result is agriculture workers residing in more settled municipal areas versus rural housing.
- Employment in the forestry sector (includes logging and silviculture but not processing) is relatively minor in all three areas. In the study area, employment almost doubled between 1981 and 1996, versus a slight decline in Taylor and solid growth in Grimshaw.
- Since 1981, there has been a significant drop-off in mining/oil & gas, manufacturing and construction employment in the study area. Many of these jobs were tied to the construction of the Peace Canyon hydroelectric facility and were subsequently lost by the end of the 1980s. Taylor also experienced significant declines in these sectors related mostly to internal developments. The completion of the Solex gas plant was a likely contributor to construction declines, while the closure of the Petro Canada refinery contributed to manufacturing job losses. Grimshaw saw little or no declines in these sectors.

**Table 4-3: Labour Force by Industry, Hudson's Hope, Taylor, Grimshaw**

Study Area	Ag.	For.	Fish.	Min/O&G	Man.	Constr.	T&C	Trades	FIRE	Service	PA	Uncl.	Total
1971	115	40	-	75	80	315	290	155	45	320	50	120	1,605
1981	170	35	-	185	100	235	370	330	10	535	125	15	2,110
1986	155	45	-	100	55	140	230	170	20	300	80	20	1,315
1991	140	35	-	45	30	80	230	180	15	245	30	10	1,040
1996	120	65	-	65	35	90	260	175	60	300	35	20	1,225
<b>Taylor</b>													
1971	240	25	-	90	45	60	115	85	10	125	15	130	940
1981	285	50	-	130	150	175	135	110	30	260	30	-	1,355
1986	385	45	-	90	140	50	105	100	25	290	35	15	1,280
1991	400	20	-	130	115	100	135	180	-	260	55	10	1,405
1996	325	40	-	100	85	105	125	135	-	270	55	25	1,265
<b>Grimshaw</b>													
1971	480	10	-	35	25	110	110	235	45	265	85	75	1,475
1981	480	10	-	85	110	265	155	315	55	385	85	-	1,945
1986	540	25	10	85	100	200	235	370	40	545	145	25	2,320
1991	545	35	-	80	70	170	255	485	45	680	160	15	2,540
1996	570	35	10	75	110	245	205	505	65	765	65	35	2,685

Key: Ag. – Agriculture; For. – Forestry; Fish. – Fisheries; Min/O&G – Mining/Oil& Gas; Man. – Manufacturing; Constr. – Construction; T&C – Transportation; Communications and Utilities; Trades – Wholesale and Retail Trade; FIRE – Finance, Insurance and Real Estate; Service – Business Services, Accommodation, Food and Beverage Services, Other Services; PA – Government Services, Education Services, Health Services.

Source: Statistics Canada, Census Years 1971, 1981, 1986, 1991, 1996.

- The transportation and communications sector includes utilities employment and thus captures most BC Hydro operating personnel in Hudson's Hope. A major drop-off in jobs of 38% occurred between 1981 and 1986 as a result of Peace Canyon completion, but there has since been a modest increase. Taylor showed a decline of 7.4% in this sector, while Grimshaw had strong growth of 32% increase. Grimshaw's status as a regional transportation and trucking centre was a major contributing factor.
- Trades employment (including wholesale and retail trade positions) in the study area declined 47% between 1981 and 1996 thereby outpacing the decline in the overall labour force. The loss of trade jobs is to be expected given the decline in population of the area since 1981 as both wholesale and retail personnel tend to serve mostly local businesses and residents. Similarly, increased trades employment in both benchmark areas reflects population gains in those communities.
- Like the trade sectors, the service (business, personal, hospitality) and public administration (government, health, education) sectors tend to rise or fall in relation to changes in population. Major declines in the study area for both these sectors are in contrast to the gains shown in the benchmark areas. The one exception is the decline in public administration employment in Grimshaw.

#### **4.1.4 Location Quotient Analysis**

A key determinant of whether or not a region can develop its basic sectors<sup>10</sup> is its ability to utilize comparative advantages, relative to other economies. For example, if a sector's main competitive factor is price and a region has access to a low cost supply of a commodity critical to that sector, then the region has a comparative advantage.

In this section, we assess location quotients to indirectly determine comparative advantage. A location quotient of 1.0 for a basic sector indicates that the region employs the same proportion of its labour force in that sector as the country does, and that the region has no comparative advantages or disadvantages. A location quotient of greater than 1.0 indicates that relatively more people are employed in that sector, and that there are comparative advantages at work<sup>11</sup>. Conversely, a location quotient of less than 1.0 indicates that there are relatively fewer people employed in that sector, and that there are likely comparative disadvantages hampering further development.

In the case of the non-basic sector (i.e. serving the local market), the location quotients identify import substitution potential. A quotient of less than 1.0 suggests that the region has a service gap relative to the country, more employment is possible for the sector.

Table 4-4 shows location quotients for the census years 1971 through to 1996 for the study area and the two benchmark areas. Canada is used as the base benchmark for all quotients. The location quotients offer some contrasting analysis to the labour force figures presented in the previous section.

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<sup>10</sup> In the Economic Base Theory of development, the sectors bringing monies into an area are viewed as the driving forces and are collectively referred to as the Basic Sector. Such diverse economic levers as sawmills which largely export, hotels and even pensions are in the Basic Sector because they have the common characteristic of bringing money into an area from outside. The various enterprises which service the Basic Sector and its employees are collectively referred to as the Non-Basic Sector. It can include business services such as lawyers, local government enterprises and non-profit initiatives.

<sup>11</sup> The comparative advantages are not identified. The location quotient analysis assumes the logic that if a region has proportionally more employment than what it is being compared against (in this case, Canada), the region possesses comparative advantages vis-à-vis the benchmark (Canada). The comparative advantages are relative so using another benchmark, such as BC or another city, would give a different result.

**Table 4-4: Location Quotients Hudson's Hope, Taylor, Grimshaw**

	1971	1981	1986	1991	1996	Long-term Trend
<b>Hudson's Hope</b>						
Ag.	1.28	1.98	2.97	3.71	2.94	↑
For.	2.88	1.93	3.92	4.54	7.52	↑
Fish.	0.00	0.00	0.00	0.00	0.00	–
Min/O&G	2.89	4.85	5.09	3.24	4.59	↑
Man.	0.25	0.25	0.25	0.20	0.20	–
Constr.	3.13	1.74	1.81	1.18	1.30	↓
T&C	2.31	2.18	2.31	2.99	2.95	↑
Trades	0.65	0.93	0.76	1.02	0.83	↑
FIRE	0.67	0.09	0.28	0.26	0.90	↑
Service	0.84	0.87	0.72	0.69	0.66	↓
PA	0.42	0.78	0.81	0.37	0.47	–
<b>Taylor</b>						
Ag.	4.89	5.13	7.56	7.82	7.73	↑
For.	3.30	4.26	4.01	1.91	4.50	↑
Fish.	0.00	0.00	0.00	0.00	0.00	–
Min/O&G	6.35	5.26	4.69	6.90	6.86	↑
Man.	0.26	0.58	0.64	0.56	0.48	↑
Constr.	1.09	2.00	0.66	1.09	1.47	↑
T&C	1.68	1.23	1.08	1.30	1.38	↓
Trades	0.66	0.48	0.46	0.75	0.63	–
FIRE	0.27	0.41	0.36	0.00	0.00	↓
Service	0.60	0.66	0.71	0.54	0.57	–
PA	0.23	0.29	0.36	0.50	0.72	↑
<b>Grimshaw</b>						
Ag.	5.66	6.02	5.85	5.89	6.34	↑
For.	0.76	0.59	1.23	1.85	1.84	↑
Fish.	0.00	0.00	1.19	0.00	1.18	↑
Min/O&G	1.43	2.40	2.44	2.35	2.41	↑
Man.	0.08	0.29	0.25	0.19	0.29	↑
Constr.	1.16	2.11	1.46	1.03	1.61	↑
T&C	0.93	0.99	1.33	1.35	1.06	↑
Trades	1.05	0.96	0.94	1.12	1.09	–
FIRE	0.71	0.53	0.32	0.31	0.45	↓
Service	0.74	0.68	0.74	0.78	0.76	–
PA	0.75	0.57	0.83	0.81	0.40	↓
Key: Ag. – Agriculture; For. – Forestry; Fish. – Fisheries; Min/O&G – Mining/Oil& Gas; Man. – Manufacturing; Constr. – Construction; T&C – Transportation; Communications and Utilities; Trades – Wholesale and Retail Trade; FIRE – Finance, Insurance and Real Estate; Service – Business Services, Accommodation, Food and Beverage Services, Other Services; PA – Government Services, Education Services, Health Services.						

Implications for major economic sectors are as follows:

### **Trend**

- In general, the study area and the two benchmark areas are young, developing economies with a strong reliance on primary economic sectors, including agriculture, forestry and mining/oil & gas. Even though employment in many of these sectors are remaining stable or trending downward in all three areas, the national downtrend is even more pronounced as jobs flow to the service producing sectors of the economy.

### **Comparison**

- Agriculture is a key economic sector for all three areas, especially in Taylor and Grimshaw where the quotients are high and growing. And even though the study area experienced only a small net gain of agricultural jobs between 1971 and 1996, its location quotient more than doubled. This is because the proportion of the agriculture labour force to the total labour force in Canada (the benchmark for the quotients) declined at a faster rate during this period. Thus, while agriculture's share of the total Canadian labour force continues to shrink over time, the shrinkage in the study area agriculture labour force has not been as dramatic.
- In contrast to primary activity, the manufacturing sector of all three areas is considerably less developed, standing well below the national labour force standard. There has been little or no change over time in the relative position of manufacturing in the study area, although activity did strengthen in the two benchmark areas.
- Construction performance in the study area has declined significantly over time as dam building was completed in the study area. While the benchmark areas have shown an overall strengthening construction sector since 1971, the peak period was actually in the early 1980s when major project developments and population were growing strongly.
- Transportation, communication and utilities is an important economic sector for all three communities. In the two benchmark areas, activity is near national standards having declined in Taylor but risen in Grimshaw since 1971. And even though the actual number of T&C jobs in Hudson's Hope has declined over time, it has not declined as fast as the community's total labour force. At the same time, the proportion of T&C jobs within the Canadian labour force has been declining over time. Together, these two forces have driven the study area's T&C location quotient higher.
- Generally, activity in the trade, service and public sectors either is not as robust as national standards or is declining slightly. This is true of all three areas. In the study area, trade performance has actually improved slightly since 1971, whereas it declined in the two benchmark areas. All three areas saw their service sectors decline or remain stable.
- In Taylor, trade, service and financial/insurance/real estate job levels are also well below national norms. The community's proximity to Fort St. John offers a partial explanation for this situation as many Taylor residents will purchase goods and services from businesses located there. Given lower taxes and prices in neighbouring Alberta, there will also be a higher propensity for Taylor residents and businesses to make retail and service purchases in that province. In Grimshaw, only the trades sector remains close to national levels. The distance and travel times to major commercial centres like Grand Prairie, encourages many residents to shop and buy locally.

#### 4.1.5 *Shift-Share Analysis*

Shift-share analysis is a descriptive tool that categorizes the sources of local economic change into three broad sources.

- National: the local changes attributable to national growth patterns changes
- Industrial mix: the changes attributable to the difference between the rate of growth for a particular local sector and the *overall* national growth pattern
- Local competitive shift: the changes attributable to the difference between the rate of growth of a local sector compared to the national growth for that sector

The analysis measures the movement (i.e. shift) of a local economy into faster or slower growth sectors and the community's larger or smaller portion (i.e. share) of the growth occurring in a given economic sector.

As with location quotient analysis, labour force data is used in a shift-share analysis so one shortcoming of the shift-share analysis is that it does not account for productivity increases which could suppress employment levels while sustaining or improving upon other economic measures. In sectors where productivity levels have not changed significantly, the shift-share technique tends to yield reliable information. Table 4-5 shows the changes in the local labour force between 1971 and 1996 attributable to the three economic forces.

#### *Trend*

The national share component will be positive for all industries and all sectors as the total Canadian labour force grew significantly between 1971 and 1996. The industrial mix component will be negative for goods-producing sectors and positive for service-producing sectors for all areas – this is because over the last 25 years there has been a gradual shift in the national labour force structure away from goods and into services. The one exception to these general trends is the public sector, which has downsized nationally in the 1990s.<sup>12</sup>

#### *Comparison*

In terms of overall changes in the total labour force, declines in the study area have occurred mainly because of local factors (as shown in column three), although the industries on which the local economy has been based have also under-performed. The local competitive share performance is an intuitive one. As dam and other construction-related activity rose and fell between 1971 and 1996, the total labour force numbers followed accordingly (i.e. a net loss of 1,411 jobs). In addition, the primary (i.e. agriculture, forestry, mining and fishing) and manufacturing sectors, on which developing rural economies (like the study area and both benchmark areas) usually depend, have seen their contributions to the total labour force decline over the last 30 years. Thus the industrial mix share is negative in all three areas shown.

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<sup>12</sup> According to Statistics Canada the labour force has declined 1.8% or almost 60,000 positions between Government Services, Education, and Health and Social Services.

**Table 4-5: Shift-Share 1971-1996, Hudson's Hope, Taylor, Grimshaw**

	National Share <sup>13</sup>	Industrial Mix Share <sup>14</sup>	Local Competitive Share <sup>15</sup>	Total Shift in Jobs
<b>Hudson's Hope</b>	<i>total change in number of jobs between 1971 and 1996</i>			
Ag.	92	-91	4	5
For.	32	-17	10	25
Fish.	0	0	0	0
Min/O&G	60	-44	-26	-10
Man.	64	-49	-61	-45
Constr.	253	-86	-391	-225
T&C	233	-71	-192	-30
Trades	124	25	-129	20
FIRE	36	18	-39	15
Service	257	276	-553	-20
PA	40	-21	-34	-15
<b>Total</b>	<b>1,191</b>	<b>-60</b>	<b>-1411</b>	<b>-280</b>
<b>Taylor</b>				
Ag.	193	-190	83	85
For.	20	-11	5	15
Fish.	0	0	0	0
Min/O&G	72	-53	-9	10
Man.	36	-27	31	40
Constr.	48	-16	13	45
T&C	92	-28	-54	10
Trades	68	14	-32	50
FIRE	8	4	-22	-10
Service	100	108	-63	145
PA	12	-6	34	40
<b>Total</b>	<b>650</b>	<b>-207</b>	<b>-13</b>	<b>430</b>
<b>Grimshaw</b>				
Ag.	385	-381	86	90
For.	8	-4	21	25
Fish.	0	0	10	10
Min/O&G	28	-21	33	40
Man.	20	-15	80	85
Constr.	88	-30	77	135
T&C	88	-27	34	95
Trades	188	38	43	270
FIRE	36	18	-34	20
Service	213	229	59	500
PA	68	-35	-53	-20
<b>Total</b>	<b>1,123</b>	<b>-228</b>	<b>355</b>	<b>1,250</b>
Key: Ag. – Agriculture; For. – Forestry; Fish. – Fisheries; Min/O&G – Mining/Oil& Gas; Man. – Manufacturing; Constr. – Construction; T&C – Transportation; Communications and Utilities; Trades – Wholesale and Retail Trade; FIRE – Finance, Insurance and Real Estate; Service – Business Services, Accommodation, Food and Beverage Services, Other Services; PA – Government Services, Education Services, Health Services.				

<sup>13</sup> The first column shows what each community's labour force growth would have been had it matched the overall labour force growth in Canada between 1981 and 1991.

<sup>14</sup> The second column shows the portion of local labour force change which can be attributed to the national growth rate for that particular sector, less the overall national growth rate. A positive figure indicates that the local sector is growing faster than the national economy and a negative number suggests the opposite.

<sup>15</sup> The third column is a measure of the competitiveness of local operations.

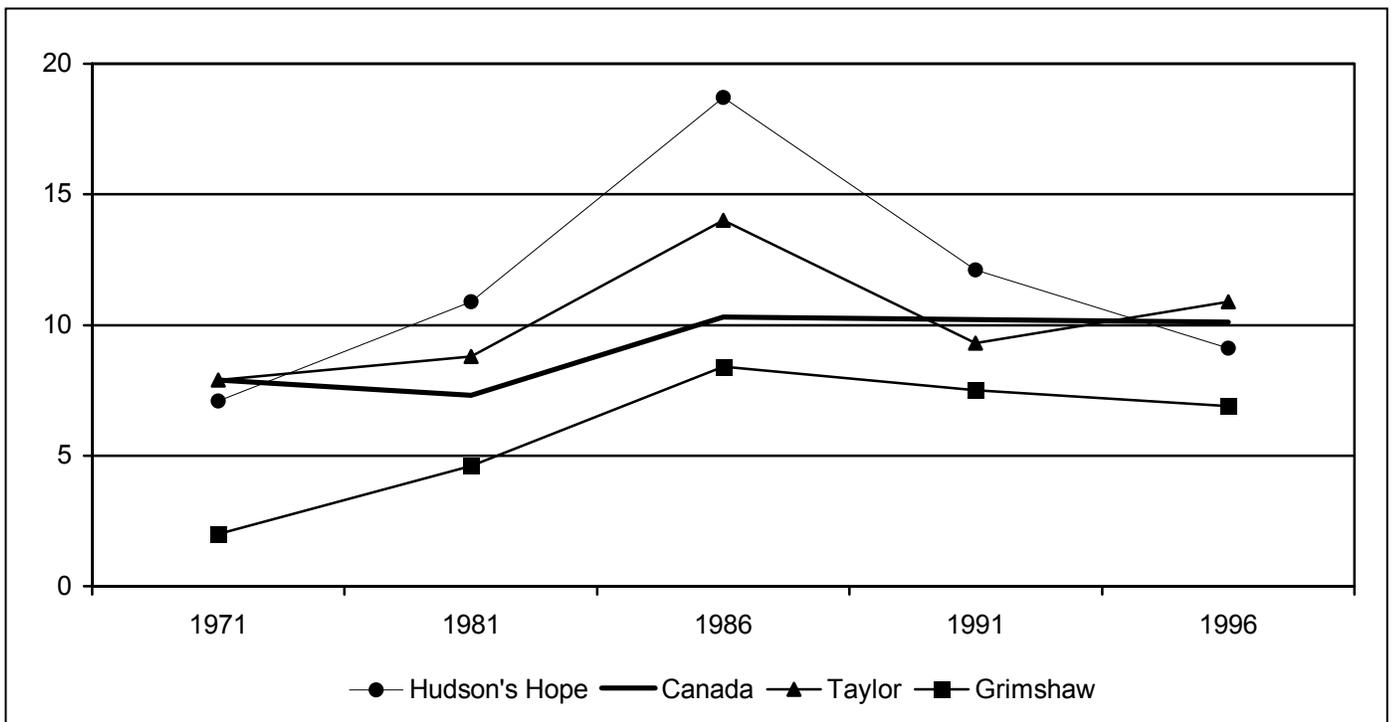
In terms of which sectors have contributed to job change in each community, it is clear that, in the study area, construction is a major influence, accounting for 80% of the net change in jobs between 1971 and 1996. Manufacturing and Transportation/Communications/Utilities were the other notable sectors to lose jobs in the study area, while agriculture was one of only four to show a gain. Agriculture was also one of only two sectors whose jobs gains were attributable to local conditions.

Labour force growth in the two benchmark areas was attributable to their national share components while their local competitive shares did not drag their overall performance as it did in the study area. This led to a net contribution by all but one sector in each of the benchmark areas. These areas were also able to generate many more net agricultural jobs (85 in Taylor and 90 in Grimshaw) than was the case in the study area.

**4.1.6 Unemployment**

The total unemployment (aggregated averages of urban and rural) rates over the period 1971 to 1996 for the three areas and Canada are shown in Figure 4-2.

**Figure 4-2: Unemployment Rate, Canada, Hudson's Hope, Taylor, Grimshaw**



Source: Statistics Canada

Table 4-6 highlights the details between rural and urban unemployment rates over the period 1971 to 1996.

**Table 4-6: Unemployment Rates (1971 to 1996)**

	<b>1971</b>	<b>1981</b>	<b>1986</b>	<b>1991</b>	<b>1996</b>
Hudson Hope	8.6%	11.4%	24.0%	17.9%	11.8%
Rural Hudson Hope	7.9%	10.7%	15.6%	7.1%	6.0%
<b>Total H. Hope Area</b>	<b>7.1%</b>	<b>10.9%</b>	<b>18.7%</b>	<b>12.1%</b>	<b>9.1%</b>
Taylor	17.5%	8.4%	21.1%	18.8%	16.3%
Rural Taylor	4.7%	9.0%	11.0%	6.0%	7.3%
<b>Total Taylor Area</b>	<b>7.9%</b>	<b>8.8%</b>	<b>14.0%</b>	<b>9.3%</b>	<b>10.9%</b>
Grimshaw	5.4%	5.1%	11.4%	8.2%	10.0%
Rural Grimshaw	0.0%	3.4%	5.2%	5.9%	2.5%
<b>Total Area</b>	<b>2.0%</b>	<b>4.6%</b>	<b>8.4%</b>	<b>7.5%</b>	<b>6.9%</b>
<b>Canada</b>	<b>7.9%</b>	<b>7.4%</b>	<b>10.3%</b>	<b>10.2%</b>	<b>10.1%</b>

Source: Statistics Canada: Census periods 1971, 1981, 1986, 1991, and 1996.

### **Trend**

All areas experienced significant increases in unemployment between 1981 and 1986, when rates peaked. The trend for unemployment was generally down for all areas between 1986 and 1996, however in Grimshaw and Taylor the 1996 rates remain above the levels observed in 1981 and 1971. In Hudson's Hope unemployment in 1996 was lower than the 1981 level but still higher than the 1971 level.

### **Comparison**

Unemployment levels were highest in the 1980s in Hudson's Hope and Taylor. During the 1990s they leveled off and approached the Canadian average. Only unemployment levels in Grimshaw have consistently remained below the Canadian average between 1971 and 1996.

Since 1971, unemployment in the rural regions of the benchmark and study area have consistently remained below the three municipalities. Also unemployment in Hudson's Hope and Taylor have been similar while the Grimshaw area has been consistently lower.

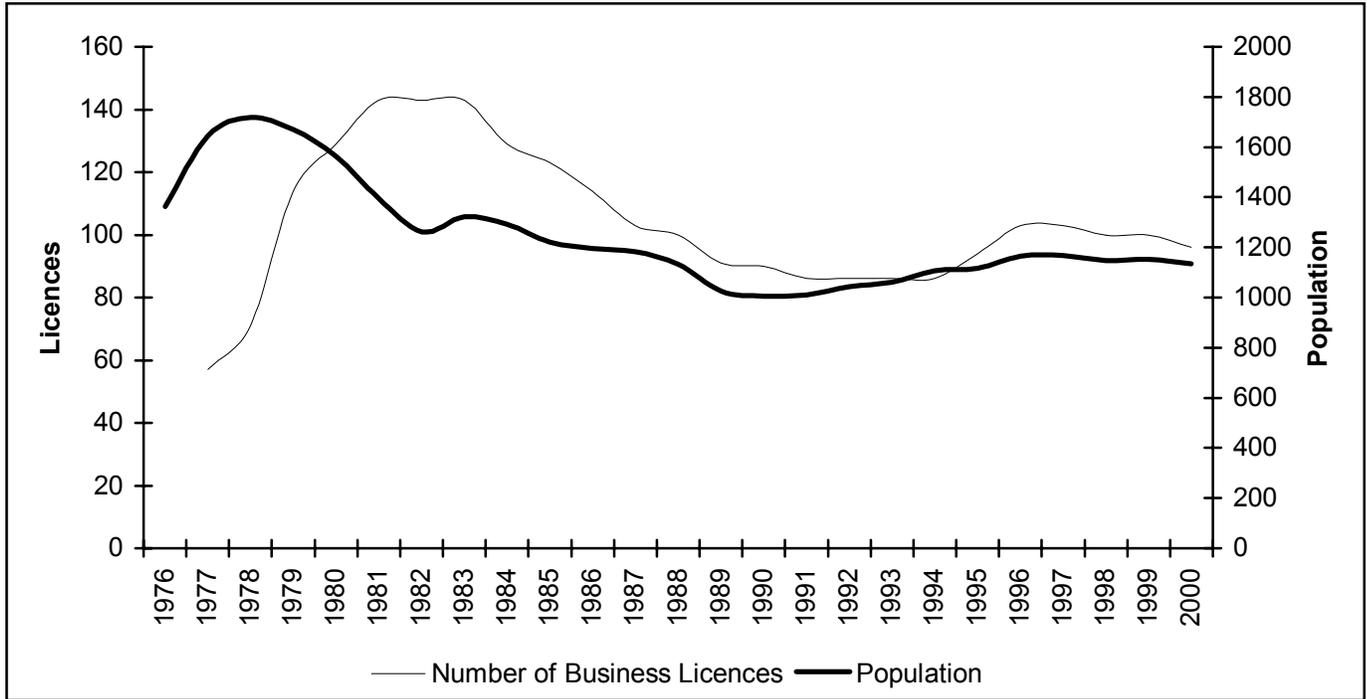
#### **4.1.7 Business Activity**

One measure of overall economic activity in a particular area is the number of business establishments licensed to operate on a commercial basis. It is assumed that as business activity and employment expand, business licensing increases, and vice versa; if activity declines so will the number of licences<sup>16</sup>. For Hudson's Hope business licences are issued primarily for small businesses, including seasonal and home-based businesses<sup>17</sup>. The number of licences issued between 1976 and 2000 is shown in Figure 4-3. Population growth in Hudson's Hope is also plotted.

<sup>16</sup> The relationship between licensing and employment is positive but does not always explain regional employment patterns. This is because many communities, including Hudson's Hope, have major employers with large work forces, and changes in their employment levels would not be reflected in licensing data.

<sup>17</sup> Other potential data sources for documenting the number of businesses were considered but deemed inappropriate. These include Statistics Canada's Business Registry (high cost), incorporation data (incomplete coverage) and private databases (incomplete coverage).

**Figure 4-3: Number of Business Licences Issued, Hudson's Hope**



Source: District of Hudson's Hope

**Trend**

The number of business licences issued by the District of Hudson's Hope grew sharply between 1976 and 1981 at the height of the Peace Canyon construction period. Over the next ten years the number of licences dropped annually before stabilizing in the early 1990s. After a brief rise in the 1994 to 1997 period, activity has again stabilized.

**Comparison**

As shown in the preceding chart, there is a positive correlation between business licence activity and population in the community. In fact, the rise and fall in the number of business licences follows very closely the population trend line when adjusted for lag. The relationship is an intuitive one as net changes in the number of business licences occurs at the margin (i.e. the majority of business licences are issued annually to a core group of businesses) in response to new demand for local services.

The other major factor influencing licensing activity is the construction of Peace Canyon dam. The strong growth experienced in the late 1970s is partially a response by local business to service construction efforts as well as the temporary/transient labour force. As the dam was completed, licences would have lapsed and activity began to more closely follow the local population trend.

#### 4.1.8 Average Family and Personal Income

##### Average Family Income

Table 4-7 highlights average family income in the study area, the two benchmark areas and Canada over the period 1971 to 1996.

**Table 4-7: Change in Family Income for Hudson’s Hope, Taylor and Grimshaw (1971 to 1996)**

	1971		1981		1986		1991		1996	
	\$	% of '81	\$	% of '81	\$	% of '81	\$	% of '81	\$	% of '81
Hudson’s Hope	\$12,233	42%	\$29,271	100%	\$34,328	117%	\$46,159	158%	\$49,700	170%
Rural Hudson’s Hope	\$9,558	28%	\$34,393	100%	\$32,388	94%	\$49,423	144%	\$60,244	175%
<b>Total H. Hope Area</b>	<b>\$10,687</b>	<b>33%</b>	<b>\$32,407</b>	<b>100%</b>	<b>\$33,173</b>	<b>102%</b>	<b>\$47,791</b>	<b>147%</b>	<b>\$55,033</b>	<b>170%</b>
Taylor	\$8,743	30%	\$29,126	100%	\$34,657	119%	\$46,184	159%	\$52,780	181%
Rural Taylor	\$8,309	38%	\$21,616	100%	\$34,263	159%	\$55,120	255%	\$49,888	231%
<b>Total Taylor Area</b>	<b>\$8,406</b>	<b>35%</b>	<b>\$24,302</b>	<b>100%</b>	<b>\$34,371</b>	<b>141%</b>	<b>\$52,232</b>	<b>215%</b>	<b>\$51,173</b>	<b>211%</b>
Grimshaw	\$8,078	33%	\$24,818	100%	\$34,054	137%	\$44,376	179%	\$49,681	200%
Rural Grimshaw	\$5,506	17%	\$32,409	100%	\$31,657	98%	\$48,361	149%	\$55,159	170%
<b>Total Area</b>	<b>\$6,703</b>	<b>24%</b>	<b>\$28,004</b>	<b>100%</b>	<b>\$32,971</b>	<b>118%</b>	<b>\$45,956</b>	<b>164%</b>	<b>\$51,926</b>	<b>185%</b>
<b>Canada</b>	<b>\$9,600</b>	<b>36%</b>	<b>\$26,748</b>	<b>100%</b>	<b>\$37,827</b>	<b>141%</b>	<b>\$51,342</b>	<b>192%</b>	<b>\$54,583</b>	<b>204%</b>

Source: Statistics Canada: Census periods 1971, 1981, 1986, 1991, and 1996.

##### Trend

The trend for average family income has been up for all areas between 1971 and 1996, with the strongest growth occurring in Taylor. Taylor has managed to closely track the Canadian average. It should be noted that much of the growth over this period would have been driven by inflation.

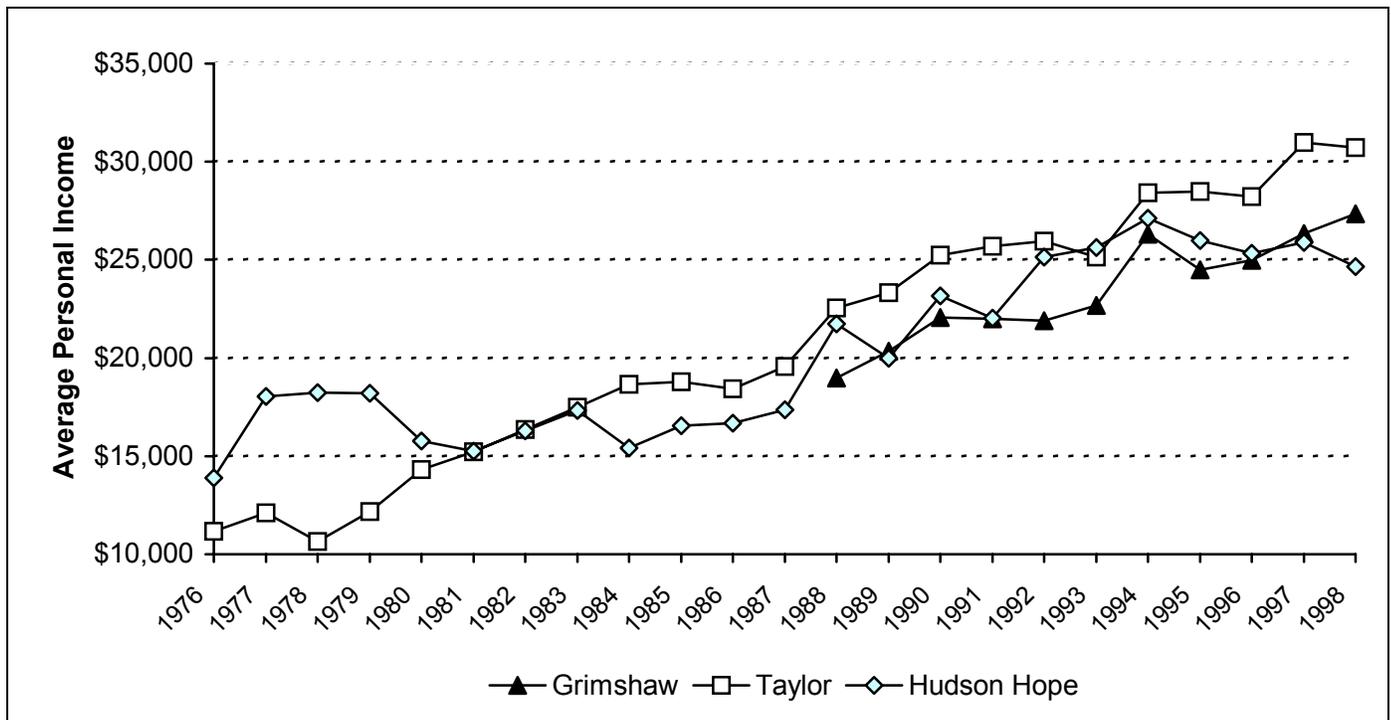
##### Comparison

Between 1971 and 1981, the total Hudson’s Hope area enjoyed a noticeably higher average family income than the two benchmark areas and Canada. Between 1986 and 1991 the average family income for the total Hudson’s Hope area had fallen behind the total Taylor area and the Canadian averages. However, by 1996, the total Hudson’s Hope area had once again regained the highest average family income level. As well, rural Hudson’s Hope with an average of \$60,244 was over \$5,000 more than the next highest area average experienced in rural Grimshaw. Throughout the 1990s the rural average family incomes have been higher than their urban counterparts, with the exception of rural Taylor in 1996.

##### Average Personal Income

Figure 4-4 illustrates individual personal income for the municipal component of the study area and the two benchmark areas. The individual personal income highlights the changes in income that have occurred between the census periods.

**Figure 4-4: Change in Personal Income for Hudson’s Hope, Taylor, and Grimshaw**



Source: Revenue Canada and BC Stats.

**Trend**

Several key trends are observed from the personal income amounts including:

- Between 1994 to 1998, income levels in Taylor rose sharply while over the same period income levels in Hudson’s Hope declined. Income in Grimshaw rose as well in the 1994 to 1998 period.
- Over the past 21 years, Hudson’s Hope has had eight years where income has declined from the previous year, while Taylor has seen income decline in only four years over the same period.

**Comparison**

The comparisons between the study area and the two benchmark areas include:

- Hudson’s Hope residents enjoyed significantly higher personal income between 1976 and 1980 than did Taylor. This period corresponds to the construction activities on the Peace Canyon dam.
- By 1981 declines in the personal income of Hudson’s Hope residents and the steady increases in the Taylor personal income levels saw the two communities sharing similar income levels.
- Between 1984 and 1992 Taylor had slightly higher income levels than Hudson’s Hope.
- In 1993 Hudson’s Hope, Taylor and Grimshaw had relatively similar personal income levels. However, since 1993 Grimshaw and Hudson’s Hope personal incomes have declined while Taylor incomes have risen. By 1998, Hudson’s Hope had lower average personal income than the two benchmark areas.

#### 4.1.9 Source of Personal Income and Farm Receipts

##### Source of Personal Income

Table 4-8 highlights changes in the source of personal income for the three municipalities of Hudson’s Hope, Taylor and Grimshaw for the years of 1988 and 1997.

**Table 4-8: Change in Source of Personal Income for Hudson’s Hope, Taylor and Grimshaw**

	Grimshaw	Taylor	Hudson’s Hope	BC*
<b>1997</b>				
Employment	75.0%	77.1%	74.1%	66.2%
Pension	7.8%	4.9%	8.0%	11.5%
Investment	6.9%	3.3%	4.7%	8.7%
Self Employment	4.2%	7.3%	3.8%	5.6%
Other	3.7%	5.0%	6.2%	5.1%
Tax Exempt	2.4%	2.4%	3.2%	2.9%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>1988</b>				
Employment	75.8%	80.5%	74.7%	68.2%
Pension	5.2%	3.9%	6.5%	9.2%
Investment	7.6%	4.5%	8.1%	10.7%
Self Employment	6.0%	3.2%	1.6%	5.6%
Other	5.4%	7.9%	8.9%	6.3%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: Revenue Canada and BC Stats.

##### Trend

Table 4-8 highlights the following trends:

- Combined employment income and self employment income represented 84.4% of the income in Taylor in 1997, while Grimshaw had 79.2%, Hudson’s Hope 77.9% and BC 71.8%.
- Pension income has declined for all areas including BC between 1988 and 1997 despite an increase in retirement age residents.
- Investment has risen over the period for all areas including BC.

##### Comparison

Looking at the differences between the communities several comparisons can be observed including:

- The residents of the three municipalities all derive a higher percentage of their income from employment income than the BC average. Taylor derived the highest percentage of personal income from employment income in both 1997 and 1988.
- Self employment income was only 1.6% in Hudson’s Hope in 1988 while Grimshaw had 6.0% and Taylor had 3.2% derived from self employment. Hudson’s Hope saw the self employment contribution rise to 3.8% in 1997, but this still trailed Grimshaw and Taylor.
- Although significantly smaller than employment income, pension income is the second largest contributor to personal income in Grimshaw and Hudson’s Hope, while self employment income is the second largest contributor in Taylor.

**Farm Receipts**

Table 4-9 outlines the average gross farm receipts per farm and per acre for Grimshaw, Taylor and Hudson’s Hope.

**Table 4-9: Change in Gross Farm Receipts for Grimshaw, Taylor and Hudson’s Hope**

<b>All Farms (Rural and Municipal)</b>	<b>Grimshaw</b>		<b>Taylor</b>		<b>Hudson’s Hope</b>	
<b>1996</b>		<b>% of ‘81</b>		<b>% of ‘81</b>		<b>% of ‘81</b>
Avg. Gross Farm Receipts Per Farm (\$)	\$104,360	284%	\$84,847	170%	\$61,698	256%
Average Farm Size (Acres)	1,034	123%	1,190	111%	1,982	277%
Avg. Gross Farm Receipts Per Acre (\$)	\$100.90	220%	\$71.30	259%	\$31.13	80%
<b>1991</b>						
Avg. Gross Farm Receipts Per Farm (\$)	\$67,391	275%	\$61,740	123%	\$49,546	205%
Average Farm Size (Acres)	1,027	122%	1,122	105%	1,475	206%
Avg. Gross Farm Receipts Per Acre (\$)	\$65.63	151%	\$55.03	200%	\$33.59	100%
<b>1986</b>						
Avg. Gross Farm Receipts Per Farm (\$)	\$64,062	175%	\$60,367	121%	\$40,220	167%
Average Farm Size (Acres)	1,016	121%	1,154	108%	1,175	164%
Avg. Gross Farm Receipts Per Acre (\$)	\$63.05	145%	\$52.30	190%	\$34.23	101%
<b>1981 (baseline year)</b>						
Avg. Gross Farm Receipts Per Farm (\$)	\$36,693	100%	\$50,017	100%	\$24,109	100%
Average Farm Size (Acres)	843	100%	1,069	100%	716	100%
Avg. Gross Farm Receipts Per Acre (\$)	\$43.54	100%	\$46.79	100%	\$33.69	100%
<b>1971</b>						
Avg. Gross Farm Receipts Per Farm (\$)	\$8,170	22%	\$8,112	17%	\$7,498	31%
Average Farm Size (Acres)	827	98%	1,049	98%	1,630	228%
Avg. Gross Farm Receipts Per Acre (\$)	\$9.88	23%	\$7.73	28%	\$4.60	14%

Source: Statistics Canada, Agriculture Census.

**Trend**

There has been strong growth in average gross farm receipts between 1971 and 1991 in all three areas, although part of this growth will be associated with inflation. Between 1981 to 1996 Hudson’s Hope saw gross receipts rise 256% while Grimshaw was up 284% and Taylor up more modestly at 170%. However, Hudson’s Hope’s per acre gross farm receipts have actually decline from \$33.69 in 1981 to \$31.59 in 1996 with the increased income being driven primarily by rapidly expanding farm sizes which have increased 277% in size between 1981 and 1996. This expansion is believed to be driven by large farm holdings in the Farrell Creek area, though, and has not affected all farms in the region. The total land in the proposed pondage (i.e. approximately 11,500 acres) represents about 30% of the total agricultural land in the Peace River Valley.

**Comparison**

While gross farm receipts trended up strongly in Hudson’s Hope, the overall average gross farm receipts in 1996 were still only \$61,698, this trailed Grimshaw with an average of \$104,360 and Taylor at \$84,847 in 1996. As well, Hudson’s Hope farms have increased revenue by rapidly increasing farm size while both Grimshaw and Taylor have seen gross farm receipts increase sharply while continuing to manage only slightly larger land areas than they did in 1981.

## 4.2 Community Account

### 4.2.1 Total Municipal Assessed Values

Table 4-10 outlines the change in total assessed value for the three municipalities for the 1976 to 1998 period.

**Table 4-10: Total Taxable Assessments (1976 to 1998)**

	1976		1981		1986		1989		1992		1998	
	\$Million	%	\$Million	%	\$Million	%	\$Million	%	\$Million	%	\$Million	%
H. Hope	\$13.7	78%	\$17.5	100%	\$30.9	177%	\$34.1	195%	\$34.0	195%	\$58.1	332%
Taylor	\$8.5	87%	\$9.8	100%	\$48.3	490%	\$101.5	1029%	\$118.4	1200%	\$135.7	1376%
Grimshaw	N/a	N/a	N/a	N/a	\$13.0	N/a	\$13.9	N/a	\$54.0	N/a	\$76.1	N/a

Source: BC Municipal Affairs and Alberta Municipal Affairs. Alberta Municipal Affairs database used only goes back to 1984.

#### Trend

The total taxable assessment trend between 1976 and 1998 for Taylor and Hudson’s Hope was upward. While the observed trend for Grimshaw has been upwards between 1986 and 1998. Overall, the total taxable assessment in Hudson’s Hope increased over three-fold while Taylor saw increase of thirteen fold between 1981 and 1998.

#### Comparison

Part of the growth in Taylor can be attributed to a boundary change for the municipality in the late 1980s, which saw Taylor acquire valuable new industrial lands. However, even without this change, the growth in the total taxable assessed value for Taylor has remained significantly ahead of Hudson’s Hope. This is confirmed by the strong growth in Taylor from 1976 to 1986 when compared to Hudson’s Hope. Also between 1986 and 1992 total taxable assessments were basically flat in Hudson’s Hope while Taylor continued to grow.

### 4.2.2 Municipal Assessed Values By Property Class

Table 4-11 illustrates the change in the major categories of the assessed value between 1984 and 1998.

#### Trend

Hudson’s Hope and Taylor have maintained similar assessed values for residential properties between 1984 and 1998 and have similar numbers of residential dwellings. The utility category of the assessed values has risen sharply in Taylor in recent years to rival the values associated with Hudson’s Hope.

#### Comparison

The key component of Taylor’s assessed value is the industrial category, which represented 63.4% or \$85.85 million of the total communities assessed value in 1998. This has risen sharply from \$29.35

million in 1984. In comparison Hudson’s Hope’s industrial assessed values have remained below 1% for the entire period. While Hudson’s Hope’s assessed value is primarily based on the residential and utilities classes of property, collectively representing 93.4% of the assessed value in 1998. Residential class is the second largest category and utilities is the third largest category in Taylor and collectively only 35.4% of the assessed value.

**Table 4-11: Change in Components of the Assessed Value of Grimshaw, Taylor and Hudson’s Hope**

All Farms (Rural and Municipal)	Grimshaw		Taylor		Hudson’s Hope	
	\$Million	%	\$Million	%	\$Million	%
<b>1998</b>						
Residential	\$52.22	68.4%	\$25.16	18.5%	\$27.03	46.5%
Farm	<i>(included in Res)</i>		\$0.19	0.1%	\$2.13	3.7%
Utilities	\$0.08	0.1%	\$22.99	16.9%	\$27.21	46.9%
Industrial	\$23.95	31.5%	\$85.85	63.4%	\$0.06	0.1%
Business	<i>(included in Industrial)</i>		\$1.52	1.1%	\$1.63	2.8%
<b>Total</b>	<b>\$76.09</b>	<b>100%</b>	<b>\$135.71</b>	<b>100.0%</b>	<b>\$58.06</b>	<b>100%</b>
<b>1989</b>						
Residential	N/A		\$7.46	6.8%	\$12.07	35.3%
Utilities			\$6.68	6.2%	\$18.18	54.5%
Industrial			\$89.71	86.0%	\$0.02	0.1%
Business			\$0.90	0.8%	\$1.53	3.5%
Farm			\$0.29	0.2%	\$2.28	6.6%
<b>Total</b>			<b>\$105.04</b>	<b>100.0%</b>	<b>\$34.08</b>	<b>100.0%</b>
<b>1984</b>						
Residential	N/A		\$12.17	24.0%	\$12.38	38.9%
Utilities			\$7.49	14.8%	\$15.27	47.8%
Industrial			\$29.35	57.7%	\$0.02	0.1%
Business			\$1.53	3.0%	\$1.84	5.8%
Farm			\$0.24	0.5%	\$2.36	7.4%
<b>Total</b>			<b>\$50.78</b>	<b>100.0%</b>	<b>\$31.87</b>	<b>100.0%</b>

Source: BC Municipal Affairs and Town of Grimshaw.

### 4.2.3 Average Residential Values

Figure 4-5 outlines the change in residential values observed between 1986 and 1996 for the study area and the two benchmark areas.

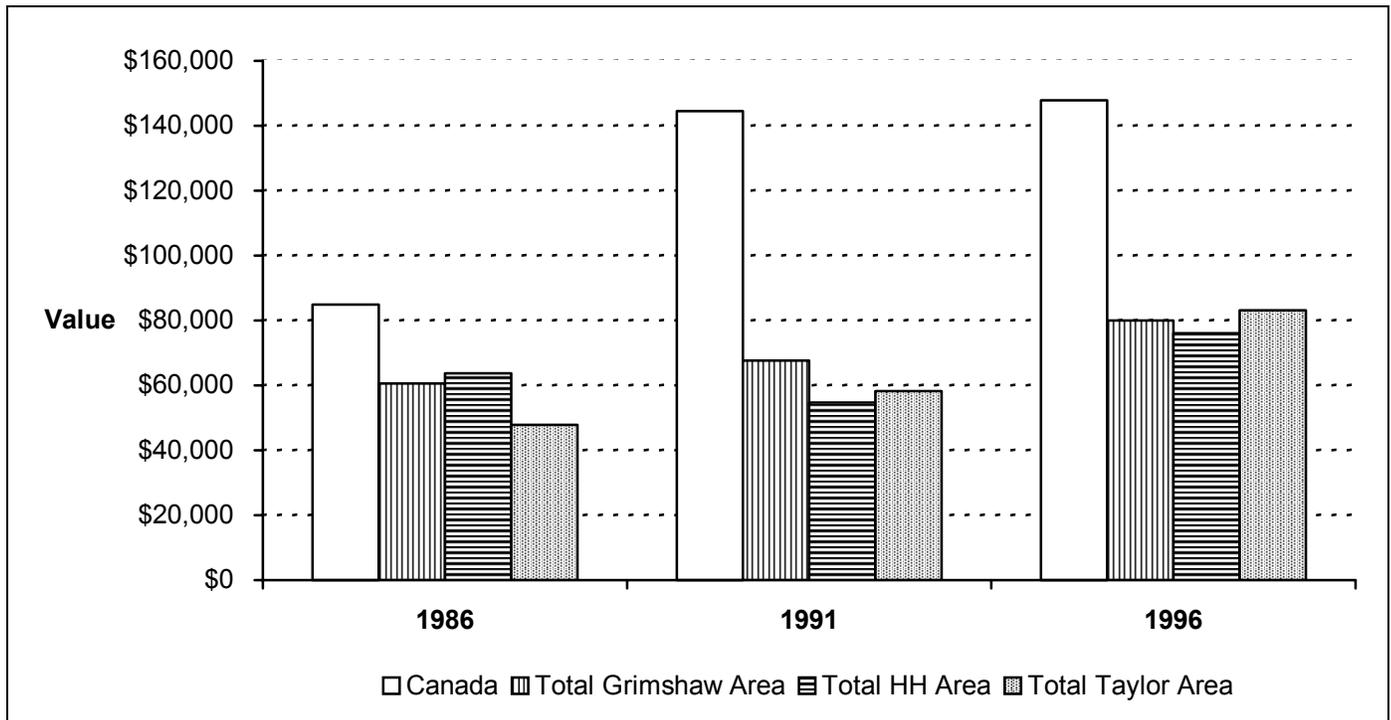
#### Trend

All three areas have lagged behind the average dwelling values observed in Canada. Prices generally held steady between 1986 and 1991 and then rose sharply in 1996 for the three areas.

#### Comparison

Among the three areas, the average dwelling prices grew the most in the Taylor area between 1986 and 1996, this was followed by the Grimshaw area. In 1986 Hudson’s Hope enjoyed slightly higher housing values than Grimshaw and significantly higher values than Taylor. However, by 1996, Hudson’s Hope was trailing the two benchmark areas in average dwelling values.

**Figure 4-5: Average Value of Occupant Owned Dwelling for Combined Municipal and Rural Areas**



Source: Statistics Canada

#### 4.2.4 Farm Values

Table 4-12 outlines the change in the average farm value of land and buildings in the study area and the two benchmark areas between 1971 and 1996.

##### Trend

Overall, the trend for the farm value of land and buildings between 1971 and 1996 was up in all three areas. However, much of the price gains occurred between 1971 to 1981. The 1971 to 1981 period was also a time when the average land farmed (owned and leased) remained constant in Taylor and Grimshaw and declined in Hudson’s Hope. Between 1981 and 1991 all three areas saw the average land and building values decline before trending upwards again in 1996. Over the 1981 to 1996 period the land involved in farming consistently increased for all three areas.

##### Comparison

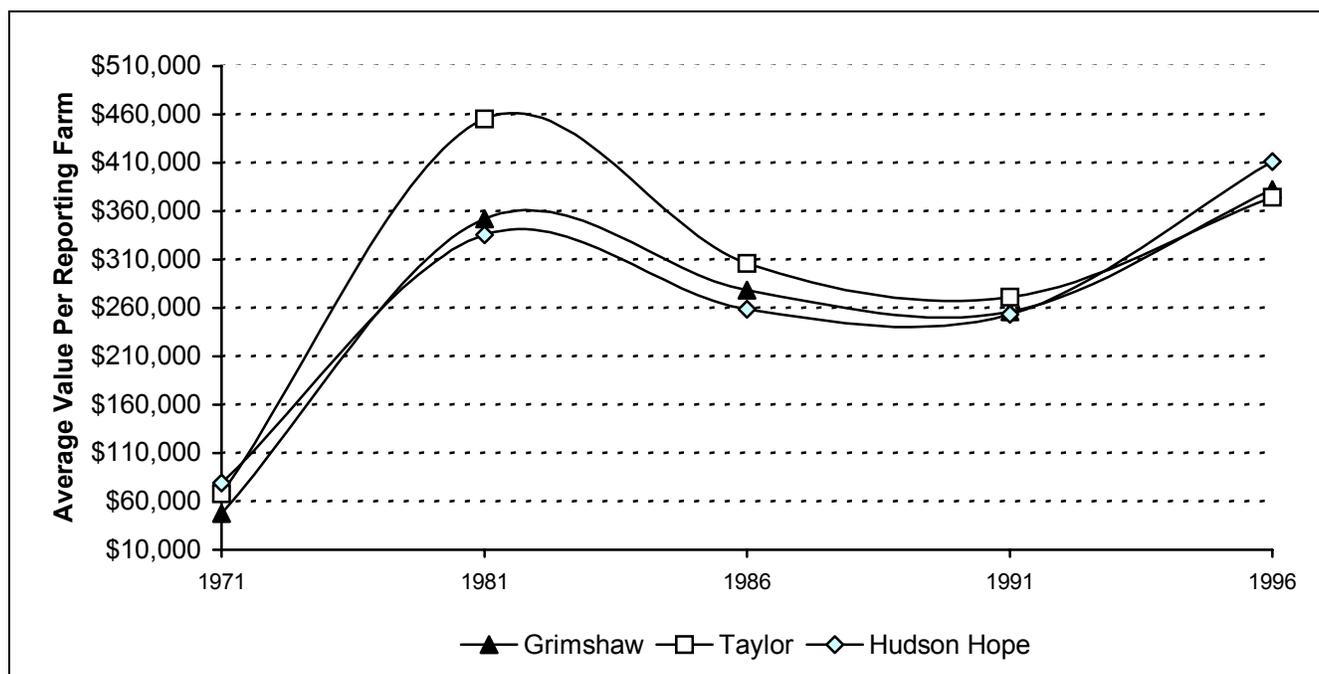
While land and building values in Hudson’s Hope have increased a modest 23% over the past 15 years, the actual average acreage of Hudson’s Hope farms has more than doubled. Farm values for land and building at the two benchmark areas has remained relatively unchanged between 1981 and 1996. In Hudson’s Hope farm values for land and building have moved from the lowest average in 1981 of the three areas to the highest by 1996. Average farm value of land and buildings in Hudson’s Hope in 1996 was \$411,354 compared to \$382,138 for Grimshaw and \$374,638 for Taylor.

**Table 4-12: Change in Total Value of Land and Buildings of Farms (1971 to 1996)**

All Farms (Rural and Municipal)	Grimshaw	Taylor	Hudson's Hope
<b>1996</b>			
Total Value of Land and Buildings	\$147,505,313	\$79,423,290	\$57,178,232
Number of Farms Reporting <sup>18</sup>	386	212	139
Average per Reporting Farm	\$382,138	\$374,638	\$411,354
Percent Change in Per Farm Value from 1981	<b>109%</b>	<b>82%</b>	<b>123%</b>
<b>1991</b>			
Total Value of Land and Buildings	\$102,487,987	\$63,454,308	\$30,386,374
Number of Farms Reporting	400	234	120
Average per Reporting Farm	\$256,220	\$271,172	\$253,220
Percent Change in Per Farm Value from 1981	<b>73%</b>	<b>60%</b>	<b>75%</b>
<b>1986</b>			
Total Value of Land and Buildings	\$125,312,054	\$79,553,877	\$25,329,510
Number of Farms Reporting	450	260	98
Average per Reporting Farm	\$278,471	\$305,976	\$258,464
Percent Change in Per Farm Value from 1981	<b>79%</b>	<b>67%</b>	<b>77%</b>
<b>1981</b>			
Total Value of Land and Buildings	\$133,820,250	\$118,943,395	\$28,190,800
Number of Farms Reporting	380	261	84
Average per Reporting Farm	\$352,159	\$455,722	\$335,605
Percent Change in Per Farm Value from 1981	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>1971</b>			
Number of Farms Reporting	\$22,877,600	\$19,467,800	\$9,750,100
Total Value of Land and Buildings	480	287	123
Average per Reporting Farm	\$47,660	\$67,830	\$79,270
Percent Change in Per Farm Value from 1981	<b>14%</b>	<b>15%</b>	<b>24%</b>

Source: Statistics Canada: Agricultural Census periods 1971, 1981, 1986, 1991, and 1996.

**Figure 4-6: Average Land and Building Values (1971 to 1996)**



Source: Statistics Canada: Agricultural Census periods 1971, 1981, 1986, 1991, and 1996.

<sup>18</sup> Farms reporting will represent the total population of farms reporting over \$2,500 in gross receipts.

#### 4.2.5 *Municipal and Rural Housing Stock*

Table 4-13 outlines the construction period for housing stock in the three areas and Canada. The date of construction of the local housing stock often provides insights into the growth phases of the community.

**Table 4-13: Construction Period of Housing Stock (1996)**

	<b>Before 1946</b>	<b>1946 to 1960</b>	<b>1961 to 1970</b>	<b>1971 to 1980</b>	<b>1981 to 1990</b>	<b>1991 to 1996</b>
Hudson’s Hope	4%	5%	37%	37%	12%	5%
Rural Hudson’s Hope	2%	15%	15%	44%	14%	10%
<b>Total H. Hope Area</b>	<b>4%</b>	<b>10%</b>	<b>25%</b>	<b>41%</b>	<b>13%</b>	<b>8%</b>
Taylor	3%	16%	13%	46%	11%	11%
Rural Taylor	2%	11%	26%	35%	17%	9%
<b>Total Taylor Area</b>	<b>2%</b>	<b>13%</b>	<b>20%</b>	<b>40%</b>	<b>15%</b>	<b>10%</b>
Grimshaw	3%	11%	14%	42%	24%	5%
Rural Grimshaw	19%	10%	14%	29%	25%	5%
<b>Total Area</b>	<b>9%</b>	<b>11%</b>	<b>14%</b>	<b>36%</b>	<b>25%</b>	<b>5%</b>
<b>Canada</b>	<b>16%</b>	<b>17%</b>	<b>17%</b>	<b>22%</b>	<b>19%</b>	<b>9%</b>

Source: Statistics Canada: 1996 Census.

#### *Trend*

The local development patterns of the three areas have followed relatively similar long-term trends. The 1971 to 1980 period represents the largest phase of housing construction for the three areas, with between 36% and 41% being built in this period. Housing built after 1980s represents another quarter of the total housing stock in the three areas.

#### *Comparison*

With the three areas having between 60% and 66% of their housing built after 1971 a significant amount of the housing stock is relatively new when compared to the Canadian average, which only has 40% in the most recent construction periods. Conversely, very little housing was constructed prior to 1960 in Hudson’s Hope and Taylor, however, Grimshaw with 20% pre-dating the 1960s, had about twice the amount of housing stock built during this period. In Canada approximately 33% of the housing stock pre-dates the 1960s.

#### 4.2.6 *Recreation*

Determining recreation use trends in the study area is challenging given the numerous gaps and methodological irregularities in data collection and compilation over the years. Many measures, which might have proved useful in describing recreation patterns, could not be used because of incomplete data. Specifically, major visitor surveys conducted by the province of BC in the 1970s, 80s and 90s were reviewed but time series could not be developed because of conflicting methodologies. For the following analysis, we have relied on a review of changes in the local recreation resource inventory, parks use and highway traffic counts to gain an understanding of recreation trends since 1971.

## Recreation Inventory

### Trend

A 1977 inventory of recreational facilities in the study area and their current land use status is shown in Table 4-14. Documented facilities include highway rest stops, river access points, boat launches, parks and recreation reserves and campsites. There were no provincial parks or BC Forest Service recreation sites in the study area in 1977. The majority of facilities were on Crown land and had minimal site improvements. In the case of the majority of the boat launches, only rough road access was provided. Map cross-referencing led to the identification of two recreation sites (boat launch and road loop) which were part of the BC Hydro purchase program for Site C.

### Comparison

Recreational resource inventories prepared by BC Hydro in 1991 suggested there had been no change in the status of any of these recreational features within the study area. By the mid 1990s, the Protected Areas Strategy and Land and Resource Management Plan (LRMP) processes were initiated, and by 1999 LRMPs had been concluded in both the Fort St. John and Dawson Creek forest districts. The creation of the Peace River-Boudreau Lake park included much of the south bank of the Peace River and the majority of islands between Maurice Creek and the Moberly River. In the 1980s and early 1990s, many rustic camp sites were developed “unofficially” by the River Rats Association (representing river users based in Fort St. John). These campsites as well as some Crown land at the confluence of the Peace and Halfway rivers were incorporated into the new protected area. The Dawson Creek LRMP had noted that there was “limited commercial recreation” developed to date within the corridor even though commercial recreational potential was high. The other river access points, boat launches and rest stops have changed little since inventories were first prepared in the 1970s. Most of these features are very rough and rustic but still provide access to the river. A significant upgrade in facilities has been undertaken by the Ministry of Transportation and Highways at the rest stop east of the Halfway River. BC Hydro has erected fences at the request of its lessee to block river access from the boat launch and the rest stop at Farrell Creek. Also, BC Hydro recently built two dirt berms to block access to the east Lynx Creek boat launch, again at the request of a lessee, but access has since been restored. In the case of Farrell Creek and Lynx Creek, BC Hydro was asked to restrict access because of rowdyism at the sites.

The primary use of the study area in 1977 was general recreation (sightseeing, picnicking, canoeing, boating), fishing and to a minor extent, hunting. A total of 12, 435 user-days were documented, representing less than one percent of total user-days in the northeast region at that time<sup>19</sup>. No estimates are available on historical camping use or day-use in Alwin Holland Park.

The current number of recreation user-days in the study area is unknown and, short of personal observation or survey, reliable estimates cannot be made. There are a number of indirect measures which can be used to shed light on visitation and recreation activity in the study area.

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<sup>19</sup> *Peace River Site C Hydroelectric Project: Tourism Impact Study*, Canadian Resourcecon Limited, January 1980.

**Table 4-14: Recreation Sites in the Study Area, 1977**

Site	Ownership (1977)*	Facilities (1977)*	Involved in Purchase Program	Status (1990)**	Status (2001)***
<b>Highway Rest Stops</b>					
1. 3km west of Farrell Cr.	Crown & R-O-W	-	No	No change	No change
2. Farrell Cr.	Private	Road loop	Yes	"	Access fenced-off
3. 15 km east of Farrell Cr.	Crown	Litter barrel	No	"	No change
4. 4 km east of Halfway R.	Crown & R-O-W	Tables, pit-toilet, sign, road loop	No	"	Significant upgrades
5. Cache Cr. Bridge	Private & R-O-W	Litter barrel, road loop	No	"	No change
6. 3 km east of Cache Cr.	Crown & R-O-W	-	No	"	"
<b>River Access Points</b>					
1. 13 km east of Farrell Cr.	Private	Rough road to site and river	No	"	"
2. west of Halfway R.	Crown	Rough road to site	No	"	"
3. east of Bear Flat	Crown	Rough road to site	No	"	"
<b>Boat Launches</b>					
1. Hudson's Hope	District of HH	Road to water; turnaround	No	"	"
2. east of Lynx Cr.	BC Hydro	Road to site; launch off gravel	-	"	Berm to block access
3. 3 km east of Lynx Cr.	Crown	Road to water	No	"	"
4. 7 km east of Hudson's Hope	Private	Rough road; primitive launch	No	"	"
5. west of Farrell Cr.	Private	Rough road; primitive launch	Yes	"	Access fenced-off
6. west of Halfway R.	Crown	Road to water	No	"	"
7. 4 km west of Cache Cr.	Private	Road to site; primitive launch	Yes	"	Currently inaccessible
<b>Park</b>					
Alwin Holland Park	District of HH	Campsites, tables, pit-toilets	No	"	No change
<b>Recreation Reserves</b>					
1. South bank near Hudson's Hope	BC Parks	Rough road transects site	No	"	No change
2. 8 km east of Hudson's Hope	"	Rough road to site	No	"	No change
3. 2 km west of Farrell Cr.	"	-	No	"	Peace-Boudreau Park
4. west of Halfway R.	"	Rough road to site	No	"	No change
5. 24 km west of Fort St. John	"	Some roads to site	No	"	No change
<b>Campsites</b>					
Peace River islands	Crown	Numerous, non-status rustic sites between FSJ and HH	No	"	Peace-Boudreau Park

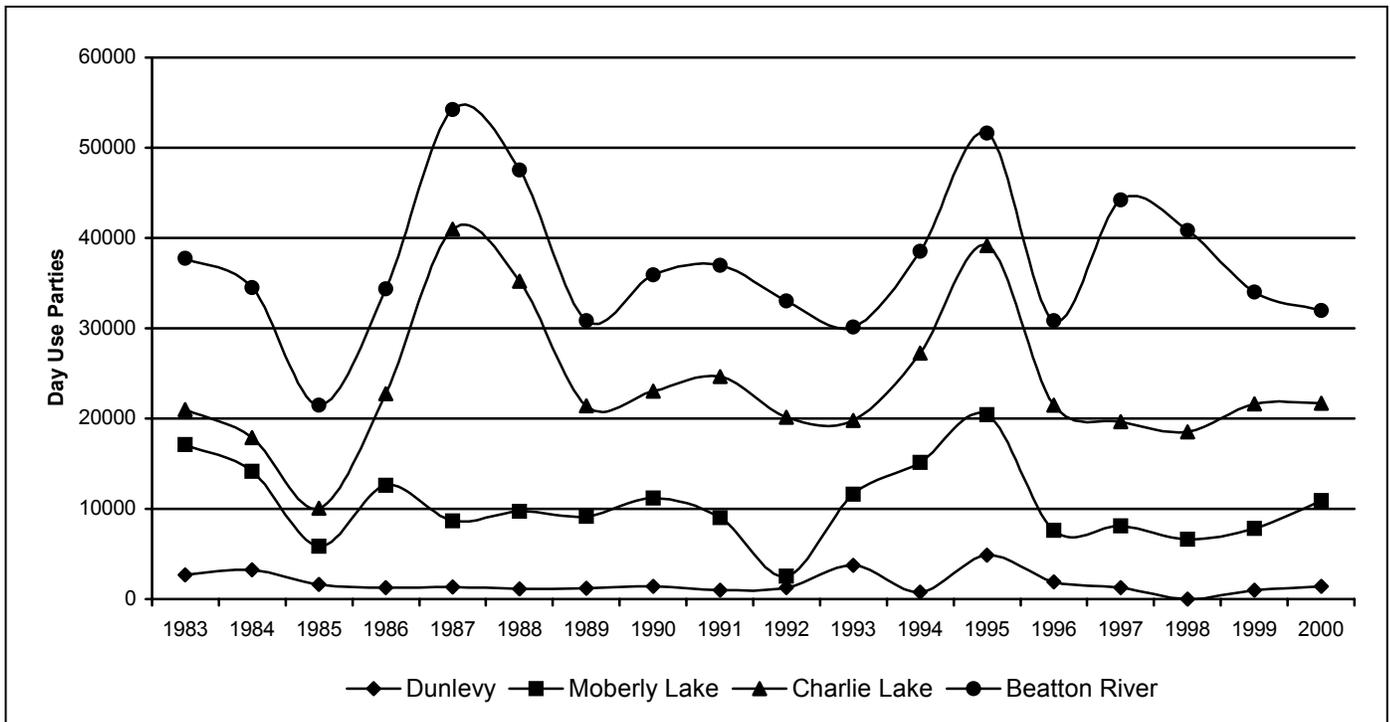
Key: R-O-W – right-of-way

Source: \* Recreation Supplement for Proposed Site C Project, July 1981 \*\* Peace River Site C Project Environmental Resource Atlas, August 1991 \*\*\* Ground observation

## BC Parks Day Use

Day use information at selected BC parks near the study area is plotted and shown in Figure 4-7.

**Figure 4-7: BC Parks Day Use, 1983-2000**



Source: BC Parks

### Trend

Except for some spiking activity in the early 1990s, believed related to the Alaska Highway anniversary celebrations, there has been no long-term growth in visitation. A review of camping activity in the parks shows a similar no-growth pattern.

### Comparison

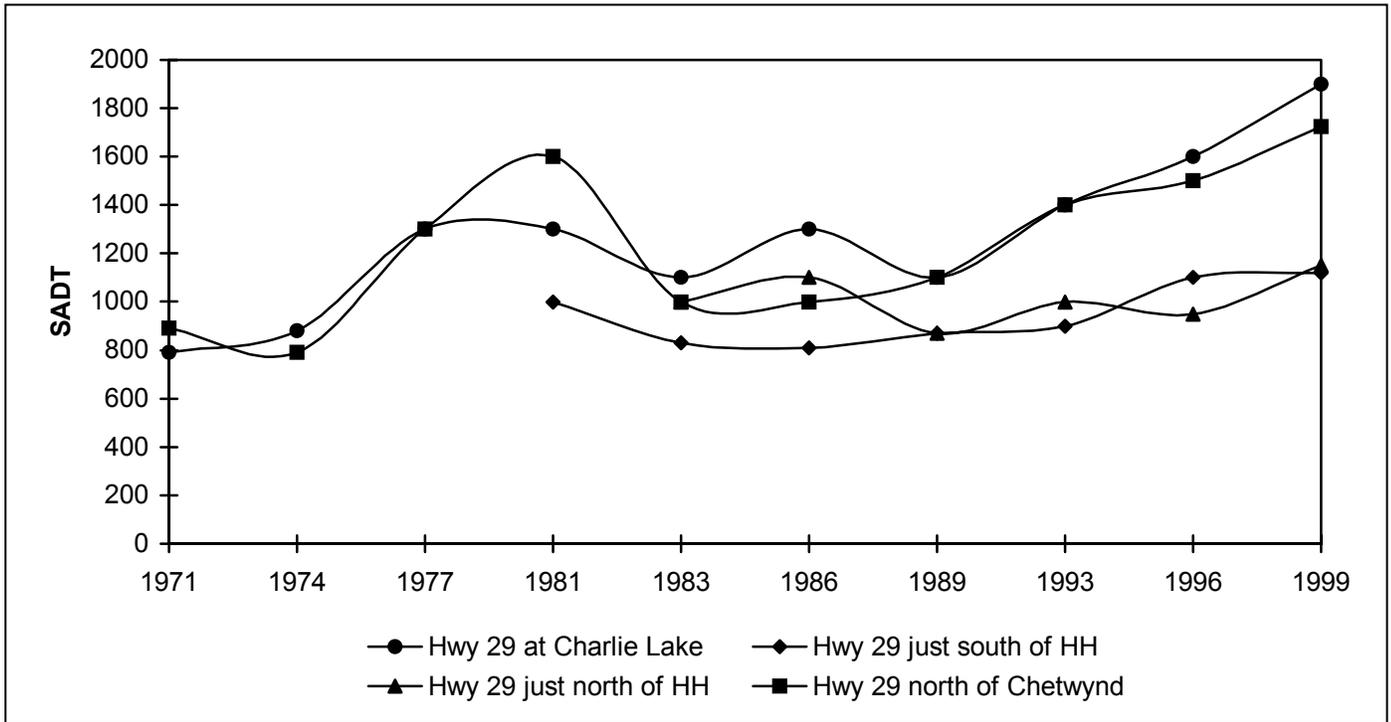
Even though reliable time series could not be constructed, other measures confirm the no growth trends:

- BC Hydro has estimated that visitation at both dam visitor centres peaked shortly after construction. From a high of 200,000 visitors in 1967 at the Gordon M. Shrum Generating Station, visitation declined to around 20,000 visitors a year by 1980 and has since held steady. The approximately 10,000 visitors who passed through the Peace Canyon centre during its inaugural season in 1980 had stabilized to its current level of 6,000 annual visitors by 1985.
- BC Forest Service recreation site use estimates are highly unreliable, but anecdotal evidence indicates no significant increase in usage at three neighbouring sites (Carbon Lake, Gething Creek and Wright Lake) over the last 25 years.

**Traffic Counts**

Highway traffic counts are frequently used to gauge visitor volumes, particularly during the summer high season when the majority of tourism traffic occurs. Summer average daily traffic volumes for Ministry of Transportation and Highways’ count stations in the region appear in Figure 4-8.

**Figure 4-8: Summer Average Daily Traffic for Highway 29 Stations, 1971-1999**



Source: Ministry of Transportation and Highways

**Trend**

In some contrast to the other measures, there has been significant growth in traffic volumes at count stations north of Chetwynd and west of Charlie Lake, although increases at the stations in Hudson’s Hope have been more modest.

**Comparison**

Our interpretation of the traffic count data is that, although there may have been an overall increase in recreation and/or tourism activity in the region since the 1970s, rural residential and commercial activity are probably responsible for most of the increase. Traffic volumes that spiked in 1981 are probably attributable to commercial and resident activity related to Peace Canyon construction. Although there was a steep drop-off in traffic in the early 1980s, growth in volumes in the 1990s occurred in spite of a significant decline in the population of Hudson’s Hope. An increase in rural population around Bear Flat and a significant increase in industrial traffic on Farrell Creek Road would cause a rise in the Charlie Lake counts but not those in Hudson’s Hope. Similarly, a jump in oil and

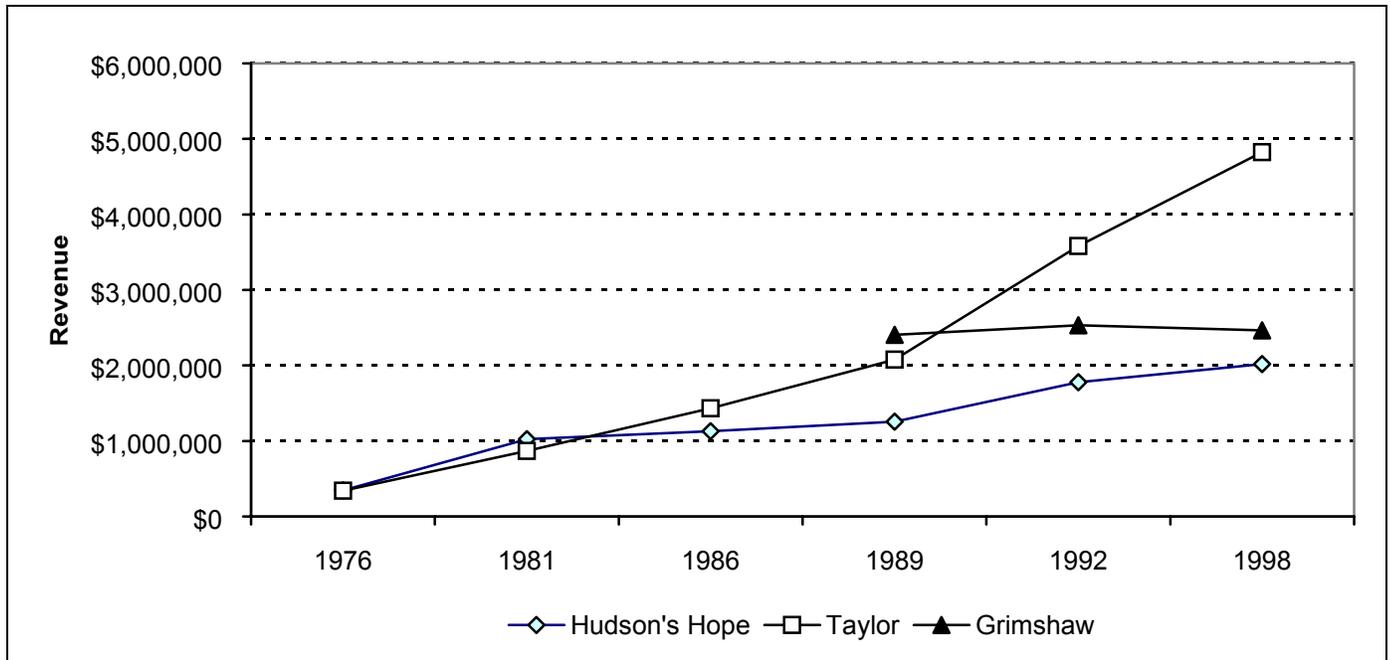
gas activity to and from the Manias Field has bumped up the Highway 29 counts through Chetwynd but not in Hudson’s Hope.

### 4.3 Municipal Revenue Account

#### 4.3.1 Municipal Revenues

Figure 4-9 outlines the tax revenues for the three municipalities between 1976 and 1998.

**Figure 4-9: Change in Municipal Revenues for Hudson’s Hope, Taylor, and Grimshaw (1976 to 1998)**



Source: BC Municipal Affairs and Alberta Municipal Affairs. Alberta database covers back to 1988.

#### Trend

The trend for revenue growth for Taylor and Hudson’s Hope was similar between 1976 and 1981. However, between 1981 and 1998 the revenue growth has been very strong in Taylor while revenue growth has increased at a much slower pace in Hudson’s Hope. In Grimshaw between 1989 and 1998 revenue growth has been flat.

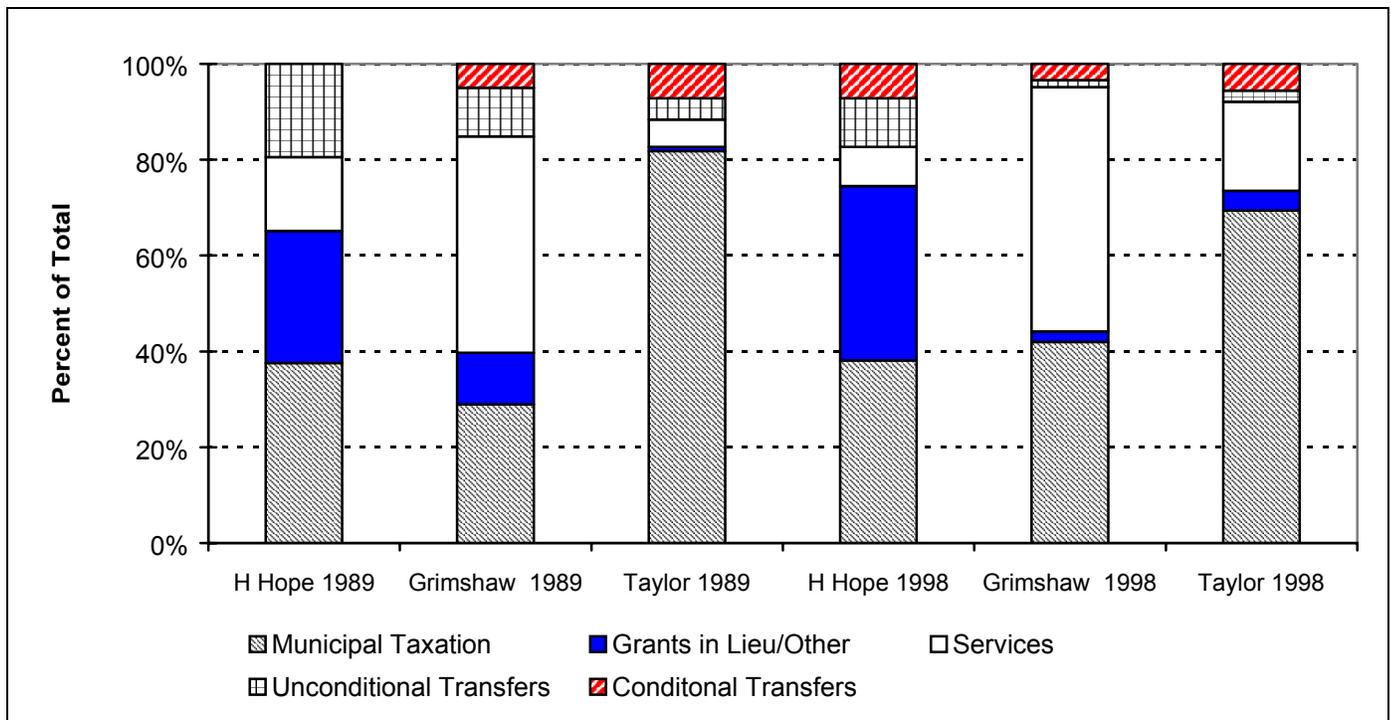
#### Comparison

After 1986, revenue growth in Taylor accelerated and quickly leapt ahead of the revenue collected by Hudson’s Hope and Grimshaw. While Hudson’s Hope has lagged behind Taylor in revenue growth it has outpaced the revenue growth observed in Grimshaw between 1989 and 1998. Despite Grimshaw having over twice the population as Hudson’s Hope, Hudson’s Hope’s has collected relatively similar revenues in recent years.

### 4.3.2 Municipal Tax Structure

Figure 4-10 highlights the change in revenue structure for Hudson’s Hope, Taylor and Grimshaw between 1989 and 1998. Municipalities typically generate their revenues from several key sources including: municipal taxation; grants in lieu of taxes and other sources; services provided by municipalities (such as concessions and Development Cost Charges); unconditional transfers; and conditional transfers.

**Figure 4-10: Change in Revenue Structure for Hudson’s Hope, Taylor & Grimshaw (1989 and 1998)**



Source: BC and Alberta Municipal Affairs. The Category “Grants in Lieu/Other” represents Grants in Lieu for Hudson’s Hope and Taylor and other revenues and draw from reserves for Grimshaw.

### Trend

As illustrated, all three communities saw change in the percentage contribution of various revenue sources between 1989 and 1998. In 1989 total municipal taxation represented just over 37% in Hudson’s Hope, 29% in Grimshaw and 81% in Taylor. However, by 1998 total municipal taxation was just under 40% in Hudson’s Hope, 42% in Grimshaw and 69% in Taylor. Conversely, services provided by the municipality has grown in both Grimshaw and Taylor and declined in Hudson’s Hope between 1989 and 1998

### Comparison

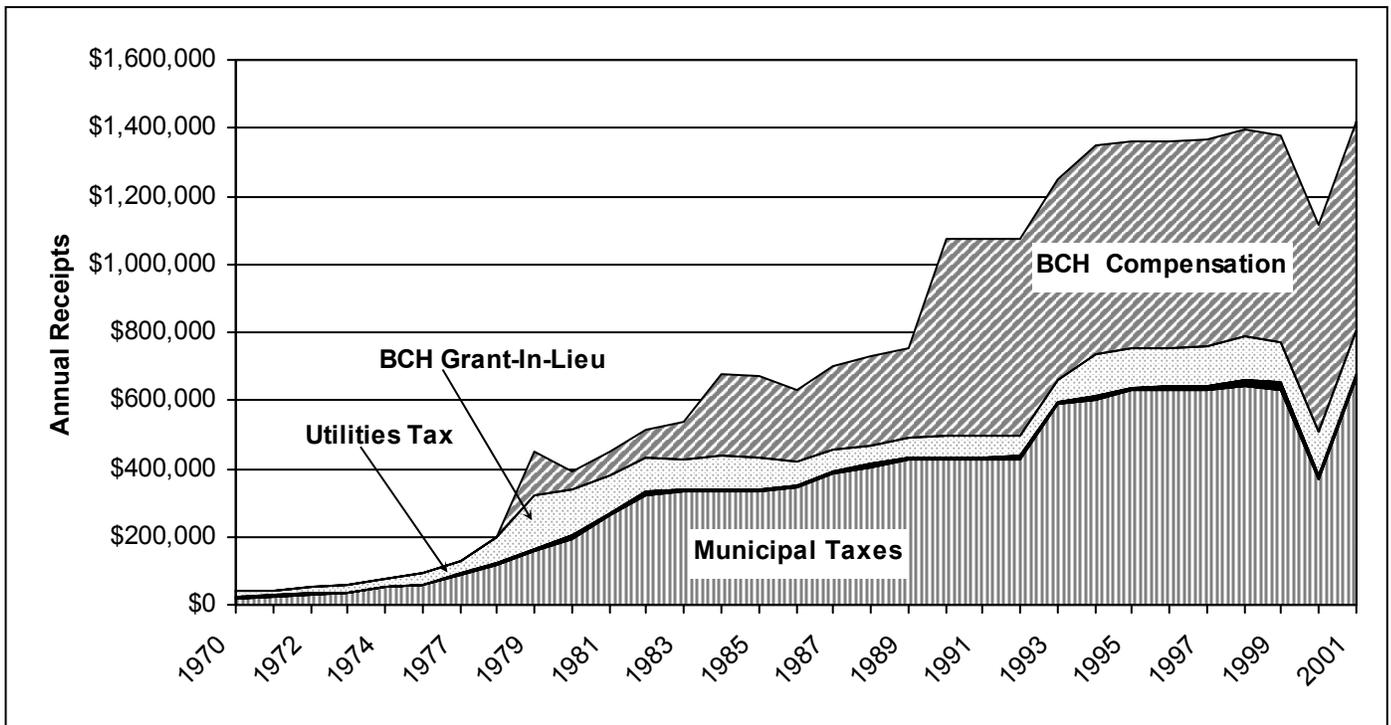
For Taylor, the main source of revenue growth has come from municipal taxation – primarily real property. As well, income from services has grown significantly over time as well – specifically sale of services, which represented almost \$0.8 million in municipal income in 1998. Grimshaw has also seen a significant rise in sale of services. For Hudson’s Hope the grants-in-lieu category has grown and

is an important revenue component. Grants-in-lieu in Hudson’s Hope is primarily from BC Hydro contributions.

**4.3.3 Major Tax Contributors**

Major contributors to the District of Hudson’s Hope’s tax base is shown in Figure 4-11.

**Figure 4-11: Major Tax Contributors, District of Hudson's Hope**



Source: District of Hudson’s Hope

The total budget itself has grown significantly from approximately \$40,000 in 1970 to \$1.5 million in 2001, but the two main components have consistently been contributions from BC Hydro and the remaining municipal tax base. A third minor component is represented by the utilities tax paid by BC Hydro, BC Gas and the telephone utility.<sup>20</sup> Until 1979, BC Hydro furnished one third of the total tax base by way of a Grant-In-Lieu. In 1979, a dam compensation account was added, which today constitutes the single largest source of funds to the community. Over the last 10 years, BC Hydro payments have accounted for more than half of total annual tax receipts. BC Hydro provides similar tax and grant-in-lieu payments to numerous municipalities in the province.

<sup>20</sup> Utility payments by BC Hydro and other utility agencies contribute to the tax base of all other municipalities in BC as well, however, typically, not to the scale seen in Hudson’s Hope.

## 5 Impact Analysis

### 5.1 Description of Scenarios

The question being answered in this analysis is as follows:

*What are the regional economic impacts of BC Hydro purchasing and managing about 7,000 acres of property acquired mainly in the late 1970s under the Site C purchase program?*

There are two scenarios assessed in the following impact analysis.

1. The **Status Quo** scenario is the situation as it actually unfolded between our base year of 1971 and the date of the writing of this report, 2001. The Status Quo scenario is also known as the base case. A key aspect of the Status Quo scenario is the land and resource management practices that have influenced economic activity and development since the purchase. Land management policy as articulated by BC Hydro during the acquisition program was as follows:<sup>21</sup>
  - Wherever possible, farmland and ranchland acquired by BC Hydro will be maintained in productive use. This is done either by leasing it back to the original owner or to another tenant where the original owner did not elect to remain.
  - BC Hydro land manager supervise farm and ranch operations to maintain or enhance the agriculture viability of the land purchased by BC Hydro.
  - Control of agricultural properties is accomplished through selection of tenant, terms of the lease agreement, and strict cropping, fertilization, weed and pest control and grazing practices.

The overall intent of the land management policy was to retain existing land use practice and economic activity, which was primarily agriculture-related.

2. The **No Purchase** scenario considers the implications assuming that BC Hydro did not undertake its purchase program and that the approximately 7,000 acres of land would have remained under private ownership.

Important qualifiers to the analysis are as follows:

- The above scenarios distinguish only between BC Hydro ownership and no BC Hydro ownership – it does not assess the impacts of Site C itself.
- This assessment addresses regional impacts only and does not attempt to analyse implications from a provincial perspective.

<sup>21</sup> *Proposed Peace River Site "C" Project LAND USE AND DISPOSITION OPTIONS*, Properties Division, Reservoir Land Management Department, March 1982.

## 5.2 Summary of Accounts

Table 5-1 offers an overview of the accounts evaluation for the Status Quo versus the No BC Hydro land ownership for Site C lands scenarios. There are three main accounts: economic development, community and municipal revenues. There are also a series of related sub-accounts.

Each account is evaluated for trends, comparisons and impacts. The trends and comparisons are summaries of the analysis presented in the previous chapter. Trends refers to changes in the account over time while comparisons refers to the performance of the study area versus the two benchmark areas. A nominal scale was devised to illustrate the assessments, as follows:

Scale	Trends & Impacts	Comparisons
↑↑	Significant Positive Change	Significantly Higher than Benchmarks
↑	Some Positive Change	Higher Than Benchmarks
–	No Change	Same as Benchmarks
↓	Some Negative Change	Lower Than Benchmarks
↓↓	Significant Negative Change	Significantly Lower Than Benchmarks

The stated impacts are based on the consulting team’s interpretation of the account measures as seen in the discussion on trends and comparisons. Even though these are quantitative measures, identifying the underlying cause-effect relationships is very challenging in light of the complex interaction of demographic, economic, and community factors. In those cases where we could not determine impacts from the quantitative measures, we relied on information gathered in the survey and interview program.

For some accounts, we have distinguished between regional and farm-level impacts. This is to recognize that, while perhaps not reflected in the statistical data for the study area as a whole, there have been impacts on individual properties.

**Table 5-1: Summary of Account Evaluation**

Economic Development Account				
Population	Grim	Taylor	HH	Evaluation
Trend	↑	↑	↕↕	<ul style="list-style-type: none"> <li>• Pop. increases significantly in Grimshaw between '71 to '96.</li> <li>• Pop. up strongly between '71 and '81 in Taylor, then lags between '81 and '96.</li> <li>• Pop. declines significantly in Hudson's Hope over period.</li> <li>• Rural populations in three areas generally trending down between '71 and '96.</li> </ul>
Comparison	–	–	↓	<ul style="list-style-type: none"> <li>• Grimshaw population grows at the same rate as Canadian average.</li> <li>• Taylor has good growth between 1971 and 1981 then lags.</li> <li>• Hudson's Hope population has lagged behind the other two areas.</li> </ul>
Study Area Impacts		– (regional) ↓ (farm level)		<ul style="list-style-type: none"> <li>• Significant rural and urban population decline in HH between 1981 and 1991 before a small recovery in 1996. However, rural and urban population is already firmly in decline between 1971 and 1981.</li> <li>• Benchmark areas hurt by recession and economic slow downs but manage growth over the period.</li> <li>• Rural Hudson's Hope impacts difficult to separate from general economic shift/down turn and the implications from BCH land ownership. Urban Hudson's Hope population declines linked to outflow of utility and construction works associated with Peace Canyon Dam construction.</li> <li>• Former population pockets at Attachie and Bear Flats declined after purchase program.</li> </ul>
Incomes	Grim	Taylor	HH	Evaluation
Trend	↑	↑	↑	<ul style="list-style-type: none"> <li>• Trend in average family income has been up for all three areas.</li> </ul>
Comparison	↑	↑	↑↑	<ul style="list-style-type: none"> <li>• Average family incomes in Hudson's Hope have consistently been the highest among the three areas.</li> <li>• In 1996, rural and urban Hudson's Hope beat the Canadian average with rural Grimshaw being the only other place to have a higher average than the Canada.</li> <li>• For 1991 and 1996 values – rural incomes have been higher than their urban counterparts with the exception being urban Taylor in 1996.</li> </ul>
Study Area Impacts		–		<ul style="list-style-type: none"> <li>• In 1971 and 1981 rural and urban Hudson's Hope family income was higher than in the two benchmark areas.</li> <li>• Between 1981 and 1986 family incomes declined in rural Hudson's Hope and rural Grimshaw. However, rural Hudson's Hope resumed strong growth in 1991 and by 1996 the average was \$60,244, over \$5,000 more than rural Grimshaw which was the next highest average.</li> <li>• There doesn't appear to be any impact on average family income in rural or urban Hudson's Hope from the BCH land ownership or the flood reserve.</li> </ul>

<b>Agriculture</b>	<b>Grim</b>	<b>Taylor</b>	<b>HH</b>	<b>Evaluation</b>
Trend	↑↑	↑	–	<ul style="list-style-type: none"> <li>• Ag. employment increases in the two benchmark areas, particularly Grimshaw.</li> <li>• Slight growth in ag. employment in study area where gains in HH mun. offset rural job loss.</li> <li>• By 1996, the <i>rural</i> components of all three areas experienced job losses from previous census years.</li> <li>• Grimshaw shows gradual but steady climb in agricultural employment, but a decline in rural area employment between 1986 and 1996.</li> <li>• Taylor show steady growth until 1991 but then decline by the mid 1990s, mainly in the rural area.</li> <li>• HH rural area shows significant growth between 1971 and 1981 but then gradual decline thereafter.</li> </ul>
Comparison	↑	↑	–	<ul style="list-style-type: none"> <li>• Ag. labour force as a percentage of total labour force grows in all three areas over time.</li> <li>• Most ag. employment growth in benchmark areas, and lagging ag. employment in study area, due to local competitiveness factors.</li> </ul>
Study Area Impacts	– (regional) ↓ (farm level)			<ul style="list-style-type: none"> <li>• Farm values and employment in the study area do not indicate any unusual impacts. Rural agriculture employment declines in the other benchmark areas are also evident, though less dramatic – the gradual shift from rural to “urban” residency for agriculture workers has had an impact on the study area decline.</li> <li>• However, the decline in individual farms since 1981 may be linked either to BCH land ownership or the flood reserve. The loss of “pride of ownership” cannot be discounted as a factor in the lack of production and deterioration of some properties.</li> <li>• Similar declines not seen in urban HH where agriculture areas are above flood safe line.</li> </ul>
<b>Mining</b>	<b>Grim</b>	<b>Taylor</b>	<b>HH</b>	<b>Evaluation</b>
Trend	↑	↑	↓	<ul style="list-style-type: none"> <li>• Min. employment increase in both benchmark areas but falls slightly in study area.</li> <li>• Peak employment year for all three areas is 1981.</li> <li>• By 1996, two-thirds of min. jobs in the study area are lost from their 1981 high.</li> </ul>
Comparison	↑	↑	↑	<ul style="list-style-type: none"> <li>• Min. labour force as a percentage of total labour force grows in all three areas between 1971 and 1996.</li> <li>• In comparison to the Canadian benchmark for this sector, the study area performed well even though it lost net jobs. However, the reverse is true for the 1986 to 1996 period.</li> <li>• After a growth spurt between 1971 and 1981, Grimshaw’s mining employment has tracked closely with the Canadian benchmark.</li> <li>• After a sharp dip in 1986, Taylor has also followed the Canadian benchmark.</li> </ul>
Study Area Impacts	–			<ul style="list-style-type: none"> <li>• No impact as only one gravel operation was affected by purchase program and this did not account for significant employment levels.</li> <li>• Alternative sources of gravel available in the region.</li> </ul>

<b>Forestry</b>	<b>Grim</b>	<b>Taylor</b>	<b>HH</b>	<b>Evaluation</b>
Trend	↑	↑	↑	<ul style="list-style-type: none"> <li>• After a modest drop between 1971 and 1981, forestry employment almost doubled in the study area between 1981 and 1996.</li> <li>• Taylor experienced very strong employment growth between 1971 and 1981, but a small decline since.</li> <li>• Grimshaw has tripled its forestry employment during this period, with consistent growth through all census periods.</li> </ul>
Comparison	↑	↑	↑	<ul style="list-style-type: none"> <li>• Forestry is a major employer in the study area – its proportion of the total labour force is growing at a rate faster than the other two benchmark areas and the Canadian benchmark.</li> <li>• Forestry employment in Taylor has tracked close to the Canadian benchmark since 1981.</li> <li>• Grimshaw has consistently outperformed the Canadian benchmark since 1971.</li> </ul>
Study Area Impacts	–	–	–	<ul style="list-style-type: none"> <li>• Site C land management has not impacted area forestry employment.</li> <li>• The absence of private timber sales and lack of merchantable timber volumes indicates relatively low forestry values on purchase lands.</li> <li>• Crown forest activity unaffected by purchase lands.</li> </ul>
<b>Other Goods-Producing Sectors<sup>22</sup></b>				<b>Evaluation</b>
Trend	–	–	↓	<ul style="list-style-type: none"> <li>• Sharp declines in employment levels in the study area, particularly since 1981.</li> <li>• Significant employment growth in Grimshaw occurred primarily before 1981.</li> <li>• Modest increases in employment in Taylor were before 1981, with declines since then.</li> </ul>
Comparison	–	–	–	<ul style="list-style-type: none"> <li>• Manufacturing activity is a minor component in all three economies with only Taylor showing a strengthening versus the Canadian benchmark.</li> <li>• Construction and utilities employment are very important components of the study area economy, and they have declined much faster than in the benchmark areas. Construction job losses alone account for much of the total job loss in the study area between 1981 and 1996.</li> <li>• Taylor has shown a weak construction sector since 1981 but a strong utilities sector.</li> <li>• Grimshaw improved its construction performance since 1971, while utilities have followed closely the Canadian benchmark.</li> </ul>
Study Area Impacts	–	–	–	<ul style="list-style-type: none"> <li>• No impacts.</li> <li>• Peak construction activity in 1981, and subsequent declines, was seen in all communities.</li> <li>• The drop-off in study area employment is linked primarily to the curtailment of dam and community (e.g. housing) construction.</li> </ul>

<sup>22</sup> Manufacturing, Construction and Utilities.

Service-Producing Sectors <sup>23</sup>	Grim	Taylor	HH	Evaluation
Trend	↑↑	↑	↓	<ul style="list-style-type: none"> <li>In the study area, declines in service-producing sector employment were modest between 1971 and 1996, but significant when measured against their 1981 peak.</li> <li>Taylor has seen solid and consistent employment growth in trade, service and public administration sectors since 1971, although there was a tailing off after 1991.</li> <li>Grimshaw has seen sizeable and consistent trade and service employment growth over time.</li> </ul>
Comparison	↑	↑	↓	<ul style="list-style-type: none"> <li>Study area employment in trade and services has lagged national benchmarks since 1981.</li> <li>Employment performance in Taylor and Grimshaw have closely tracked national benchmarks over time.</li> </ul>
Study Area Impacts	– (regional) ↓ (local level)			<ul style="list-style-type: none"> <li>Very little service-producing employment is linked to land management decisions and instead is heavily influenced by national trends and changes in population.</li> <li>Most job losses in the study area are attributable to population loss, which itself was caused by completion of the Peace Canyon dam.</li> <li>However, some minor impacts in terms of tourism/recreation development and retail development around Lynx Creek may have occurred.</li> </ul>

<sup>23</sup> Trades, Services, FIRE (finance, insurance and real estate), Public Administration.

<b>Community Account</b>				
<b>Municipal Assessed Values</b>	<b>Grim</b>	<b>Taylor</b>	<b>HH</b>	<b>Evaluation</b>
Trend	–	↑↑	↑	<ul style="list-style-type: none"> <li>Based on the municipal components only, Hudson's Hope and Taylor have both experienced strong growth in assessed values between 1976 and 1998.</li> <li>Taylor has seen assessed value grow by thirteen times while Hudson's Hope has grown three-fold.</li> <li>Grimshaw is difficult to determine because it has shifted from linear assessments to market-based assessments.</li> </ul>
Comparison	–	↑	–	<ul style="list-style-type: none"> <li>Taylor has grown much quicker and larger than Hudson's Hope.</li> </ul>
Study Area Impacts		–		<ul style="list-style-type: none"> <li>Likely no associated impact from BCH land use or the flood reserve. Most of Taylor's growth has come from the location of new industry in the community.</li> </ul>
<b>Farm Values</b>	<b>Grim</b>	<b>Taylor</b>	<b>HH</b>	<b>Evaluation</b>
Trend	↑	↓	↑	<ul style="list-style-type: none"> <li>Farm values climbed sharply between 1971 and 1981. Then declined from 1981 to 1991 before recovering between 1991 and 1996.</li> <li>Conversely, Taylor has gone from the highest in 1981 to the lowest in 1996.</li> </ul>
Comparison	–	–	–	<ul style="list-style-type: none"> <li>Hudson's Hope has gone from having the lowest average farm values for land and buildings in 1981 to having the highest value in 1996.</li> <li>Per farm values are all very close in value in 1996.</li> </ul>
Study Area Impacts		–		<ul style="list-style-type: none"> <li>The value of land and buildings associated with HH area farm have not been impacted by BCH land use or the flood reserve management.</li> </ul>

<b>Tourism &amp; Recreation</b>	<b>Grim</b>	<b>Taylor</b>	<b>HH</b>	<b>Evaluation</b>
Trend	N/A	N/A	↓	<ul style="list-style-type: none"> <li>Current user days are unknown, but overall recreation activity is down from its peak in the late 1970s, early 1980s, when the local population was higher and dam centre visitor traffic was cresting.</li> <li>Inventory of recreation sites is basically similar to 25 years ago, though some access and conditions have deteriorated.</li> <li>Broader indicators (e.g. park, forestry rec site and campground use) show little or no growth over the study period.</li> <li>The Peace River, as noted in recent studies, is a prime recreational feature within the regional landscape, but there has been limited commercial recreation development in recent years.</li> </ul>
Comparison	N/A	N/A	–	<ul style="list-style-type: none"> <li>No discernible impacts on a regional level, but there are small localized impacts resulting from a lack of investment in infrastructure.</li> <li>Some recent upland development (e.g. Pine Ridge campground) would have been better located, and therefore more successful, at riverside.</li> <li>Good likelihood of boat launch and/or a marina development in HH under the alternative scenario.</li> <li>Existence of the flood reserve and future likelihood of Site C development also has had an impact on recreation development.</li> </ul>
Study Area Impacts	– (regional) ↓ (local level)			

<b>Municipal Revenues Account</b>				
<b>Municipal Revenues</b>	<b>Grim</b>	<b>Taylor</b>	<b>HH</b>	<b>Evaluation</b>
Trend	–	↑↑	↑	<ul style="list-style-type: none"> <li>Municipal revenues are up sharply for Taylor between 1986 and 1998.</li> <li>Hudson's Hope revenue has also increased over the same period.</li> <li>Grimshaw revenues are flat over the 1989 to 1998 period.</li> </ul>
Comparison	↓	↑	–	<ul style="list-style-type: none"> <li>Revenue was relatively flat from 1981 to 1989 in Hudson's Hope after being up strongly from 1976 to 1981. Conversely, Taylor's revenue grew over the entire period.</li> <li>On a per capita bases Grimshaw has lagged behind the other two communities.</li> </ul>
Study Area Impacts	–			<ul style="list-style-type: none"> <li>Hudson's Hope revenue has not compared well to Taylor's over the period, however, Hudson's Hope does collect comparable revenue as Grimshaw – a community with twice as many people. Hudson's Hope main contributor to revenues is BCH – there is no identifiable negative impact on Hudson's Hope revenue from BCH land use or flood reserve management.</li> </ul>

## 5.3 Discussion of Impacts

### 5.3.1 Economic Development Account

#### Population

**Impact:** No identifiable impact on Hudson's Hope population, but farm-level impacts in rural area.

**Rationale:** There has been an extended decline in population in Hudson Hope over much of the period, while the benchmark areas have experienced periods of growth. There was population decline between 1971 and 1976, then the population rose significantly in the Hudson's Hope area between 1976 and 1978. However, from 1979 until 1990 there was a continual decline in the study area population. The increases and declines in population appear to correspond more directly with the activities associated with construction of the Peace Canyon Dam than BCH land use. While the rural component of Hudson's Hope appears to have been impacted more than the urban component of Hudson's Hope, when compared to the rural components of the benchmark areas the trend is similar. The benchmark areas have also experienced population declines – even in areas where the local economy has been expanding. Even so, former population clusters at Attachie and Bear Flats appear to have declined soon after the purchase program.

#### Incomes

**Impact:** No impact on family income in rural or urban areas.

**Rationale:** Family income in the rural and urban component of Hudson's Hope has remained strong throughout the period. While there has been periods when the benchmark areas have surpassed the study area in average income levels, for the most part the study area has led the way. In fact, in 1996 family income in rural Hudson's Hope was \$5,000 higher than the next nearest average in the benchmark areas.

#### Agriculture

**Impact:** No impact on study area-level, some negative impacts at the farm level.

**Rationale:** There has been a decline in the rural area agriculture labour force since 1981, even though the agriculture labour force for the entire study area has increased slightly. The decline in the rural area is largely attributable to a combination of national and industry forces independent of Site C land management. The overall Canadian agricultural labour force has not grown over the last 25 years because of increasing productivity and trade-related factors, even though production levels have increased. As noted in the latest Census data, the number of farms has declined significantly in Canada over the last two decades although the amount of land farmed has stayed relatively stable. The gradual decline of the family farm that is evident nationally has affected the two benchmark areas of Taylor and Grimshaw, although the number of farms in Hudson's Hope actually increased during this time. For the study area, the national trends would account for fewer agricultural workers residing in rural areas.

Although external factors and trends may account for much of the change that has occurred in the agriculture sector in the study area between 1971 and 1996, there does appear to be some incremental

impacts related either to BC Hydro’s ownership of Site C lands or the flood reserve, or both. This conclusion is based on our review of survey responses, particularly the following:

- There is less agricultural production on leased lands today than was the case before the purchase program. This is based on anecdotal evidence furnished by individuals through the survey – for the study area in general, total farm receipts have grown significantly, in real terms (i.e. after accounting for inflation), over the last 25 years.
- Agricultural investment activities on the subject lands are minimal, primarily because lease agreements have little or no security value for lending purposes and/or payback periods are too long. This was mentioned in regard to both land and building improvements. Declining investment means declining productivity.
- There is a belief that good land stewardship was not rewarded and that “minimal effort minimal return” behaviour was the norm. “Pride of ownership” does not carry over to leased properties, and prevents many lessees from developing opportunities on leased land.
- Some intensive agricultural investments which *may* have been viable on the subject lands were not undertaken because of poor lease terms and resulting high investment risk.

It is not possible to quantify the economic impacts, whether it is by employment, employment income or capital investment measures. The intertwining of the external trends noted above create a complex set of cause-effect relationships and make it difficult to isolate Site C land management as a dependent variable. Nevertheless, the apparent investment and productivity declines on individual properties in the study area are linked to existing tenure and tenancy arrangements.

## **Mining**

**Impact:** No impact.

**Rationale:** There has been no measurable impact on mining (i.e. gravel production) in the study area. The one gravel operation (Riverview Sand and Gravel) that was purchased during the acquisition program did not affect the short or long-term supply of sand and gravel in the region. There are several sources of supply below the flood line and above the flood safe line that were or could have been utilized if required. The gravel pit currently operated by the Ministry of Transportation and Highways on BC Hydro property between Bear Flat and Attachie has not been impacted because of a Crown grant that pre-dated the purchase program. Nevertheless, a small loss of revenues may have resulted, as the Ministry often gives consideration to private land owners for use of gravel to which they are entitled.

## **Forestry**

**Impact:** No impact.

**Rationale:** Timber values on the Site C lands tend to be low as most of the properties are improved farmland or grazing pasture. Private timber sales predating the purchase were negligible and documented merchantable volumes low. Much of the best timber is on Peace River islands unaffected by the purchase program. There were no documented cases of private tree farms. The majority of the regional fibre basket directed to processing facilities in Fort St. John, Dawson Creek and Chetwynd comes from the Crown land base, which was unaffected by the purchase program. Respondents to the interview program did not mention forestry as a potential economic loss or future land use in the study area.

## Other Goods-Producing Sectors

**Impact:** No impact on manufacturing, construction or utilities.

**Rationale:** Manufacturing has declined in the study area since 1971 but the decline has been in wood products and fabricating activities which are unrelated to Site C land management. Construction has also declined from its high in 1971, but this is due to the winding down of construction related to Peace Canyon dam and other development projects (e.g. housing and commercial/industrial buildings) in Hudson’s Hope as the community became built up. Similar downtrends in construction activity were seen in the two benchmark areas after 1981 as those communities became more developed. As with construction, declining utilities employment in the study area was heavily influenced by BC Hydro and Peace Canyon construction. Even though they were classified in the utilities category, many BC Hydro personnel resided in Hudson’s Hope specifically to oversee the ramp up of Peace Canyon and once this occurred they departed from the community.

## Service-Producing Sectors

**Impact:** Minor impact on tourism and secondarily, retail/commercial development in Lynx Creek.

**Rationale:** In a small rural economy, most service-related employment (e.g. business services, personal services, retail trade, health, education) is linked directly to population levels. In the study area, the decline in population since 1981 is largely responsible for the drop in the service sector labour force. As people leave town they take with them their spending, which drives the purchasing of retail goods and personal services, and their families, who consume health services and populate the schools. Even accounting for population loss though, the relative performance of service sectors in the study area appears to have lagged the two benchmark areas between 1971 and 1996. Factors unrelated to Site C land management are undoubtedly at work. For instance, the mere fact that the population has been in a downtrend has adversely affected the business climate in Hudson’s Hope and increased the perception of investment and business risk by entrepreneurs. This has left the community under-served and result in spending leakages to other areas. That type of uncertainty does not appear to have affected Taylor, which has maintained its service sector performance due in part to a more stable population base.

While population loss explains most of the service sector job losses in the study area, there are two areas in which Site C land management may have resulted in lost opportunities.

- First, some tourism opportunities, although believed limited, may have proceeded with better access to the Peace River. This is more fully discussed in the recreation account in the following section.
- Second, based on comments received through our interview program, more development in and around Lynx Creek may have occurred had the properties there remained privately owned. This is not to say that a significant level of development would have taken place had BC Hydro not owned the land; in fact, many former Lynx Creek residents indicated they were happy to have been bought out. Moreover, little activity occurred during the late 1980s on those Lynx Creek properties BC Hydro did not own before being purchased in 1990-1

Still, Lynx Creek has some attractive attributes (location and setting) that could have been the foundation for a viable neighbourhood, given the right conditions. Municipal services and

infrastructure would have had to be improved in order to attract the investment capital needed for development. Even then, a willing developer(s) would have to have made the decision to proceed. BC Hydro has not promoted nor developed this area during this period other than to advertise lease opportunities.

### **5.3.2 Community Account**

#### **Municipal Land Values**

**Impact:** No impact.

**Rationale:** The municipal assessed values have continued to grow in the Hudson's Hope area, while they have not been able to keep pace with the assessed land values for Taylor, this is more to do with the incredible expansion experienced in the Taylor area. The growth in the Taylor area is primarily from the expansion of industrial activity – without the growth from specific industrial clients in Taylor and Hudson's Hope would have more comparable growth rates. For the entire Peace Regional District assessed values are up 160% in 1998 from their 1992 values while Hudson's Hope has risen 170% over the same period. As well, assessed land value in Grimshaw have also risen less than Hudson's Hope having risen 140% between 1998 and 1992.

#### **Farm Values**

**Impact:** No impact.

**Rationale:** Farm values for land and buildings have increased over the 1981 to 1996 period in Hudson's Hope. In fact Hudson's Hope has sustain the largest positive value growth over the period however, Hudson's Hope farms have also grown noticeably in size over this period as well. Grimshaw farm values are also up over the 1981 to 1996 period while Taylor farm values are down over the same period.

#### **Recreation**

**Impact:** No regional impacts, but some minor property level impacts.

**Rationale:** In terms of inventory of sites and access to recreational features, there has been little change in status over the last 25 years, although some site conditions appear to have deteriorated and in some instances access has been impeded with the erection of new fencing. Even if these affected sites had remained with their previous owners, however, recreational access may have eventually been blocked. In the 1970s, boat launches and rest stops at Farrell Creek went across private land and the relatively low frequency of use did not create problems for the landowner. In more recent times, problems with rowdyism and vandalism have prompted the fencing to control access. Even without BC Hydro ownership, a property owner would likely have undertaken the same steps.

The current number of recreation user days in the study area and on the subject lands are unknown. Visitation statistics at other sites (e.g. BC Parks, Forest Service rec sites and dam visitor centres) in the vicinity show a gradual downtrend over time. Thus, the overall demand for recreation and tourism in the area appears to be declining. Regional visitation statistics from the North Rockies Alaska Highway visitors association show a similar downtrend suggesting that there are broader forces at work that extend beyond the study area. But there are internal factors that are working against tourism, and

economic development in general, inside the study area. Poor road conditions and a lack of infrastructure development are impeding development. The roads have deteriorated noticeably even in the last few years. As continuously mentioned in the interview program, this is largely because provincial government decision-makers, notably the Ministry of Transportation and Highways, have dropped Highway 29 from their list of priorities. This stems from the belief that Site C implementation would result in significant realignment of the highway or, in a worse case scenario for the community, an alternative route being developed between Chetwynd and Fort St. John. While there is no doubt that highway conditions have acted as a drag on tourism in the study area, it is nevertheless unrelated to the ownership and management of the subject lands. That is, even if BC Hydro had not undertaken its purchase program, the highway conditions we see today would still be there.

As with agriculture, where impacts may have occurred is in the case of lost business development opportunities, primarily in Hudson's Hope. The Dawson Creek LRMP and the Dawson Creek Tourism Opportunities Strategy have clearly documented the exceptional recreation/tourism features of the Peace River downstream of Peace Canyon dam. This led BC Parks to create the Peace-Boudreau Provincial Park, which will increase the marketing profile of the area and hopefully bring in more visitors. To date, this potential is largely unfulfilled, though not because of a lack of access to land. Over the last 20 years, there has been plenty of opportunity for establishing high-value, commercially-guided excursions on the Peace River but this has simply not occurred. Even now, the BC Assets and Lands Corporation has not had a significant level of interest expressed for commercial recreation tenure on the river. This illustrates how difficult it is to attract new visitors into the region, at a time when the overall travel numbers are pointing downward. A similar lack of rural tourism development is evident in both of the benchmark areas.

However, in Hudson's Hope, where there is a lack of convenient access to the Peace River and its recreational possibilities, opportunities may have been lost. Many survey respondents stated that quality access to the river at Lynx Creek, including marina and some accommodation development, could have stimulated tourism/recreation and even housing in the area. They claimed that the chances of this happening under BC Hydro ownership were less than had the properties remained in private hands. This would have depended on the willingness of former landowners to engage in development – up until they sold their land to BC Hydro they had not. An emerging emphasis on tourism and recreation development by the District of Hudson's Hope may be changing local attitudes towards this sector, but as with agriculture, opportunities on leased land are likely to be fewer and more restrictive than on private land.

### **5.3.3 Municipal Revenue Account**

#### **Municipal Revenues**

***Impact:*** No impact.

***Rationale:*** Hudson's Hope is generating comparable municipal revenue values as Grimshaw in 1998 – a community which has twice the population as Hudson's Hope. As well, between 1989 and 1998 Hudson's Hope have seen their municipal revenues rise while Grimshaw has had flat growth. Hudson's Hope does not have an industrial client base like Taylor and with Taylor collecting a significant component of its “new” revenues from this group Hudson's Hope has not been able to keep pace. Among the other components of the tax base growth has remained relatively more compatible between 1976 and 1998.

### **5.3.4 Related Issues and Impacts**

During the course of this project there were numerous issues raised about impacts of Site C land ownership and management in the study area, and their causes, and although many of these were addressed in the stakeholders survey, it was not always possible to come up with suitable measures against which the impacts could be objectively measured. Economic impacts are always more easily identified and quantified if they derive from specific projects or events. In the case of Site C land management, there is no single event but rather a series of ongoing policy and management decisions arising from community concerns that landowners who were to be affected by Site C flooding were not going to be adequately compensated for their properties. This, of course, led to the implementation by BC Hydro of the purchase program and its subsequent role in property management. The following paragraphs assess issues not covered previously:

#### **Highest and Best Use of Land**

The concept of "highest and best use" is one of the most important and least understood principles in real estate. The highest and best use of a property, more than anything else, is what determines its value. Highest and best use is defined as that use, from among reasonably probable and adequately supported alternative uses, which is:

- legally permissible,
- physically possible ,
- financially feasible, and
- maximally productive.

Property is always valued on the basis of its highest and best use, which may or may not be its present use. Land value is based on the highest and best use of the property as if vacant and ready for development to that use. Improvements are valued according to how they contribute to (or detract from) the value of the land. The highest and best use must occur within the reasonably near future and can't be remote or speculative.

In point of fact, very few properties are developed to their highest and best use. For this reason, any attempt to assess impacts on Site C lands held by BC Hydro becomes highly complex and ultimately beyond the resources of this project. The only accurate way to judge highest and best use would be to conduct appraisals on all the subject properties for their commercial, residential, farm, timber, mineral and tourism potential. Even then, there would be unique challenges as conventional appraisals cannot account for non-economic uses such as conservation areas. Some of the subject lands are highly sensitive wildlife habitat which would not be recognized in a residential/commercial/industrial appraisal, yet few would argue that purchases made by Ducks Unlimited (e.g. Watson Marsh) do not have value for the community.

A similar challenge is encountered when attempting to determine what land use would have been had BC Hydro had not purchased Site C lands. Suppositions would have to be made about owners of individual properties, including the likelihood that they would have developed the land for its highest and best use.

Based on a review of land use documentation prepared prior to the purchase program, the survey program and our own understanding of present land use, we offer the following observations about highest and best use in the study area:

- The declining population over the last 20 years, both in the rural areas and in Hudson's Hope, have depressed the real estate market and acted as a drag on development.
- By and large, land use has not changed for the majority of the approximately 7,000 acres purchased by BC Hydro. Farmland is still utilized as farmland (although productivity may be lower) and residential/commercial properties are still zoned accordingly in Hudson's Hope (even though there are few lessees).
- Based on the survey results, there are few instances of new commercial activities on adjoining land that would indicate under-utilization of the subject lands. There are some commercial developments (e.g. Pine Ridge Campground) that could have been better developed on adjoining riverfront land previously sold to BC Hydro, but these situations appear to be rare.
- Most (although by no means all) of the land is relatively remote and poorly serviced, meaning it is not highly amenable to development. This raises the question of financial feasibility for other than agriculture development.
- There are few zoning controls in the Peace River Region District that would constrain development. Land use regulations should not, for the most part, have inhibited development in the rural areas. If there was a higher and best use for the property before being purchased by BC Hydro, then the property would have had few regulatory barriers to develop.
- For rural land, there are issues around excess land that have to be factored into the equation. Most rural land cannot be sub-divided while many commercial uses do not require access to the full acreage. This raises the land costs for prospective new development.

In light of the foregoing, the conditions for land development within the Site C lands have not been favourable, irrespective of land management practice of the purchase lands.

There are some counter-arguments that have been raised about BC Hydro land management practice that arose during the survey program that may have had some impact on land use. These include the following:

- That BC Hydro has a vested interest in seeing land deteriorate to its "lowest and worst" use because they have no mandate for community or economic development.
- That the presence of BC Hydro as a land manager and provider of rental housing by itself reinforces the image of Hudson's Hope as a transient community.
- That lease terms and conditions effectively discouraged development in the region by making it very difficult to raise risk capital for new investment.
- That even with depopulation of the valley and depressed economic conditions, the Lynx Creek subdivision could have been a viable neighbourhood because of its attractive location and site factors. With such a development, it may have been, or indeed still be, possible to attract newcomers to the community and create spin-offs.

In the end, the concept of highest and best use within the Site C area could be considered a moot point. The mere existence of the flood reserve and potential for future development of Site C would, by themselves, render the subject lands unsuitable for development using conventional financial viability measures. The only way to reduce financial risk to a level that would encourage investment would be

to somehow compensate owners in the event Site C proceeded. Thus, one of the determinants of highest and best use (i.e. that is must occur within the reasonably near future and cannot be remote or speculative) suggests that it is Site C itself that is primarily responsible for driving use trends in the Peace River Valley. Real estate markets are attaching a high level of risk to development, which lowers the standard for the highest and best use. The survey program indicated as much when respondents consistently stated that they had no intention of investing more in the land than they could reasonably expect to get out.

### **Stewardship**

Many respondents to the survey questioned the commitment of BC Hydro to good land stewardship on the Site C lands, although some respondents did state that very little had changed in the valley since before the land was purchased. Any economic impacts attributable to stewardship issues were identified and discussed in the impact assessment in the previous section. As this report deals only with economic impacts we have not attempted to assess environmental impacts. Nevertheless, we have summarized below land stewardship issues raised in the survey:

- Survey respondents felt that the core problems preventing good land stewardship were the same as those which deterred highest and best use, firstly, that lessees are not rewarded for practising good stewardship and are therefore reluctant to commit the necessary time and expense, and, secondly, that BC Hydro has no incentive and nothing to gain by ensuring sustainability practices.
- Weed infestation was highlighted as a major problem by rural respondents, with some indicating that there will be no future productivity on some properties because of thistle problems.
- Concern was also expressed about the negative agricultural impacts resulting from contracting a land management company with no agrology experience.
- Evidence of garbage and waste leftover from the Lynx Creek subdivision was mentioned as a safety problem and gave a negative impression about future development possibilities.

### **Infrastructure Conditions**

Survey respondents were generally concerned about highway conditions and municipal infrastructure in the area which they believed resulted from BC Hydro acquiring Site C lands. However, some respondents pointed out that it is Site C itself and not land ownership conditions that have created the problems. We have addressed the economic implications of specific infrastructure issues in the impact assessment in the previous section. A summary of general issues is as follows:

- Highway 29 conditions were frequently cited as the single biggest problem impacting the area, with the Cache Creek bridge and slumping hillsides affecting not just tourism but economic development in general. It was claimed that the Ministry of Transportation and Highways and the Regional Transportation Committee have purposefully lowered the priority of roadwork in the area because of the possibility of Site C going ahead.
- Services, including natural gas service, to Lynx and Farrell creeks would have improved to the point of stimulating neighbourhood and economic development. As it is now, the area is effectively abandoned and only two or three sites have been developed in the last 20 years.
- Telecommunication services in Hudson's Hope and the valley have not developed on par with adjacent rural regions. Due to low population and decreased demand, the telephone services either from Fort St. John or from Hudson's Hope to new residents in the Farrell Creek has not been

extended. Similarly, no cellular towers have been established to serve the valley or the community of Hudson's Hope.

### **Business Climate**

Business climate refers to the prevailing environment regarding new development, new investment, business expansion, business attraction and entrepreneurship. It spans and is influenced by a wide range of stakeholders, including senior governments, the Chamber of Commerce, local business associations, financial institutions, real estate firms, and the local government since it sets the course on land and site development issues. Based on the information gathered during the interviews, the business climate in Hudson's Hope is not positive, partly because of relations with BC Hydro regarding land management issues. It is not necessary to quantify such impacts. The mere fact that many residents believe the business climate to be affected is enough to have local economic implications (i.e. self-fulfilling). Other factors, such as the current economic recession, also have a negative affect on the business climate.

## 6 Conclusions and Recommendations

### 6.1 Conclusions

Our conclusions about the economic and community impacts of BC Hydro Site C land management are as follows:

#### 6.1.1 *Limitations to the Analysis*

- There were special challenges structuring this analysis because there was no single project or event to focus on. In the case of Site C land management, what was being assessed was an on-going series of policy and management decisions that were temporally and spatially separated. Establishing a cause and effect relationship amongst all the other factors affecting economic and community activity was particularly difficult.
- Separating the impacts of land management from the Site C project itself also presented methodological challenges. In particular, survey responses did not always make that distinction, which was perhaps understandable given the historical context of hydroelectric development in the Peace River Valley. Even though interviewers took care to explain that it was only the impacts of Site C land management being assessed, it was not always possible to carry this over into the interview discussion. As a result, while most of the survey feedback did in fact focus on land management issues, there were also many comments about the implications of Site C itself and BC Hydro in general.

#### 6.1.2 *General Impacts*

- Based on the majority of measures used in our analysis, the main contributing factor underlying most economic impacts over the study period (1971-2001) are related to the loss of population in the study area. This occurred primarily in the District of Hudson's Hope and, secondarily, the rural areas. The loss of population was attributable to completion of the Peace Canyon dam and downsizing of BC Hydro operations which resulted in a considerable shrinkage in construction and utilities employment in Hudson's Hope.
- Many of the very broad changes in population and economic measures which were evident in the study area and also were seen in the benchmark areas of Grimshaw and Taylor. Declines in rural area populations, changes in the composition of the labour force and changes in personal and family incomes each showed trend characteristics that were similar between regions. This suggested that there were national and industry trends at work that would account for a sizable portion of the changes in activity evident in the study area.

#### 6.1.3 *Population Impacts*

- In terms of population impacts, our findings indicated a redistribution of population within the study area as the subject lands have fewer residents now than before they were purchased. This would include the rural areas and Lynx Creek. However, attributing actual population loss to land management was not possible because the measures (i.e. population change) were highly influenced by completion of Peace Canyon and the subsequent postponement of Site C.

#### **6.1.4 Economic Impacts**

- There were no major economic impacts on individual sectors of the economy, although there were some localized, non-quantified impacts affecting population, agriculture, tourism/recreation and some services. Impacts on rural landowners tended to be related to agriculture, whereas impacts on Hudson's Hope residents tended to revolve around Lynx Creek.
- The impacts identified in the interview program were often connected to lost opportunities, some of which were related to land management, but also to the uncertainty of Site C.
- There have been limited impacts on agriculture, mostly confined to the farm level. The rural area agriculture labour force has declined since 1981, even though the agriculture labour force for the entire study area has increased slightly. The decline in the rural area is largely attributable to a combination of national and industry forces independent of Site C land management.
- Respondents to the interview program suggested that declining investment in the agricultural land base has contributed to declining productivity and the general decline in land suitability for farming. "Pride of ownership" did not carry over to the leased properties, and discouraged many lessees from developing opportunities on leased land. Some intensive agricultural investments, which may have been viable on the subject lands, were not undertaken because lease terms raised the investment risk.
- No impacts were evident in mining. The one gravel operation (Riverview Sand and Gravel) that was purchased during the acquisition program did not affect the short or long-term supply of sand and gravel in the region.
- There were no forestry impacts. Private timber sales predating the purchase were negligible and documented merchantable volumes low. Much of the best timber is on Peace River islands unaffected by the purchase program.
- Site C lands did not impact other goods-producing economic activities. Construction, manufacturing and utilities employment, all of which declined in the study area between 1971 to 1996, were heavily influenced by BC Hydro employment and Peace Canyon construction.
- In a small rural economy, most service-related employment (e.g. business services, personal services, retail trade, health, education) is linked directly to local population. In the study area, the declines in population since 1981 is largely responsible for the drop in the service sector labour force. While population loss explains most of the service sector job loss in the study area, there are two areas in which Site C land management may have resulted in lost opportunities, first in tourism and second in retail/commercial at Lynx Creek. However, opportunity development is influenced by much more than land use - municipal services and infrastructure would have to be much improved in order to attract the investment capital needed for such development.

#### **6.1.5 Community Impacts**

- There have been no impacts on the value of farm properties in the study area. In fact, in terms of farm values for land and buildings, there has been an increase over the study period. Overall, the total assessed land value of Hudson's Hope is comparable to the benchmark areas, the assessed value in Hudson's Hope is very much in line.
- As with agriculture and services, there may have been some lost opportunities for recreation development in the study area because of use of the subject lands. While the overall visitation statistics show a gradual downtrend over time, the high quality recreation attributes of the Peace River and an emerging emphasis on tourism and recreation development suggest that improved access and services to the water could enhance tourism opportunities, particularly in Hudson's Hope.

### 6.1.6 Other Impacts

- The impacts of factors such as highest and best use, infrastructure development and land stewardship could not be determined because they are so closely tied to the Site C project itself. Nevertheless, survey respondents took issue with BC Hydro land management practice, specifically contract terms, contract legalities and the lack of agricultural experience possessed by the company's local contractor.
- Local attitudes will always reflect on a community's business climate and in Hudson's Hope, if residents believe that local conditions are less than ideal because of the way in which BC Hydro manages Site C lands, then this can be expected to have an adverse affect on economic activity.

## 6.2 Recommendations

General recommendations arising from this analysis are as follows:

- **Review of Leasing Policy** – survey respondents indicated that changes to BC Hydro lease policy, such as extending lease terms to 20 years, has created more interest in undertaking development on Site C lands. However, others have stated that there are still many barriers to leasing that deters economic activity from moving forward. It may be that a combination of longer term leases with adequate compensation packages in the event the dam is built that would assist community development without foregoing future land use for Site C development. Other suggestions from the interview program included the following:
  - The use of plain language leases so lessee's find it easier to review documentation.
  - Develop a new land owner/lessee list for Site C lands, that accounts for all held, leased and adjacent lands. The current list includes a number of deceased.
  - Undertake mapping and delineation of BC Hydro lands – owned, leased and impacted as well as adjacent properties. Identify status of all BC Hydro properties (ALR/ Residential).
  - Determine best use of land, taking into account the land classification and logical use. In some cases (e.g. Lynx Creek, Bear Flats) leases made for grazing purposes were negotiated as though they were for town lots.
  - Consider working with a local stakeholder group to develop leasing criteria and increase the transparency of land use decision-making.
- Undertake appropriate advertising of lease properties including:
  - Post Office in Hudson's Hope (flyer)
  - Monthly District of Hudson's Hope newsletter
  - Local newsletter (published bi-monthly)
  - Free regional papers (i.e. Peace Country Farmer, The Northerner, The Northern Horizon)
  - Letter or newsletter to impacted users (per above)
- **Enhance communications** by:
  - Stating the current "official" position of BC Hydro on Site C and other issues. Many stakeholders are not up-to-date as they are now the heirs of the original land owners and may not have been involved in original discussions and negotiations.
  - Distributing information about the lease program (e.g. offering of 20 year lease, shared-risk in the event of early lease termination, the rules of compensation) by BC Hydro.
  - Distributing information about BC Hydro in the community and valley, such as initiatives, key staff and contact information.

- Promoting the results of this study focusing on neutral information that targets better land management and use.
- More participation with **stewardship** and agricultural issues, including:
  - Having a local land manager experienced in both agricultural and environmental practices, or with access to such expertise. This would assist with agriculture and community development. In combination with a more flexible leasing policy this may create a better environment for increased land productivity while managing leaseholder risk.
  - Delineating (per bullets under lease) and posting/advertising land status to better help private landowners and BC Hydro lessee's with trespassing problems.
  - Regularly reviewing, independently, lease lands to see that lessees are meeting lease conditions. Weed problems on leased lands that are affecting adjacent private land are the responsibility of the lessee, and appropriate controls should be enforced.
- **Further Clean Up of Lynx Creek** – although most buildings in Lynx Creek have been razed, there is still trash and debris, some of it considered a safety hazard, on many of the sites. Clean up would improve the look of the area perhaps stimulate more interest in seeking some productive use of the land.
- **Joint Economic Development Planning** – some joint planning between BC Hydro, the District of Hudson's Hope and the Peace River Regional District for future economic development should take place in relation to BCH-held lands. It is possible that many of the impacts related to lost opportunities on these lands could be minimized, or even reversed, through strategic and collective action. Issues like land management policies, business climate and sectoral development (e.g. tourism) could be enhanced through joint planning.

## 7 Appendix 1 – Study Area Geography

This project involved the development of a study area and two benchmark areas. Each of these three areas includes a municipal component and a rural component. For this project, the **study area** has been defined with the municipal component made up of the District Municipality of Hudson's Hope and the rural component including the area extending from Hudson's Hope to Taylor along both sides of the Peace River. The **BC benchmark area** includes the District Municipality of Taylor as the municipal component and has as the rural portion the area from Taylor to the Alberta border on either side of the Peace River. Finally, the **Alberta benchmark area** uses the Town of Grimshaw as the municipal component and takes in the Peace River area surrounding the Town.

These three areas were then defined more specifically using Enumeration Areas from Statistics Canada. For the municipal components this involved selecting the appropriate municipalities and the corresponding Census Sub-Division (CSD). The rural components involved selecting specific Enumeration Areas (EAs) to represent the rural components. The BC study area and benchmark area were developed with assistance from BC Stats for the Census periods 1996, 1991, 1986, and 1981. Statistics Canada assisted with identifying the Alberta benchmark area for 1996, 1991, 1986, and 1981. Statistics Canada also provided data for the two BC areas and the Alberta area for 1971.

### 7.1 1996 Census Enumeration Areas

- The **study area** is comprised of 4 EAs and the District Municipality (DM) of Hudson's Hope. The EAs for the rural component are 59022257, 59022351, 59022355 & 59022455. The DM of Hudson's Hope is CSD 5955025.
- The **BC benchmark area** is comprised of 5 EAs and the District Municipality (DM) of Taylor. The rural component is made up of several EAs including: 59022253, 59022256, 59022258, 59022265 & 59022266. The municipal component is the DM of Taylor which is CSD 5955030.
- The **Alberta benchmark area** is comprised of 7 Enumeration Areas (EAs) and the Town of Grimshaw. The EAs for the rural component of the Alberta benchmark area includes: 48020415, 48020416, 48020417, 48020457, 48020470, 48020501 & 48020525. The Town of Grimshaw is CSD 4819074 and represents the municipal component.

For the Census periods 1991, 1986, 1981, and 1971 the boundaries had to be revisited using the EAs associated with the specific Census period. For the three municipalities the fits remained constant over time since the CSDs remained consistent, however, the EAs in the rural portion of the areas do fluctuate as the size and shape of the EAs changed over time. The following discussion outlines the specific EAs that have been selected to represent the study area and two benchmark areas for 1991, 1986, 1981 and 1971.

## 7.2 1991 Census Enumeration Areas

In discussions with Statistics Canada, the consulting team determined the Alberta areas that would be included for the Grimshaw areas for 1996 Census. The EAs included were determined using the Representative Point method. That is, the 1991 Enumeration Area Representative Points (i.e. population weighted centroids) that fell within the 1996 area defined by the client were included a similar method was used by BC Stats mapping department for the BC areas. The areas were defined as follows:

- The **BC study area** is comprised of 4 Enumeration Areas and also includes the District Municipality (DM) of Hudson's Hope. The rural EAs are 59022257, 59022351, 59022355 & 59022455. The DM of Hudson's Hope is CSD 5955025.
- The **BC benchmark area** is comprised of 4 Enumeration Areas and also includes the District Municipality (DM) of Taylor. The rural EAs are 59022253, 59022256, 59022265 & 59022266. The DM of Taylor is CSD 5955030.
- Alberta study area is comprised of 7 Enumeration Areas and also includes the Town of Grimshaw. The rural EAs are 48020415, 48020416, 48020417, 48020457, 48020470, 48020501 & 48020525. The Town of Grimshaw is CSD 4819074.

## 7.3 1986 Census Enumeration Areas

In discussions with Statistics Canada, the consulting team determined the Alberta areas that would be included for the Grimshaw areas for 1996 Census. The EAs included were determined using the Representative Point method. That is, the 1986 Enumeration Area Representative Points (i.e. population weighted centroids) that fell within the 1996 area defined by the client were included. A similar method was used by BC Stats mapping department to determine the BC geographies in 1986. The areas were defined as follows:

- The **BC benchmark area** is comprised of 5 Enumeration Areas and also includes the Village of Taylor. The rural EAs are 59007204, 59007307, 59007309, 59007311 & 59007312. The Village of Taylor is CSD 5955030.
- The **BC study area** is comprised of 5 Enumeration Areas and also includes the District Municipality of Hudson's Hope. The rural EAs are 59007207, 59007310, 59007317, 59007318 & 59007325. The DM of Hudson's Hope is CSD 5955025.
- **Alberta study area** is comprised of 7 Enumeration Areas and also includes the Town of Grimshaw. The rural EAs are 48016068, 48016270, 48016353, 48016354, 48016364, 48016365 & 48016401. The Town of Grimshaw is CSD 4819074.

## 7.4 1981 Census Enumeration Areas

For the Grimshaw area the EAs included were determined using the Representative Point method. That is, the 1981 Enumeration Area Representative Points (i.e. population weighted centroids) that fell

within the 1996 area defined by the client were included while BC Stats mapping department used similar methodology to determine the BC areas. The areas were defined as follows:

- The **BC study area** is comprised of 5 Enumeration Areas and also includes the District Municipality (DM) of Hudson's Hope. The rural EAs are 59007173, 59007205, 59007207, 59007253 & 59007259. The DM of Hudson's Hope is CSD 5955025.
- The **BC benchmark area** is comprised of 5 Enumeration Areas and also includes the Village of Taylor. The rural EAs are 59007173, 59007205, 59007207, 59007253 & 59007259. The Village of Taylor is CSD 5955030.
- **Alberta study area** is comprised of 6 Enumeration Areas and also includes the Town of Grimshaw. The rural EAs are 48016068, 48016069, 48016353, 48016354, 48016365 & 48016401. The Town of Grimshaw is CSD 4815074.

## 7.5 1971 Census Enumeration Areas

The Enumeration Areas (EAs) to be included in each of the custom geographies within Alberta and British Columbia were determined by Statistics Canada based on the 1996 geographies provided by the client. The EAs included were determined using the Representative Point method. That is, the 1971 Enumeration Area Representative Points (i.e. population weighted centroids) that fell within the 1996 area defined by the client were included. The areas were defined as follows:

- The **BC study area** is comprised of 3 Enumeration Areas and also includes the CSD of Hudson's Hope. The rural EAs are 59015356, 59015359 & 59015414. Hudson's Hope is CSD 5955025.
- The **BC benchmark area** is comprised of 6 Enumeration Areas and also includes the CSD of Taylor. The rural EAs are 590015266, 590015267, 590015351, 590015352, 590015353 & 590015355. Taylor is CSD 5955030.
- **Alberta study area** is comprised of 9 Enumeration Areas and also includes the CSD of Grimshaw. The rural EAs are 48014257, 48014260, 48014261, 48014303, 48014304, 48014305, 48014314, 48014316, 48014317 & 48014318. Grimshaw is CSD 4815074.

## 8 Appendix 2 – List of Interviews

Ardill, Dick & Irene
Bach, Robert
Bentley, Lloyd
Boon, Ken and Arlene
Cota, Albert
Enderlin, Pat and Russ
Fleet, Delbert
Frind, Wenzel and Herbert
Gentles, Wally and Opal
Gladysz, Jack
Goodwin, Heather
Gouldie, Vic
Halata, Darlene
Hamilton, Al and Louise
Hammack, Wayne
Hebert, Pat
Howard, Kip
Johansson, Gwen
Leber, Heinz & Gudrun
McKnight, Wes
McWilliams, Anita
Meek, Gordon
Murphy, Ralph and June
Peck, Arlene
Peck, Ross and Debbie
Pedersen, Viggo and Paul
Peterson, Larry and Lynda
Remfert, Wayne
Rutledge, Leo (written submission)
Porter, Roger
Powell, Olive
Sarauer, Gerald and Ida
Sewell, Richard and Linda
Sykes, Ed and June
Summer, Leigh
Tompkins, Bill
Watson, Doren and Sherre
Wilson, Brian and Noreen
District of Hudson's Hope Council – focus group

## 9 Appendix 3 – Summary of Interview Comments

**Respondents: 54**

**Relationship to Site C Lands:**

- Sold Only - 5
- Sold & Leased Back - 12
- Lessee Only - 6
- Other – 31

**What is your opinion of land and resource practices on the subject land (e.g. livestock foraging, timber harvesting, soil erosion)? Are they sustainable or unsustainable?**

- Absolutely no development – buildings were sold off and site cleaned up – site has grown over.
- An agrologist should have been responsible for overseeing the properties rather than a property manager with no agriculture background who flew up weekly.
- BC Hydro has been benign in their neglect.
- BC Hydro has done nothing with the land.
- BC Hydro has no sense of what land management is and don't understand why these land holdings are a problem.
- BC Hydro is paying a lot more attention than they used to.
- Community have opinions about land management practices but no jurisdiction to deal with it.
- Concern about loss of access to river and deterioration of recreation site on Stampede Flats which was developed by the Kinsmen and used by non profit groups like the Boy Scouts
- Concern with fish habitat and egg hatching.
- Concern with fluctuation in river levels. It can come up very fast and you really have to know and respect it.
- Constantly changing river levels have caused erosion.
- Erosion concerns are not addressed on BCH lands because there is no one to care about those lands.
- Fluctuating water levels create problems for livestock fencing, causing problems for sustainable grazing practices.
- For rural residential the practices are definitely not sustainable. In adjacent subdivision lack of maintenance of vacant land has led to serious accident of person falling into abandoned septic tank, discovered several similar dangerous underground water/sewer lines that were near collapse. Apparently some have been dug up and filled in, may well be more not addressed. Piles of rubble from demolished houses leaves hazards, not attractive for prospective purchasers of adjacent land.
- From an agriculture perspective, land have deteriorated although not sure if it was an intentional ploy of BC Hydro.
- Hard to invest as lessee when don't know what the future of Site C will be
- Houses in Lynx Creek area removed/burn because it was too much trouble for BC Hydro to manage the tenants.
- I believe I follow better management practices than others - but the key is there is no reward in the lease for good stewardship of the land, and a lot of risk to the lessee if they do (i.e. the lease is cancelled with no compensation). What I do to the leased land is largely out of my desire to care for the land.

- I have seen lots of evidence of soil erosion on leased land. Suspect it is worse on leased land than owned land.
- If the land is allowed to deteriorate, there will be less impact on BC Hydro if Site C goes ahead.
- Insignificant amount of land so the management is irrelevant.
- Land has a ghost town atmosphere.
- Land has not been well managed.
- Land is in limbo and is some of the prettiest land in the area.
- Land is vacant – not being look after – hasn't been leased – all the hard work on development has gone to weeds.
- Lands like the Covington Place haven't been hayed or grazed for years. They are a fire hazard and full of weeds. There is nothing for a renter to come into.
- Less concern with the land itself (the soil) than the stifling of normal developments such as buildings, fencing, driveways, etc.
- Long term leases only started 3 or 4 years ago.
- Lynx Creek is a very picturesque area with no-one living there.
- Lynx Creek was a thriving community but once BC Hydro bought the land, it sterilized future growth.
- Need to seek renters who will make improvements and add value to the community.
- Not visually appealing.
- Powell's place went down hill after it became a BC Hydro property and was un-rented for quite a length of time.
- River is very quiet and stable so nothing is required.
- Significant decline in grayling.
- Some lands were looked after better by lessee than they had been under previous ownership while some were not managed as well.
- The company managing the land for BC Hydro did the best they could considering the parameters they were given (leased and environmentally protected).
- The land has frozen development to a time 20+ years ago which is not a bad thing from a wildlife management interest.
- The land is just in a wild state. Land has potential to qualify under woodlot program.
- The lands are generally well looked after, with weeds controlled as much as they were before.
- The low water levels have damaged fish stock, but there was no baseline study done to measure against.
- There has been no investment in fencing, weed control or fertilizer on the leased lands.
- There is a lack of distinction between BCH/Crown/Private lands, which leads to trouble keeping recreational users with ATV's off sensitive hills. . Erosion and damage takes years to recover from.
- There is no advantage for BC Hydro to utilize the land to its highest potential.
- There is no incentive to do anything with the land under current BC Hydro ownership.
- They have made a few changes – they could make a lot more.
  - Do a land use plan for the valley.
  - May need to redesign the property value system.
  - Could put the land to the *highest and best use*.
- Very concerned about fluctuation in water levels along the river.
- Weeds have not been controlled on BC Hydro lands
- Weeds, weeds and then weeds.

- With soil erosion on your own land, you take steps to deal with it. Due to problems with the road drainage, some land has been flooded and spread weeds.

**Has the primary use of Site C land changed since being bought by BC Hydro? Please describe the change in usage.**

- BC Hydro ownership has destroyed the incentive to manage the land.
- Commercial enterprises in Lynx Creek included the garage and fire hall which are now inactive or gone.
- From residential use to non-usage.
- Gravel pit is new, but considering that it is not arable land is good use but access to the river should not be restricted by the gravel pit being there
- Has gone back to wild.
- Has gone from large market garden with employees and sales to just now being returned to productive land after significant work and investment by current lessee.
- Has gone from productive farmland to quack grass, suitable only for pasture and feed.
- Little done with the land ever except grazing (even prior to BC Hydro purchase)
- Lynx Creek went from thriving community with approximately 20 families living in ½ mobile home and ½ houses to no residential.
- No – not interested.
- No change – landowner cleans, burns grass and keeps clean as extension of own property.
- Nothing – has leased the land since it was purchased and has paid nearly paid for the land again. Have asked to purchase with BCH entitlement to buy back if/when required but they won't agree.
- Pioneers who lived in the valley farmed for the lifestyle, including self-determination and pride of ownership that was taken away through the sale of the lands to BC Hydro.
- Primarily used the same with the exception that permanent structures cannot be built under the lease.
- Primary use of agricultural land has not changed since BCH ownership. Most of the land is not being used (Lynx Creek).
- Some of the larger parcels are still being farmed as part of the original holdings, but less in being put into the rental land.
- The smaller parcels have fallen into such bad shape that they are no longer rentable (Gates Garden and Covington).
- There has been a loss of homes adjacent to ours, either left vacant until moved or torn down. Same with some lots within (they believe) the ALR, left to grow wild - cause weed problems for adjacent land.
- There is no interest in the next generation to stay and keep the farm. A lot of the neighbouring land is leased from BCH as well as a good portion of ours. If the land floods, another large portion of our farm will be shoreline and slough. We are winding down our operations and investment even in our own land since no one in the family wants to keep on.
- This farm at one time grazed over 350 head of mother cows. Now it grows some alfalfa under a sub lease, and we run some yearlings, but the investment in time and money to keep the farm productive is just not there under the terms of the lease.
- This land used to grow potatoes and corn under irrigation. Now it is pasture and weeds.
- Unable to use the land for the purpose advertised in the lease due to condition of property and fences.
- Was originally a trailer court, now mostly vacant since owned by BCH.

- Was rented for a short time, then sat vacant then sold buildings to be moved then fencing fell into the ground.
- Watson Slough development should include all the non-arable land between the highway and bench to preserve the entire ecosystem and prevent logging of land at west end of slough
- Went from residential to rental property for a number of years – currently leased.
- Yes – developed a new business on land that had been used sporadically for residential use and was vacant for many years.
- Yes – not being utilized as heavily as before – i.e. Lynx Creek has been abandoned where there used to be 12 – 15 residences.

**Has the primary use of land adjoining Site C lands changed since being bought by BC Hydro? Please describe the change in usage and any links to the subject land.**

- Adjacent land is all the same – has gone back to wild.
- All adjacent land (Lynx Creek) purchased by BC Hydro.
- BC Hydro owned land at Lynx Creek has reverted to bush.
- BC Hydro should not lease the land south of the highway at Bear Flats as the land has little agriculture value and left alone will maintain wildlife habitat
- BCH holding the other lands has driven up the values of the private lands in the valley.
- Depopulation happens as the children do not stay on the property. There is no succession and it affects the willingness of owners to keep up the property.
- I am aware of some land that was rural residential that has now become vacant.
- Land adjoining has been most affected by change in ownership through inheritance from original owners than through adjoining Site C lands.
- Land has not changed.
- Land in Lynx Creek has been abandoned and overtaken by brush.
- Lessee has acquired adjoining land to control unwanted activities on the property.
- Missing younger people will ideas and investment drive.
- Most of the land is still primarily agriculture/grain/cattle/forages.
- My land values have deteriorated due to large tracts of BCH vacant rural residential land.
- New campground was developed (on private land)
- No changes. Just a few families owned most of the land so there have not been many changes. The potato farm is gone, and (has heard) the trailer park is new because of the twenty-year lease.
- Not closing gates, wrecking fences has had a damaging effect on my land.
- Not much difference except that with lease land you have to “rape and pillage” and re-invest nothing to set off lease cost and future uncertainty
- Overall psychology of the aged population.
- People holding land are 20 – 30 years older and most are in retirement mode.
- Poor access maintenance (supposedly a joint responsibility with the BCH lessee next door) has curtailed development on my property.
- Primary use of adjoining agricultural lands has not changed since BCH ownership.
- There has been no change/ minimal change.
- There is a developed intensive livestock operation on land next to the (BCH) subdivision. Previously vacant.

**Is the productivity or economic activity on the subject land any different than adjoining land which is not held by BC Hydro? Please explain.**

- Access of adjoining land is a problem for some intensive or more productive activity (e.g. utility access, roads for wide equipment).
- Adjoining lands privately held are residences or vacant. Key is that most of them are maintained, fences, mowing, hazardous buildings demolished, etc.
- Agricultural land adjacent to BCH agricultural land is different - more productive due to better management practices (weeds, fertilizer, soil tilth, fencing).
- Appearance and upkeep are much higher on privately held properties.
- Assuming same types of crops (annual production with minimal inputs) on both, productivity is the same.
- Depends on the lessee – some are not as good where there is no ownership. For those lessees who are truly into production the land is in as good or better as before the purchase.
- Have water license which BCH lands apparently do not, so they irrigate and is more productive.
- Most of the adjoining land is unproductive. Twenty years ago could have put in a RV park.
- No comment.
- No difference - there have been no new developments due to low tourism traffic and distance from a populated center. Tourism businesses have tried and failed numerous times in the area.
- Not applicable in Lynx Creek.
- Not applicable.
- Not much different – considerable amount of the land was non-arable
- On private land there would be more mixed farming (grain and livestock). This creates natural fertilizer on the land, but most rental properties do not have good enough fencing to keep livestock. Therefore the crops are being taken of, without putting anything back into the land and the livestock is being fed at home (private lands).
- Potential is there for both lands, but not being developed to meet the potential.
- RV park developed and boat launch being considered.
- Some lands are weed patches, but the majority are well looked after and productive.
- There are access conflicts between private and BCH lands. The land status is unclear, causing problems with trespassing on private and BCH leased lands.
- There has been more building of privately held lands.
- There is no, or very little, economic activity on the BCH owned lands.
- Vacant land has depressing effect on value of adjoining land and effects economic activity. There is no economic activity on these adjacent lands - some speculation as to why. Some blame BCH and uncertainty in the valley.
- Very little changed, as much of the land is rocky and not suitable for much other than hay or grazing.
- Would produce as much per acre growing a market garden (potatoes) as current usage as trailer court.
- Yes – lessee’s do not spend the money for upkeep without the land title.
- Yes – RV park has been developed while the rest is just vacant. Something would have been done with other areas years ago if they had access to the land.

**How do you feel the land would have been developed if it had remained in private ownership? Give Examples**

- A few specialties (i.e. potatoes) would have been developed in the valley.
- A trailer court would have survived.
- As agriculture and grazing.
- Aware of some gravel deposits.
- Because of uncertainty – there has been no long-term financial commitment to the Site C lands.
- Cattle would have been finished locally.
- Children would have lived on and inherited the land.
- Different approach to investment in the region if the uncertainty of dam and resulting flooding had been removed. Speculate that due to spectacular scenery and location to Alaska highway there would have been more tourism development.
- Don't know - prior to current lessees residence in the area.
- Far more development along the river (similar to Charlie Lake).
- Good garden potential.
- Had bench land been retained (or sold to) private ownership, that land would have been much better maintained than it currently is.
- If Lynx Creek went back to private ownership, it could have a subdivision or be a public domain with green spaces up the canyon.
- Land would have continued to be used (i.e. communal farm east of bear flats).
- Lynx Creek would have been a nice family environment.
- Lynx Creek would have been the same type of community with a mix of same and new residents.
- Lynx Creek would have continued to develop as residential property with fire department, service station and other services.
- May have been a nice extension to the private lands still held in the family
- More intensive agriculture development.
- More intensive use and higher productivity.
- More intensively and responsibly - still in agriculture.
- More people would be living in the area which may have brought other economic activity.
- More people would have come to the valley to live on hobby farms as the larger properties sold off.
- More unique living options would have added to the community development.
- Need someone with vision to develop the valuable riverfront property, but with lease, there is no guarantee for long term so lessee's have to develop with removable assets.
- No difference – there is not enough demand for land.
- Not a lot different – had planned to fence and put a few livestock on it.
- One third of the property would have utilized irrigation.
- Organic vegetable production and sales and the associated employment and tax revenue.
- Permanent structures may have been built on the agriculture lands.
- Probably would have been held as part of entire holdings or possibly more residential development
- Real estate prices would have been stronger.
- Recreational facilities would have been developed.
- Same as before (Lynx Creek) – would have remained a residential area with little new development– respondent would probably still have lived there.

- Same as current residence – well landscaped and kept up.
- Some expectation that there would have been various individuals that would have purchased these rural residential lots ranging from retired couples to recreational property rather than just been left vacant.
- Some of the river properties would have had estate homes on them.
- Some people would have bought 2 lots.
- Speculate that access to the river would have improved so would have been more recreational activity.
- The big family holdings would have taken a long time to split up, but the properties within ½ hour commute to Fort St. John would have been very valuable.
- The non-agriculture lands purchased were not good areas for inhabitation or sub-division development due to water and sewer limitations.
- There was market garden potential in the Lynx Creek area.
- There would have been a lot more smaller holdings.
- Very similar development – gravel pit wouldn't be there and campground would have been maintained.
- Would be very disappointed if fragment of land bought by BC Hydro was released to someone else if Site C is cancelled at some point.
- Would have been developed as a complete. Threat of Site C affects overall vision for developing land. Investments like power, phone etc. are not expended as the most valuable lower lands may be flooded someday, affecting the connectivity with the other lands.
- Would have built home and marina if Site C went ahead. Now 20 years have passed and personal goals have changed.
- Would have farmed as part of the whole farm. Area has good market garden potential.
- Would have remained a residential property with no commercial development.

**Are you aware of investments or developments that were proposed to BC Hydro on the subject lands but which did not proceed? Give examples.**

- A golf course was proposed on the old fox farm.
- A proposed recreation site behind the old garage that never went ahead.
- An R.V. park was proposed prior to the existing one being installed. Since then that whole family has moved away who would have other wise stayed and changed the business community.
- Apparently there were some Crown Agricultural Leases that were not developed after BCH ownership and reverted back to the Crown.
- BCH wouldn't improve the house that Jackson's were renting to make it habitable.
- Blueberry Farm looked at farming potatoes, but in order to make it productive, the situation would have to have been different.
- Boat Launch at Powell property.
- Don't know of any project that BC Hydro has refused.
- Don't know.
- Had heard rumors of previous development ideas but unsure of the details.
- Lynx Creek campground was hell getting up and running.
- Maintenance and expansion of potato land was (apparently) quashed by BCH.
- Many people enquire about getting access to the land held by BC Hydro.
- No – proposed trailer court was first.

- No, land has been used for grazing since before transfer to BC Hydro and has continued until recent lease.
- No, we became liable for everything. The liabilities crept into the contract over time until we had to get two lawyers involved to resolve. Lots of potential 8-10 years ago, but lots of intangibles have changed their lives and goals.
- No.
- Not aware of any specific suggestions.
- Not aware of specific proposals.
- Nothing that was feasible.
- Only in last few years went from 5 to 20 year leases.
- People have the feeling “it will be flooded so why bother”.
- R.V. park is proof that BC Hydro is trying.
- River boat facilities, but variation in river levels prevents any serious development.
- There was a suggestion to use P. Powell’s house as a Bed and Breakfast but unsure if it was proposed to BC Hydro.
- Yes. Neighbour (unnamed) examined leases and did not like terms - counter proposed but no settlement reached. Purpose was for mobile home park.
- Yes. Campground site on river. Eventually built on land they owned themselves above the river.

**Can you comment on the general impacts of BC Hydro ownership of the Site C lands (e.g. infrastructure development, highway conditions, population).**

***Highway Conditions***

- A road between Chetwynd and Fort St. John over the Site C Dam will have a devastating effect on the economy and tourism of Hudson’s Hope and would create a longer connection time to airport, hospital and other services.
- Apparently BCH purchased land for development of new highway which has led to speculation that there is an unwillingness to maintain beyond a minimum the existing highway.
- BC Hydro undertook that they would replace the road.
- BC Hydro doesn’t care about the highway conditions.
- Billboard sign north of Seattle advising travelers to Alaska *not* to use Highway 29 due to it’s condition.
- Cache Creek Bridge has never been replaced which would have happened without the threat of Site C. Disruptive when high water prevents moving farm equipment and big loads across the creek.
- Cache Creek bridge is a serious problem for moving heavy and wide load equipment - safety hazard as well.
- Concern if/when the road is rebuilt how it will affect the private lands not affected by the pondage or safe line.
- Design of bridge (forcing large loads to cross creek) has impacted erosion of private lands along the creek. PEP doesn’t consider farm land as structure so won’t help with flood damage.
- Development of a road between Chetwynd and Fort St. John (if Site C proceeds) would eliminate tourism traffic through Hudson’s Hope.
- Genuine concern that there will be no road between Hudson’s Hope and Fort St. John.
- Highway conditions "atrocious".
- Highway conditions are terrible.

- Highway receives only minimal maintenance as it would have to be moved if Site C is built.
- Highway remains in very poor condition with single lane bridge.
- Highways should improve the portions that do not have to be realigned.
- How much longer do residents of Hudson's Hope have to wait for highway improvements that are based on the uncertainty surrounding Site C?
- If Site C is built – doubt there will be a road between Hudson's and Fort St. John.
- If Site C proceeds and highway access is limited between Fort St. John and Hudson's Hope, more BC Hydro employees would probably live in Fort St. John and only come to Hudson's Hope to do their job.
- Lot of road work is not being done because of realignment required when Site C is built.
- Ministry of Transportation and Highways does not want to invest in highway because it will eventually be flooded.
- Road between Hudson's Hope and Fort St. John has not been maintained due to eventual development of Site C.
- Road condition has a negative effect on campground visitation.
- Road condition has caused visitor levels to Hudson's Hope to drop.
- Road condition is the primary deterrent to growth in Hudson's Hope.
- Road deterioration has nothing to do with holding the Site C lands.
- Road has continually deteriorated in past 20 years.
- Road probably not affected by Site C – more the nature of the soil – better than the 70's when it was gravel and dust.
- The roads would be better.
- There has already been a massive drop in tourism due to road conditions.
- Too much road investment is fixing hills and none in the rest of the road.
- When Regional Transportation Committee itemized the need for road repair, Highway 29 was not a high priority due to the potential building of Site C.

***Local / Regional Development***

- After BC Hydro got out of the rental business (in Hudson's Hope), the places were cleaned up reflecting a pride in ownership.
- BC Hydro did not follow through on their promise to get out of the housing market.
- BC Hydro ownership of Site C lands has had a negative population impact.
- Businesses like the hardware store were closed due to abundance of rental properties which are not kept up in the same manner as owned properties.
- Certain that population has not recovered from the pre-Site C speculation days due to BCH ownership. This lower population affects infrastructure development.
- Could not attain protected area status through the LRMP process due to the flood reserve.
- Current council opposes development of any type, including electrical, oil and gas, forestry or mining which has a greater impact on the general growth and development of Hudson's Hope than the holding of the Site C lands.
- Even with a 20 year lease, no one is going to build a home.
- Families would have lived on ¼ or ½ section properties throughout the valley had the land not been held by BC Hydro.
- Gradual depopulation of the valley from the number of families in the valley when the Site C studies were undertaken.

- Had the land not been purchased, a lot of people would have stayed and opened small business's in the region.
- Had trouble getting power to own building site due to BCH wanting to route line above slough line.
- Holding the Site C lands has created a state of limbo. The compensation funds are for upstream of the dam so does not come into affect until Site C is build. Downstream is considered operation and there has been no compensation or mitigation for river issues such as fish and wildlife impacts.
- If flooded, the south side of the river would lose its reason for being a park.
- In 20 years since moratorium only 2 or 3 properties have been build.
- Inability to build permanent structures may have had a bearing on taxation and population levels but overall a very small impact on the valley.
- Increased the population in downtown Hudson's Hope.
- Infrastructure of Hudson's Hope did not develop due to the large percentage of rental homes and mentality that it was/is a rental community.
- Kids have scattered due to limited economic opportunities in Hudson's Hope.
- Lynx Creek area would have developed nicely as a residential area.
- Lynx Creek would have developed.
- May have been larger population but it isn't a bad thing that it has been kept as larger holdings.
- Minimal affect on population as there is not enough work for more than are currently here
- No-one will invest in leased land.
- Nothing very significant.
- People like to live along lakes and rivers and would settle in the area if they could acquire the land.
- People who did not sell to BC Hydro do not keep their places up as well as if the threat of flooding was not there – i.e. maintenance, painting, landscaping, etc.
- People who have settled up on the benches would have been down in the valley.
- Population has increased (from before the first dam was built).
- Property values are low along the "slough line" due to uncertainty of the accuracy of the line.
- Recreation opportunities lost – formerly lots of canoeing on the river with sites maintained by the users, but no-one wants to spend time and money developing what may eventually be flooded - great drop in canoes on the river.
- Recreational use of the river has been limited by large land holdings that were leased to sellers which over time would likely had come available for sale in smaller parcels had they not been held by BC Hydro.
- Rental properties were not taken care of the same what as they would have been if privately owned.
- School at Attachie has been closed.
- The flood reserve impacts more than the 7,000 acres purchased by BC Hydro and there are cumulative impacts not covered in this study.
- The holding of lands has curtailed entrepreneurial activities in the area.
- The sale of property generated some capital flow into the community.
- The valley has a “share-cropping” mentality.
- The Valley population went from forty-four in 1975 to just four now.
- The valley would have many more small holdings and residential developments.
- There is no young investment in the area.
- There would have been a demand for smaller holdings which would have increased the per acre value of the river land which is in high demand.

- There would have been an increase of population in the valley as a result of selling smaller properties.
- There would have been more permanent, attractive residential homes.
- With natural growth in region, ¼ section hobby farms would have been much more prevalent without BC Hydro ownership of Site C lands.
- Would have been a few more families in the valley

**Other Infrastructure**

- Current infrastructure inadequate to support any economic development in the valley.
- Had Lynx Creek remained developed, the natural gas could have been extended to the valley residences.
- Natural gas would have been extended out into the valley like in Beryl Prairie.
- Need three houses to get CRTC support – with BCH lands surrounding private land, can't get support.
- Phone only goes to Ardill's from the North and to Gentles' from the south, leaving a gap in the middle which affects two families and more than 20 employees. Forced to have a office in Fort St. John as there is inadequate phone and no possibility of high speed internet access.
- Schools have disappeared in Attachie, Farrell Creek and Bear Flats as there are not enough you people left in the valley.
- Telus won't upgrade phones or add additional lines due to potential of Site C flooding the lands. Service is far below acceptable standard.

**In your mind, what is the best use of the subject land? Check all those that apply.**

- Agriculture, residential, recreation or woodlot.
- Agriculture.
- Gravel pit.
- Have some river from property available for public access.
- Lynx Creek could have developed as a summer retreat area.
- Lynx Creek is a charming spot for residential development and 2-3 acres with house and horse.
- Nice small holdings – residential, small hobby farm, garden spot.
- Recreation and tourism.
- Recreation.
- Residential land required in the Hudson's Hope area as most land is tied up in the Agriculture Land Reserve.

**Do you think more economic opportunities could be derived from the subject lands under BC Hydro ownership? Please explain.**

**Yes**

- Archeological sites could be developed for tourist attractions.
- BCH is not in the real estate business, but will rent if there is interest.
- Change the structure of the leases. Not too specific on the how, but seems to revolve around length of tenure and compensation for investment in the event of dam being built.
- Development of property to meet full agricultural potential (corn silage, seed potatoes, cattle feedlot).

- Don't purchase lots then leave them vacant or demolish/sell the existing houses.
- Gravel.
- If portions of the land were removed from the ALR could look at residential development.
- Improved access to river and river lands.
- Intensive agriculture (feedlot, irrigated lands, seed potatoes, greenhouses).
- Possible trailer court development in Lynx Creek region.
- Recreation and tourism.
- Rental of BCH owned houses/lots still remaining. Reduce amount of vacant property.
- River boat services.
- River front development, boat launches.
- Tourism - (development of river resorts).
- Value Added agriculture (seed production, honey processing, potato processing).
- Walking and riding trails - recreation use. Overnight camping, etc.
- Yes, but would take a change of attitude from BCH on land management.

**No**

- BC Hydro not interested. If they develop it will just make them look bad. The fewer people, less productive the land, the less impact there will be if they flood the land.
- Easy to think up why BC Hydro “can’t” do something – they “won’t” do anything – they are difficult to deal with.
- Many inexpensive recreation opportunities (Cameron, Gething, Lions and Dinosaur Lake).
- Minimal opportunities under the BC Hydro present policy and lease program.
- Must sell it – there is no middle ground. BC Hydro can appropriate it when they need to flood it.
- Need to remove the policy against splitting property.
- No one will invest without land title.
- Not under the current restrictive lease.
- The land has to be free of BC Hydro ownership.
- Too expensive to develop – not enough time to get investment back (when land is leased).
- Turn it over to private enterprise and see what happens.
- Under status quo, no one wants to develop.
- Very limited opportunity to do anything under the status quo.

**Don't Know**

- BC Hydro doesn't allow development.
- Best economic value of the lands is to put them under water.
- Bought lands for if and when the dam will be built so people will not be affected by the development of Site C.
- Development options are extremely limited.
- Don't know – Lynx Creek too small for many economic opportunities.
- Don't think they should develop again – it was a nice little valley with nice places and lawns but the whole area has gone back to wild.
- If BC Hydro would give option of doing cost share might look at other improvements.
- Limited opportunity or incentive when you have to pay the lease indefinitely
- Maybe pasture land.
- More gains, capital flow and work would be derived if Site C goes ahead.
- People are leery about development with Site C hanging over their head.

- Question the viability of the new trailer park development.
- The valley is marginal farm land which was and continues to be used for farming.
- Twenty year leases are news to us – can do more things with those terms.

**If yes, can you list specific opportunities?**

- Agriculture: could be improved with market gardens, enhanced hay production, and irrigation systems.
- All BCH lands should come under a global land resource management plan for the valley. The properties cannot be managed piece meal.
- BCH put in fish enhancement and then let them get rundown.
- Economics of the town are not worth it.
- Fix up the fencing and change to agriculture land under the BC Assessment process.
- If BCH wanted to be a good corporate citizen, Hudson's Hope could be set up as a retirement community.
- Move old Watson Cabin to higher ground and restore as a Heritage Building. It could be used as a tourism building if Site C is built.
- No - condition of land is too deteriorated.
- Perhaps some recreation opportunities, but there are lots of RV parks, lakes and rivers and wilderness recreation options.
- Primarily farming.
- Recreation: opportunities for picnic, biking, hiking, access to river and boat launch.
- Some things could be implemented with minor cost by having students develop trails etc.
- There may be recreation opportunities.
- There needs to be promotion of potential opportunities.

**Are there specific steps BC Hydro could take to facilitate development of these opportunities?**

- BC Hydro didn't want the land developed – you can't blame them as it is a business decision.
- BCH didn't lead on Watson Slough but could do something similar.
- BCH should be more accountable – these are valuable lands from an agriculture and environmental standpoint.
- Building maintenance.
- Clean up the existing land owned by BCH - remove hazards.
- Contract land management to agricultural company or someone who understands agricultural and rural issues.
- End the speculation, one way or the other, about Site C.
- Hold BCH ownership responsible for things that other private owners are accountable for.
- If initiating a recreation opportunity, get people and interest groups involved.
- Improve bidding process - seems to be an unfair system, can't understand why highest bidders do not win.
- Improve relations between BCH and lessees.
- It should be easier to identify who owns which parcels of land.
- Landowners and people affected should be involved.

- Long term planning has been hampered by the state of limbo. Need to develop a plan with a couple of scenarios: i.e. if Site C were built in 10 years... if Site C were built in 20 years etc. The plan would relate to their intentions.
- Need a long term plan – BCH should initiate the process with a/the Citizen Committee
- No much more than is being done – offering land for a 99 year lease subject to flood considerations.
- Overhaul agricultural leases.
- Participate in weed control, fencing maintenance.
- Sale back of land to private ownership or long term leases with compensation packages in the event the dam is built.
- Sell the land back to private ownership.
- Take the same responsibilities towards land ownership that is expected from private owners.
- Why can't BCH become more of a rural community member? Sell land back to private ownership.

### **Why did you not lease back the subject your property?**

- Did not contemplate lease back.
- Moved out of town.
- Purchased property closer to Hudson's Hope.
- Thought dam would go ahead so was prepared for the land to be flooded.
- Why bother selling then renting back? – moved into Hudson's Hope.

### **How did you dispose of the proceeds received from the sale of the subject land to BC Hydro?**

- Built new home but was unable to purchase same quality of land. Purchased on river but had to buy land higher up.
- It was a long time ago - not sure we can remember accurately.
- It was such a small amount in our overall financial picture was not important.
- None of their &\$?@ing business.
- Not applicable.
- Paid debts and purchased new property.
- Purchased new property and built new home in Hudson's Hope area.
- Purchased new residence (out of town).
- Was not disposed of. Is sitting in the bank for eventual buy-back.

### **General Comments About The Land Acquisition**

- BC Hydro land people trespassed with helicopters and vehicles during the acquisitions.
- BC Hydro lied about the flood level and underestimated the impact of Site C.
- BC Hydro overpaid for buildings and underpaid for land.
- BC Hydro paid a fair price for the properties.
- BC Hydro paid good dollar for the lots at Lynx Creek and expected to get the same \$ back through rental properties and initially set the rental rates too high.
- BC Hydro paid twice the actual value of agriculture land so it was not a “passive” acquisition
- BC Hydro promised to allow buy back to original owners – very unclear how that would happen.
- BC Hydro was generally fair in their buy-out.

- BC Hydro was good to deal with during the acquisition.
- If land is ever released it should go back to original owners or estate heirs
- If land were released today it should go to existing operations at current market value.
- If the project is not going ahead – release the land.
- Land people were very secretive and worked behind the scenes.
- Many people wanted to stay on their land.
- People had hopes and dreams that were forever changed by the land acquisition.
- People sold when they had the opportunity.
- Severely traumatic to deal with BC Hydro through the land acquisition process.
- The acquisition of land suppressed the spirit of residents affected as they expected the land would be flooded in another 10 years.
- The cost of purchasing and managing the lands for the past 20+ years which is a public expense has been exceeded by the cost to buy the land today.
- The land values would have been higher if the properties would have remained in private ownership.
- The Purchasing agent misrepresented and/or did not understand all of the capital gain laws on the sale of farm land which hurt some landowners who sold.
- The threat of flooding and that BC Hydro may pull back their offer was not a “passive” acquisition.
- There are properties that could be surveyed out (if BC Hydro would change their policy) and could be split out from affected lands and sold.
- There was negotiation, mitigation and compensation to the District at the time of acquisition so the concerns from Town Council over loss of opportunity bears little in terms of reality.
- There were few impacts on the town of Hudson’s Hope.

**What proportion of the subject lands comprises your total property in the area?**

- Varied from 100% (one respondent) to 5% (one respondent). Median was approximately 25%.

**What proportion of the lands sold to BC Hydro did you lease back?**

- Majority 100%.

**Are investment activities (e.g. obtaining bank credit) for leased land any different than for private land?**

- Considered investing in an irrigation system, but the risks were too high given the land tenure arrangement.
- Have received no support from BCH to consider investment in buildings and fences. It is clear that any such investment would be by me only, with no compensation at the end of the lease. Why would I?
- Haven’t done any financing yet – don’t know if you should improve when we wonder if we will ever get a return on our investment.
- Inherited serious noxious weed problem, having to invest significantly more in this property than rest of land owned. Apparently BCH does not want to share in this investment responsibility.
- Leasing land did improve cash flow, so assisted in obtaining operating credit.
- My lenders and investment advisor have examined my lease and say it is so one sided that there can be no investment under these terms.

- Not Applicable – forced to sell out – currently have difficulties with bank manager which creates indirect bank pressure.
- Size of land covered under lease with BCH was so small that did not have any impact on investment activities - but I have not made any long term investment in BCH leased land.
- Uncertainty over flood line/sloughing of banks led to delays or prevented investment in things like fencing and building.
- Yes – had to use other collateral to obtain bank credit. If the land was privately owned, could have used the development as collateral .

**Compare the current productivity of the leased land to when it was owned by yourself.**

- Has gone from using the land for the highest and best use (intensive management) to now where it is the least productive.
- I have some fields next to the river that I keep as productive as when I owned it.
- I rent land from other landlords where leased land has the same productivity as my own. This is not the case with BCH - they seem to have no interest in what happens to the land.
- Land is being held to manage prudently rather than allow continued deterioration – partially for sentimental reasons and to retain a lifestyle.
- Land previously supported two families plus seasonal employees. Now supports no homes or employment as it is too costly to bring it back into its previous level of production.
- Large portions of the land have been taken over by quack grass (a competitive perennial weed) which has been allowed to spread unchecked and will take years to control.
- Pride of ownership not there.
- Productivity can be measured by looking at yields of adjacent land. Weed control, fencing, roads, etc. - it shows today whose land is more productive (meaning private land).
- There is no productivity now compared to previous ownership where it was hayed. Take personal firewood as per lease agreement but there was terrific potential for gardens.
- Was formerly hayed but the current lease does not provide the right to either hay or fence for horse pasture.
- Weeds like Canadian and Sow thistle along with wild oats and stink weed have been unchecked on the bench land, and have spread to the land in the valley through flooding.
- Were originally looking at putting cattle in there, but now just going to hay it due to market conditions.
- When BC Hydro bought there were good fences, but fires have gone through and destroyed posts and wildlife have gone through the wire so the fence is in ruins.

**Would the investments you made in your lease lands have been the same if you had owned the land? Please explain.**

- BC Hydro will not honor their agreement to sell back the bench lands (not affected by the pondage) for the amount paid – they now want current market value.
- Considered looking at a feedlot with grain handling equipment and pens, but with renewed interest in Site C have cancelled those plans.
- Did not plan to stay – temporary lease while building new residence.
- Difficult to plan long term when the attitude toward the development of Site C has changed so much in the past year.

- Had the land been owned the improvements would have been much more substantial and permanent.
- I do not own cattle but own land next to BCH leased land where the fences are poor and cattle get on to my land creating damage and tension with my neighbours.
- I use recommended levels of fertilizer on my land, minimal or none on leased land.
- Initially planned to stay there the rest of life (when owned) so would have had extensive landscaping, flowers and a big garden.
- Inputs I put on unimproved pasture land are the same between leased and owned.
- Inputs on pasture land are the same.
- Lease program does not consider the best interest of the land just the easiest administration of it.
- Lessee has many ideas for improvements but can't focus on long term investment.
- My approach to annual crops is minimal inputs.
- Offer from BC Hydro was fair and at the same time property values were deflating due to completion of Site 1.
- Sprayed for thistle which was becoming a problem – have re-broke land that was just used as pasture for many yeas – will have to baby sit for a few years to make sure weeds don't take over
- The lease process with BC Hydro is so one-sided and inflexible that the lessee is unable to make any adjustments to allow for changes in the standard lease “template” which places 100% of the risk on the lessee.
- Tough to make money in tourism industry as businesses are built on the long term.
- Would fix up fencing if owned.
- Would have invested in large scale commercial operations.
- Would have worked the fields and put in crops. Haven't kept cultivated as didn't have permission to farm.

## **General Issues Relating To The Study**

### ***About the Leasing of BC Hydro Lands***

- Agriculture lands need to be managed differently and requires lessee involvement.
- All responsibilities and cost is placed on lessee.
- BC Hydro advertised lease opportunities that were inappropriate for the land / misrepresented terms and conditions.
- BC Hydro dictates that lessee sign their standard agreement with no flexibility to account lessee requirements.
- BC Hydro has been secretive in their leasing arrangements so that many residents of Hudson's Hope did not know of opportunities until after the leases were signed. Advertising in the daily Fort St. John paper is not adequate to reach the people of Hudson's Hope.
- BC Hydro not accountable to fix hazards on property.
- BC Hydro should pay for land / asset maintenance if they are going to lease it out.
- BC Hydro takes a impersonal and impractical line on leasing lands.
- Everything is in BC Hydro's favor with nothing for the lessee.
- Good idea to lease or sell to groups like Ducks Unlimited that want to preserve lands for wildlife purposes.
- Hard to differentiate land status in the valley (private, BC Hydro or leased)
- Hard to make plans to enter into a 20 year lease when don't know BCH long term plans.
- Have a lease to purchase on the lands if they are going to hold indefinitely (i.e. after a set number of years when you have actually repaid the value of the land, rent should end)

- It is not in BC Hydro's mandate to manage land. Local lands people would have better understood the local lands and the needs of the local lessee.
- Land was sold as clean, productive farm land and has been leased (recently) as a run-down weed patch.
- Lands are not viewed as private when BC Hydro owns even when they are leased.
- Lease agreements are one sided - 90% in favor of BC Hydro and 10% in favor of the Lessee.
- Lessee's have surface rights and liability, but public views the land as BC Hydro's and therefore a provincial resource (similar to Crown Land) and do not respect the leaseholders right to treat as private property and prevent hunting, fishing and other forms of trespassing on the land.
- Licar does not manage the land well from a distance on BC Hydro's behalf.
- Licar has pushed renters out of BC Hydro properties.
- Licar uninformed about local land condition.
- Lita (Powell) has been good to deal with if you phone her but it took a long time to get the leases going.
- Maps that Licar Management have are very out of date in terms of ownership in the valley.
- One portion of leased property is categorized as residential, so taxes are higher than farm land. We can't reclassify until the land is producing enough profit to meet agriculture guidelines which will take some time in its current condition.
- People trespass on private land assuming it was sold to BC Hydro
- Problems with people assuming that if BC Hydro has right to use land (right of way) that it is open for the general public to use. A notice like the one posted in the 2001/02 Hunting regulations needs to be better understood by hunters and other recreation lists. People do not respect that it is private land.
- Situation is better now that Licar is managing the lease. They are local and understand the local issues, but do not have the power to make any changes.
- The holding of BC Hydro lands keeps the real estate market depressed.
- The lack of ownership pride is visible in the looks and upkeep of BC Hydro owned properties.
- The lease process doesn't appear to be above board – looks like some under the table dealings have gone on between lessee and local management group on some of the BC Hydro properties
- There seems to be no system for leasing BCH lands. Have interest in land, but never heard back on the enquiry made some months ago.
- Want BC Hydro to sell back or make some decisions with current lessees having first option to buy

**About The Study**

- Need to allow younger people the opportunity to comment on what they would do if they could own the land – this study focuses on older people who have different goals and priorities now than when they originally sold the land.
- Study is a waste of time and a self-employment project for Town Council.

**About Site C**

- Opponents of Site C development must decide if they are opposed to immigration to Canada and the extraction of Canadian resources to support the social and economic requirements of the annual immigration. If they do not oppose immigration, they cannot oppose natural resource development.
- “you have to be against immigration or against development – you can't do both”.
- BC Hydro needs to be held to a timeline. “timeline is more important than a compensation package”.

- BC Hydro needs to inform the public of plans, time frames and remove the uncertainty.
- Get on with it so people can go from there.
- Karilyn Vince is conducting a study on wildlife in the Peace Lowlands and many of the BCH parcels have key wildlife values, which should be included in any land use planning.
- May as well build now as it might improve the local economy (of Hudson's Hope).
- Not against the dam – most people in Hudson's Hope work or have worked on existing dams so they are hypocritical to be opposed to Site C.
- Not sure of the impact of Site C as we did not own the land at the time of the acquisitions
- Not sure that the improvements we are doing now are wise considering the uncertainty around Site C
- Site C didn't go ahead due to economic reasons, not environmental reasons. Many of the land issues and environmental climate have changed so previous studies are no longer relevant.
- The threat of Site C is always in the back of your mind when you consider improving on your (private) land.
- Would be very concerned if the land suddenly/eventually become available in the current market. There would have to be a comprehensive land use plan including wildlife, road and water plans.

***About BC Hydro in the community***

- Although 30-40% of the provinces electricity comes from the area, BC Hydro won't do things for the community because if they had to do it in Hudson's Hope, they would have to do it in other communities they affect and don't want to set precedence.
- BC Hydro did not like being landlords so they sold off many of the rental properties.
- BC Hydro does a very minimal amount for the communities compared to most corporate entities (i.e. Canfor, Westcoast).
- BC Hydro does not want to spend any money on the Site C lands.
- BC Hydro employees are generally not an asset to Hudson's Hope as they only stay for 3 or 4 years then leave.
- BC Hydro has a negative affect on the community and are indifferent to the local residents.
- BC Hydro inequitable in helping out some people (lessees and sellers) but not others.
- BC Hydro is not a good corporate citizen, although their employees do volunteer and participate in the community.
- BC Hydro needs to be up front with people and let them know what their intentions are.
- BC Hydro should contribute to better recreation facilities in Hudson's Hope.
- BC Hydro doesn't communicate with people in the valley – we heard about the sinkhole from a tourist. They rescued deer from islands but didn't tell residents downstream what was going on.
- Can't blame BC Hydro for the problems – it was the whole Peace Valley communities that stopped Site C.
- Good medical facility in Hudson's Hope which BC Hydro jointly shared the cost of. However, BC Hydro uses it to promote their image while in reality they would have to pay for a full time doctor at the dam in the facility didn't exist.
- Liaison between BC Hydro and the District of Hudson's Hope is appalling poor.
- Many residual hard feelings exist over the development of the W.A.C. Bennett dam including:
  - BC Hydro did not pay what the land, improvements and buildings were worth.
  - Did not do land or building appraisals.
  - Placed no value on log homes.
  - Build the dam on the backs of a few people.

- It took 30 years to fulfill the promise of power.
- Water levels kept too low compared to promises of navigable waters that were made.
- Secrecy and underhandedness in dealing with landowners.
- No attempt to salvage any of the valley resources.
- Promise to develop and sustain a fish hatchery in Hudson's Hope.
- There is a fear of BC Hydro at the municipal government level.
- Work and contracts are given out according to how you react to BC Hydro and sweetheart deals are made for spouses of employees to attract them to the community rather than letting existing residents have a chance at opportunities.