



Sea-to-Sky Land and Resource Management Plan (LRMP)

Socio-Economic Base-Case Update

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Prepared by:

- Steve Nicol, Lions Gate Consulting Inc.
- Randy Sunderman, Peak Solutions Consulting



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1 EXECUTIVE SUMMARY

The Sea-to-Sky Land and Resource Management Plan (LRMP) was established by the Province of British Columbia as a process to generate recommendations for government consideration regarding Crown land use and management for the Sea-to-Sky Plan Area (henceforth called the Plan Area). The Plan Area is primarily defined by the boundaries of the Squamish Forest District, but is inclusive of parks and exclusive of marine areas (e.g. Howe Sound).

This report provides an updated description of the socio-economic base case, focusing on current demographic, employment, industry and socio-economic conditions, as well as trends that are expected to occur in the absence of changes in Crown land use and management.

The information contained in this report provides “benchmarks” which assist in the evaluation of land use changes considered by the Sea-to-Sky LRMP. The base case assumes a continuance of current management practices and attempts to address the trends for socio-economic and environmental values in the absence of an LRMP.

Socio-Economic Component of the Base Case

The Plan Area economy is very diverse, and is influenced by factors other than land use, including rapid population and tourism growth, and resulting pressures on settlement lands and transportation infrastructure.

Population

- The population of the Plan Area was estimated by BC Stats to be near 31,000 in 2002. This represents an average annual growth rate of approximately 3.5% per year over the 1981-2002 period. It is one of the fastest growing regions in British Columbia. The population data do not include the large number of people who reside in the area temporarily at various times of the year, particularly in Whistler. In-migration (i.e., people moving into the region) has been the most important factor contributing to population growth.
- Strong population growth is expected to continue. BC Stats forecasts that population in the area will reach approximately 64,000 by 2031, a projected average annual growth rate of about 2.8%. Most of the population increase is expected to be due to in-migration. These projections could change significantly, depending on whether a number of major investments currently proposed for the Plan Area proceed. BC Stats forecasts also indicate a continuation of the trend towards increasing numbers of elderly residents as a proportion of area's population.

Economic Structure

- Based on the most recently available census data (2001), the service sector of the economy is a larger employer than the goods producing sector in the Plan Area and in each of the communities. The total labour force increased two and half times between 1981 (7,800) and 2001 (19,180), representing an average annual growth rate of about 4.8% per year. The total labour force in the goods-producing industries increased in absolute terms, from about 3,000 to 3,500, but declined dramatically as a proportion of total labour force, from 39% to 18%, over the 1981-2001 period.

The relative shift from goods-producing industries to service industries is evident in all the Plan Area communities. In the Plan Area as a whole, tourism was the single largest sector in 2001, accounting for 43% of the employment and 28% of the income, followed by the public sector (24% of employment and 23% of income), construction (about 12% of employment and 11% of income) and forestry (about 10% of employment and 12% of income).

- The economic dependency of the communities in the Plan Area varies considerably.
 - The Pemberton economy has tourism as the predominant source of basic employment (57%) and income (46%), although its economy is more diversified in other basic resource sectors than for Whistler.
 - The Whistler economy is the most tourism dependent of the Plan Area communities, accounting for 59% of employment and 46% of income. The second largest source of basic income is construction (13%), reflecting the ongoing importance of new development in the community.
 - The Squamish economy is the most forestry-dependent among the communities (20% of income). The public sector (22% of income), tourism (17%), construction (9%) and other basic industries (10%) diversify the local economy.
 - Lions Bay and the rural areas of the Plan Area are dominated by the public sector and other basic industries, with very little tourism or forestry.
- Continued population growth and other information on recent trends in the Plan Area suggest that the economic structure reflected in 2001 labour force and economic dependency data generally remains valid and is expected to continue. The strong historical growth in the tourism sector and the number of tourism-related investments being proposed suggests that this sector will continue to be one of the most significant growth factors in the Plan Area economy for the foreseeable future. Tourism and population-related demand pressures on private and public infrastructure mean continued and strong construction activity. Forestry will also continue to be an important component of the Plan Area economy. The value added and knowledge-based components of the forest industry are expected to continue growing, but there could be declines in primary processing due to declining harvest levels on the British Columbia coast and consolidation of processing capacity. In the longer term, growth in the government sector will likely keep pace with a growing population and economy. The scenic beauty and proximity of the Plan Area to Vancouver will continue to attract film industry activity. There will likely be a spill-over of growth from Whistler into other communities of the Plan Area. In-migration of “urban refugees”, retirees, and commuters will likely continue.

2 INTRODUCTION

This report provides an update to the socio-economic component of the Sea-to-Sky LRMP *Socio-Economic and Environmental Base Case* dated November 2001. Where available, more recent statistical data and other information about the Plan Area and its socio-economic characteristics were obtained and incorporated into this update. Some of the trend data for periods prior to 2001 are not repeated here, but can be found in the November 2001 SEEA report, currently available at the Sea-to-Sky LRMP website. This SEEA update report does not provide an update to the environmental component of the 2001 SEEA Base Case. Maps related to this SEEA update report have been posted to the Sea-to-Sky LRMP website:

http://srmwww.gov.bc.ca/cr/resource_mgmt/lrmp/s2s/index.htm

2.1 OVERVIEW

The Sea-to-Sky Land and Resource Management Plan (LRMP) was established by the Province of British Columbia in order to make recommendations to the government regarding Crown land use and management for the Sea-to-Sky Plan Area (henceforth, the Plan Area). The Plan Area is primarily defined by the boundaries of the Squamish Forest District (see attached map), but is inclusive of Parks and exclusive of marine areas (e.g. Howe Sound).

2.2 METHODOLOGY

This report provides an updated description of the socio-economic base case, focusing on current demographic, employment, industry and socio-economic conditions, as well as trends that are expected to occur in the absence of changes in Crown land use and management.

The methodology employed follows guidelines set out in *Socio-Economic and Environmental Assessment for Land and Resource Management Planning in BC: Guiding Principles* (January 2003) and *Socio-Economic and Environmental Impact Assessment for Land and Resource Management Planning in BC: Final Guidelines for Multiple Accounts Analysis* (November 2001).

The base case assumes a continuance of current management practices, and attempts to address the trends for each socio-economic and environmental value in the absence of an LRMP. Current management practices cover a variety of legal and policy initiatives including:

- the *Forest Practices Code of British Columbia Act* and regulations as well as management direction set out in the Landscape Unit Planning Guide (1999);
- the *Forest and Range Practices Act* and regulations (2003);
- the *Environmental Assessment Act*;
- Timber Supply Reviews (TSR II) and AAC Rationales for the So0 TSA (2000) and TFL 38 (1999);
- LRUPs for Whistler (1995, 1998 & 2000), Sea-to-Sky (1991), and Ivey Lake (2001)
- management practices related to the mining sector, including regulations outlined in the *Mines Act*, Mineral Exploration (MX) Code and the *Mining Rights Amendment Act*.

The proposed policies, directions and rules to guide resource development in the LRMP are found in the draft plan and in other government policies and guidelines regarding resource development in the region and the province. The final plan will be compatible with other important government statutes, regulations, plans and policies.

Data sources for the profiles in this report include:

- data, studies and comments provided by government representatives;
- socio-economic analysis (1994) for the Soo TSA Timber Supply Review;
- economic dependency estimates and population data from BC Stats; and,
- Statistics Canada Census data (1991, 1996, 2001).

2.3 DATA STRENGTHS AND LIMITATIONS

This report uses the “best available” data, from a variety of sources. Different data sources have differing structures, update timelines, scales, and other variations. Integration of data from different sources presents some technical challenges. Although the data sources are not perfectly consistent with each other, they do provide the “best available” source of information and, as such, can help to inform decision making. In a few cases, there is no “best available” data. Identifying these data gaps is an important step in the base case assessment, as it enables the report and analysis to note the gap and to consider the assessment implications of this missing information.

The projection of “anticipated future trends” is another component to the analysis. Some trends can be quantified, for example human populations and information about some resources (e.g. timber harvest levels). However, trend statements for many sectors (e.g. tourism and mining) and overall economic structure are qualitative, based on historical trends, existing reports, input from government staff, and the experience of analysts who have done similar studies.

2.4 REPORT STRUCTURE

Sections 3 and 4 provide information about the Plan Area’s overall population and economic structure. This is followed, in Section 5, with more detailed profiles of local communities and First Nations. The remaining sections (6 to 11) discuss individual sectors in the economy, with emphasis on sectors most strongly linked to land and resource management use in the Plan Area.

3 HUMAN POPULATION

3.1 CURRENT POPULATION

The 2001 population of the Plan Area is estimated at more than 30,000, double the 1981 population of 15,000 (Table 1). This represents an average annual growth rate of about 3.5% per year over the 1981-2001 period.¹

The Plan Area has had one of the fastest growing regional populations in the province over the last 20 years. Whistler and Pemberton have experienced particularly strong growth, but other communities and rural areas have grown too. Population increases are due primarily to in-migration, with a minor component attributable to natural increases. The average age of people in the region is lower than the BC average.

The Census data shown is believed to under-count actual population. Statistics Canada conducts post-census coverage studies, the results of which BC Stats uses to produce population estimates. For example, in 1996, after adjustment for net under-enumeration, the population estimate for BC was 3.76% higher than the Census count. Thus, the difference between the 2002 population estimates and 2001 Census population for communities in the Plan Area is explained mainly by the undercount, although a growth component is also present.

Table 1: Population by Selected Communities In the Plan Area (1981-2002)

	1981	1991	2001	Avg. Annual Growth Rate 1981-2001	2004 (est.)
Squamish	10,599	12,049	14,247	1.5%	15,390
Whistler^{b, c}	1,462	4,589	8,896	**	9,754
Pemberton^b	291	516	1,637	**	2,204
Lions Bay	1,112	1,361	1,379	1.1%	1,417
Plan Area (Howe Sound LHA)^a	15,042		29,910	3.5%	31,666
Greater Vancouver Regional District	1,208,236		1,986,965	2.5%	2,132,824

Source: BC Stats, Sub-Provincial Population Estimates, 2004.

Notes: (a) The Howe Sound Local Health Area is roughly consistent with the boundaries of the Plan Area, and includes the main communities in the Plan Area. (b) Communities with boundary changes - population growth rates not estimated.

(c) Whistler permanent resident population only (winter daily population in 2003/04 was approximately 31,351).²

As shown in Table 2, the populations of the seven First Nations with communities or asserted traditional territory in the Plan Area continue to grow. On average, approximately two-thirds of the members of these First Nations live on reserves in the area, although there is considerable variation among bands.

¹ The Plan Area's historical and estimated current population is based on BC STATS estimates for the Howe Sound Local Health Area (48). Since the boundaries for the LHAs do not correspond exactly to the Plan Area boundaries, the population estimates for any one year should be regarded as approximate. However, LHA data should provide a reasonably reliable indication of trends over time.

² *Resort Community Monitoring Report 2003/04*, Planning and Development Services, Resort Municipality of Whistler, 2004, page 3. The report can be accessed at: <http://www.whistler.ca/Sustainability/Performance.php>

Table 2: First Nations Population within the Plan Area by Watershed, 2002

Band	# On-Reserve	# Off-reserve	Total	% of Total
Lillooet Watershed				
Douglas	81	131	212	3
Mount Currie (Lil'wat)	1,331	475	1,806	28
N'Quatqua	191	88	279	4
Samahquam	94	186	280	4
Skatin	111	248	359	5
Sub-total	1,808	1,128	2,936	45
Squamish Watershed				
Squamish	2,162	1,061	3,223	49
Tseil-Waututh	224	159	383	6
Sub-total	2,386	1,220	3,606	55
Total	4,194	2,348	6,542	100

Source: Indian and Northern Affairs Canada, 2003.

3.2 ANTICIPATED POPULATION AND TRENDS

Population projections by BC Stats for the Howe Sound Local Health Area show 64,000 people in 2031, more than double the current population and one of the highest growth rates in the province.

Expectations that the region will actually experience this rate of growth are more realistic now that major developments like the 2010 Winter Olympics, Quest University Canada (formerly called Sea-to-Sky University) and Highway 99 upgrades are proceeding.

BC Stats forecasts also indicate that the number of elderly residents as a proportion of the Plan Area's population is expected to continue to increase. This suggests that retirement incomes in the Plan Area will continue to grow as a proportion of total income. Both population growth and increasing retirement incomes will continue to be significant economic growth factors in the Plan Area.

4 ECONOMIC STRUCTURE

4.1 LABOUR FORCE

Labour force data is a useful indicator of regional economic structure. The source of this data is Statistics Canada, which provides labour force by industry and by occupation for Census years. The most recent industry data for 2001 is shown in Table 3, with 1981 data provided in Table 4.

Total labour force in the Plan Area increased by two and a half times between 1981 and 2001: from 7,580 in 1981 to approximately 19,180 in 2001. The average annual growth rate over this period was 4.8%. The gains were mainly in the tourism, trade, public and other service sectors, whereas reductions in activity in resource industries (forestry and mining) and utilities limited labour force expansion in the goods-producing sectors. Other goods-producing sectors, such as construction, continued to grow because of population growth in the region and the related demand for residential, commercial and infrastructure construction.

Table 3: Labour Force by Industry and Community in the Sea-to-Sky Plan Area, 2001

Industry (NAICS)	Lions Bay		Pemberton		Squamish		Whistler		Rural *		Reserves		Total Plan Area	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Agriculture	10	1.2	0	0.0	45	0.6	0	0.0	75	5.8	45	4.2	175	0.9
Fishing & Trapping	0	0.0	0	0.0	10	0.1	0	0.0	0	0.0	10	0.9	20	0.1
Forestry														
Logging & Forestry	15	1.8	30	2.6	300	3.8	40	0.6	85	6.5	100	9.4	570	3.0
Wood Manufacturing	0	0.0	0	0.0	235	3.0	10	0.1	10	0.8	60	5.6	315	1.6
Paper & Allied	0	0.0	0	0.0	250	3.2	10	0.1	0	0.0	0	0.0	260	1.4
Mining & Energy	10	1.2	10	0.9	35	0.4	15	0.2	20	1.5	10	0.9	100	0.5
Other Manufacturing	15	1.8	0	0.0	160	2.0	85	1.2	30	2.3	5	0.5	295	1.5
Construction	25	3.0	120	10.6	685	8.7	595	8.5	170	13.1	90	8.5	1685	8.8
Utilities	0	0.0	10	0.9	45	0.6	20	0.3	0	0.0	10	0.9	85	0.4
Goods-Producing	75	8.9	170	15.0	1,765	22.4	775	11.1	390	30.0	330	31.0	3505	18.3
Transport/Storage **	10	1.2	15	1.3	700	8.9	270	3.9	90	6.9	25	2.3	1110	5.8
Communications	65	7.7	0	0.0	180	2.3	125	1.8	30	2.3	10	0.9	410	2.1
Whole/Retail Trade	105	12.5	150	13.2	910	11.5	700	10.1	130	10.0	90	8.5	2085	10.9
Accomm/Food	20	2.4	275	24.2	1,310	16.6	2,090	30.0	155	11.9	50	4.7	3900	20.3
Bus/Pers/Other Services	340	40.5	315	27.8	1,590	20.2	2,140	30.7	305	23.5	165	15.5	4855	25.3
Fed/Prov Govt	225	26.8	210	18.5	1,425	18.1	860	12.4	200	15.4	395	37.1	3315	17.3
Service-Producing	765	91.1	965	85.0	6,115	77.6	6,185	88.9	910	70	735	69.0	15675	81.7
Total Labour Force	840	100	1,135	100	7,880	100	6,960	100	1,300	100	1,065	100	19180	100

Source: Census of Canada, 2001

Note: Labour force is counted by place of residence. Therefore, agricultural labour force residing outside municipal boundaries is counted in the “Rural” area.

* “Rural” comprises Squamish-Lillooet Regional District Electoral Areas C and D.

** “Transport” includes log trucking.

Table 4: Labour Force by Industry and Community in the Sea-to-Sky Plan Area, 1981

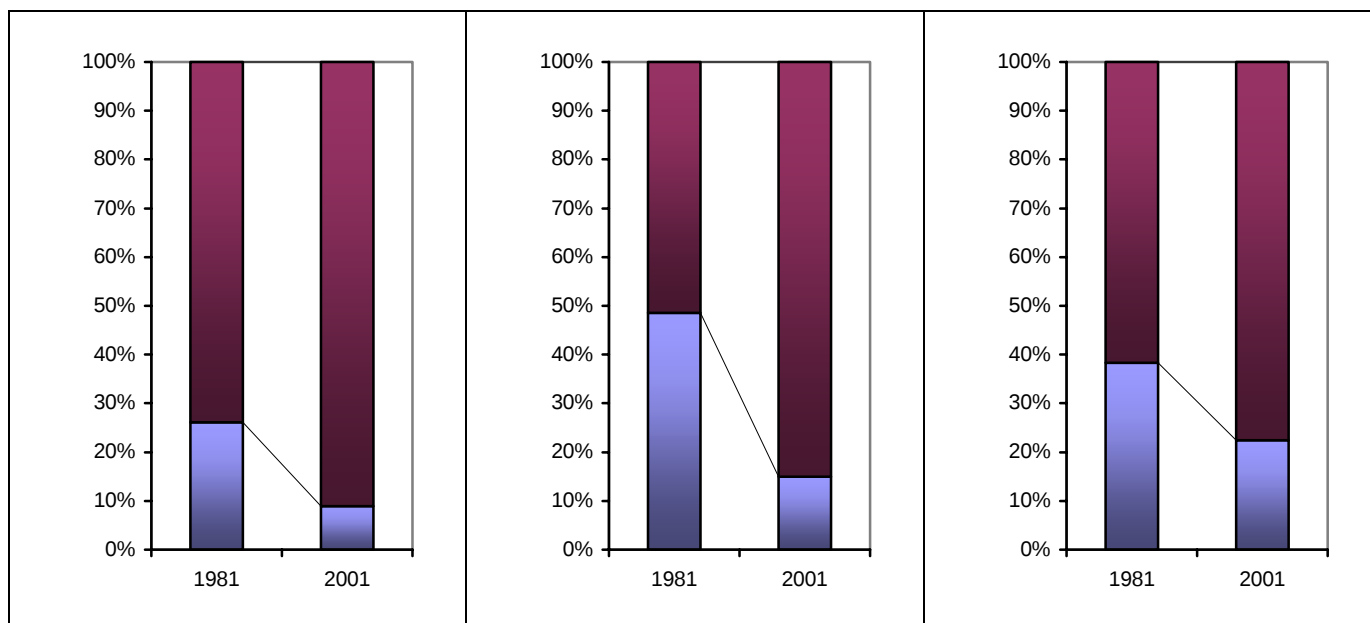
Industry (SIC)	Lions Bay		Pemberton		Squamish		Whistler		Rural *		Reserves		Total Plan Area	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Agriculture	10	1.8	0	0.0	40	0.8	5	0.5	70	8.0			125	1.6
Fishing & Trapping	5	0.9	0	0.0	5	0.1	0	0.0	0	0.0			10	0.1
Forestry	15	2.7	60	34.3	1150	23.1	20	2.0	220	25.3			1465	19.3
Logging & Forestry	10	1.8	60	34.3	420	8.5	10	1.0	155	17.8			655	8.6
Wood Manufacturing	5	0.9	0	0.0	250	5.0	10	1.0	35	4.0			300	4.0
Paper & Allied	0	0.0	0	0.0	480	9.7	0	0.0	30	3.4			510	6.7
Mining & Energy	0	0.0	0	0.0	130	2.6	5	0.5	15	1.7			150	2.0
Other Manufacturing	85	15.3	0	0.0	230	4.6	5	0.5	75	8.6			395	5.2
Construction	20	3.6	10	5.7	305	6.1	340	33.7	55	6.3			730	9.6
Utilities	10	1.8	15	8.6	45	0.9	0	0.0	25	2.9			95	1.3
Goods-Producing	145		85		1905		375		460				2970	
Transport/Storage	30	5.4	10	5.7	860	17.3	45	4.5	90	10.3			1035	13.7
Communications	15	2.7	0	0.0	50	1.0	10	1.0	15	1.7			90	1.2
Whole/Retail Trade	70	12.6	10	5.7	630	12.7	75	7.4	60	6.9			845	11.1
Accomm/Food	20	3.6	30	17.1	380	7.6	135	13.4	55	6.3			620	8.2
Bus/Pers/Other Services	140	25.2	5	2.9	455	9.2	270	26.7	65	7.5			935	12.3
Fed/Prov Govt	135	24.3	35	20.0	690	13.9	100	9.9	125	14.4			1085	14.3
Service-Producing	410		90		3065		635		410				4610	
Total Labour Force	555	100	175	100	4970	100	1010	100	870	100			7580	100

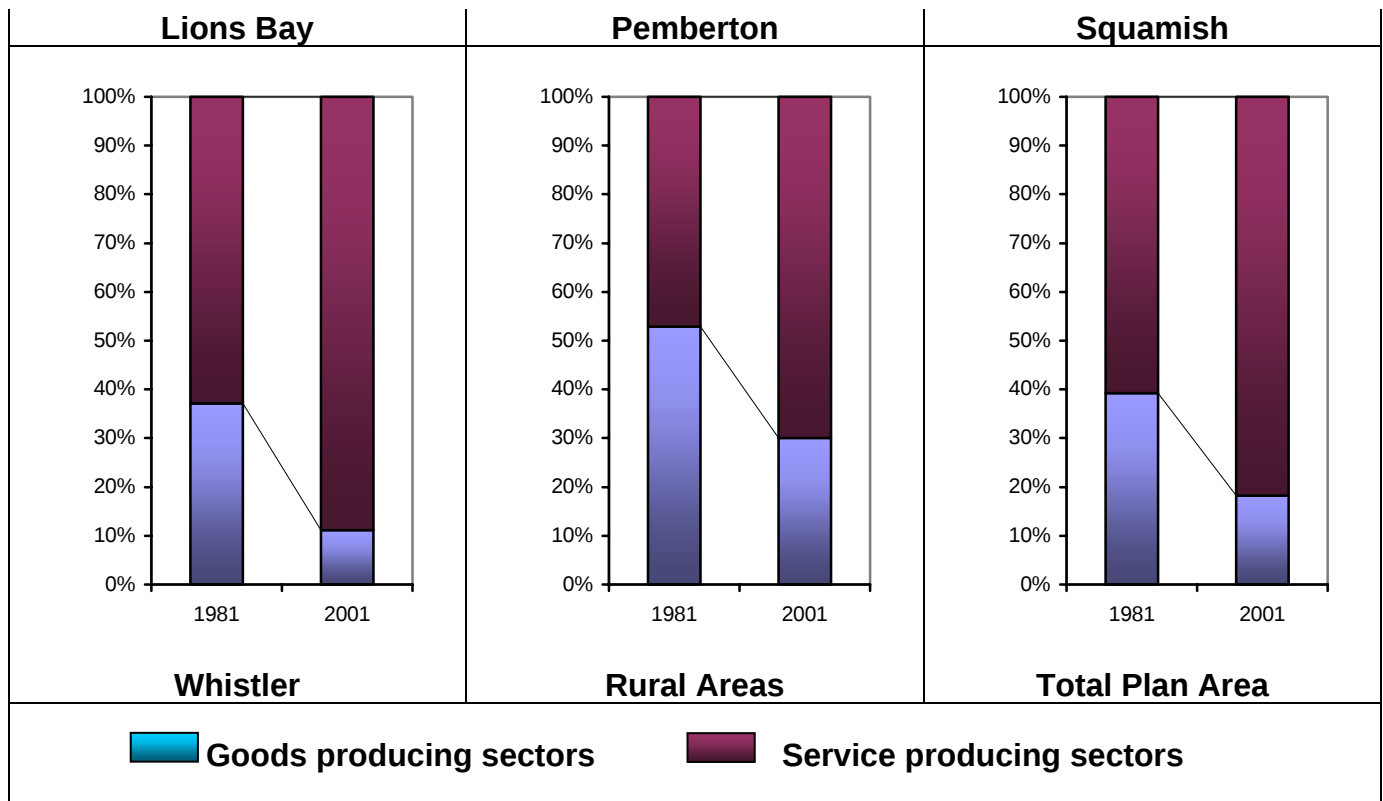
* Squamish-Lillooet Regional District Electoral Areas C and D.

Source: Census of Canada, 1981

The total labour force in goods-producing industries grew modestly between 1981 and 2001, but declined dramatically as a proportion of total labour force, from 39% to 18%. This trend occurred in all the communities in the Plan Area, but was most pronounced in Whistler and Pemberton, where tourism employment now predominates.

Figure 1: Per cent Share of Labour Force, Goods and Services, 1981-2001





4.2 REGIONAL ECONOMIC DEPENDENCIES

Economic dependency estimates show the relative importance of different sources of “basic” income, or income flowing into the region from the outside.³ Basic income is assumed to drive the local or regional economy. Basic industries include resource industries and tourism, which are export-oriented, and their supplying industries. Basic income includes wages and salaries earned in basic industries as well as non-employment sources of income from outside the region (e.g. pension and investment income, government transfer payments). Non-basic sectors are defined as those businesses which serve local demand generated as a result of basic activities (e.g. local grocery stores and other retail outlets).⁴

Economic dependency estimates are considered to be a better indicator of economic importance than labour force statistics, because they classify certain sectors (e.g. tourism) that labour force data does not, because they separate activity into basic and non-basic components, and because they focus on all the sources of income, not only employment income.⁵ The public sector and non-employment sources of

³ The discussion of economic dependencies is based on the report *British Columbia's Heartland at the Dawn of the 21st Century - 2001 Economic Dependencies and Impact Ratios for 63 Local Areas*, by Dr. Garry Horne for BC Stats, January 2004, and on tables generated in conjunction with the report.

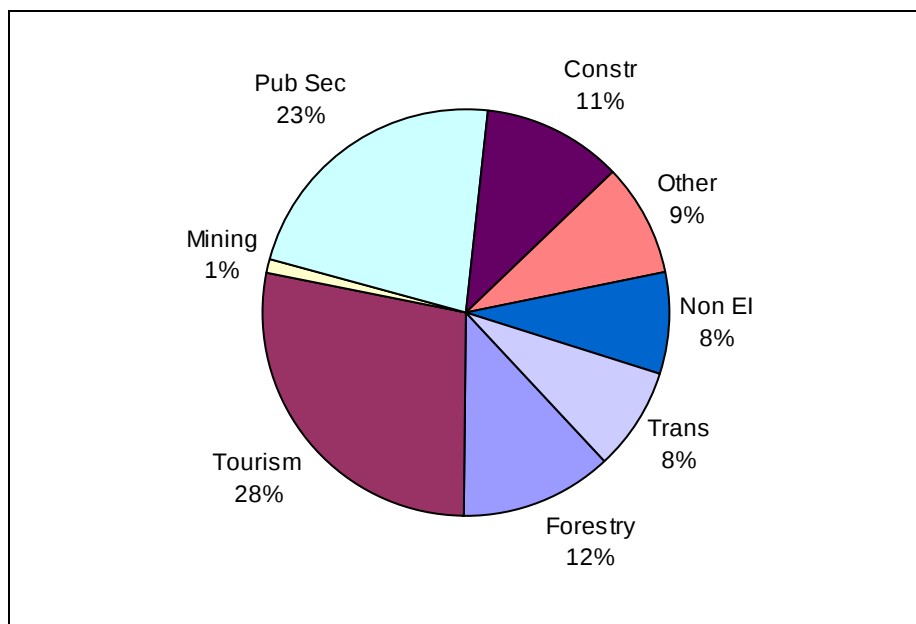
⁴ Basic sector employment comprises “direct” and “indirect” employment, while non-basic sector comprises “induced” employment.

⁵ Labour force data is more appropriate for analysing trends for many sectors since this data is available over longer periods time. Both economic dependency and labour force data are derived from Census information, which is based on respondents’ place of residence. Therefore, these estimates may include Plan Area residents who work outside of the area (e.g. in Vancouver). Differences between the place of employment and residence can also distort estimates of the size and economic structure of communities within the Plan Area (e.g. workers may be employed in construction in Whistler, but may live in Pemberton or Squamish).

income are considered part of the basic sector because spending and employment is determined by factors external to the local economy.

BC Stats estimates of economic dependency for the Plan Area in 2001 and 1996 appear in Figure 2, which shows the percentages of before-tax income accounted for by each of the categories indicated.

Figure 2: Plan Area Economic Dependencies, 2001



Source: Tables generated in conjunction with Garry Horne / BC Stats (2004), op. cit.

Some key findings are as follows:

- In 2001, tourism was the single largest source of income (28%) in the Plan Area, and showed a marked growth in share since 1996. The Plan Area is the most tourist-dependent region of the province. The latest report on economic dependencies from BC Stats⁶ notes that, since 1991,⁷ the Sea-to Sky region has undergone one of the largest dependency shifts in the province.⁷
- Other key sectors in 2001 were the public sector (23% of income), forestry (12%) and construction (11%). The decline in forestry since 1996 is part of a long-term trend resulting from declining employment and increasing labour productivity. Construction tends to vary according to major project developments and population growth. With several major projects slated for the next 10 year period, and projected population growth well above the provincial average, construction's share of the economic base could increase noticeably when the next set of figures are released in 2006.
- The film and technology sectors, together with "other" activities, accounted for about 9% of basic income in the Plan Area.
- Overall, 16% of basic income was attributable to transfer payments (8%) and to non-employment sources of income (8%)⁸.

⁶ Garry Horne / BC Stats (2004), op. cit.

⁷ 1991 dependency results for the Plan Area are not presented here because changes in methodology, notably the classification of basic sectors, has changed, making comparisons between 1991 and 2001 difficult.

⁸ Non-employment income is made up of two categories, "Transfer Payments" and "Other Non-Employment Income". "Transfer

- Together, mining, fishing, trapping and agriculture comprised a very small portion of income (1%) in the Plan Area in 2001.

4.3 COMMUNITY ECONOMIC DEPENDENCIES

Economic dependency information for individual communities in the Plan Area is presented in Table 5 and Figures 3-7, and is discussed below.

Table 5: Basic Sector Income and Employment in the Sea-to-Sky Plan Area: (2001)^a

	Forestry	Mining / Energy	Fishing / Trapp.	Agric. / Food	Tourism	HiTech	Pub ^f	Con	Film	Other ^c	TRAN ^d	ONEI ^e	Non-Basic	Total
EMPLOYMENT: # of workers^b														
Whistler	91	42	0	13	3,534	135	1,044	711	52	348			1,205	7,175
%	2	1	0	0	59	2	17	12	1	6				100
Pemberton^h	30	0	0	0	543	5	233	123	0	12			175	1,120
%	3	0	0	0	57	1	25	13	0	1				100
Squamish	1,193	89	11	49	2,261	93	1,769	744	73	595			1,467	8,345
%	17	1	0	1	33	1	26	11	1	9				100
Lions Bay	19	13	0	11	39	70	248	28	56	208			138	830
%	3	2	0	2	6	10	36	4	8	30				100
Rural Areas	117	13	0	76	342	6	262	199	48	79			253	1,395
%	10	1	0	7	30	0	23	17	4	7				100
Total Plan Area	1,608	165	19	181	6,931	299	3,887	1,889	240	884			3,458	19,561
%	9	1	0	1	43	2	23	12	1	8				100
BEFORE-TAX INCOME (\$millions)														
Whistler	1.9	2.4	0.0	0.1	97.0	6.2	38.7	28.4	3.0	14.7	8.3	15.0	51.8	267.4
%	1	1	0	0	45	3	18	13	1	7	4	7		
Pemberton^h	1.2	0.0	0.0	0.0	15.2	0.2	8.7	4.1	0.0	0.2	2.3	1.3	5.4	38.6
%	4	0	0	0	46	1	26	12	0	1	7	4		
Squamish	56.9	2.8	0.0	0.6	44.7	2.4	62.1	25.7	2.2	28.0	30.3	21.7	41.5	319.1
%	20	1	0	0	17	1	22	9	1	10	12	8		
Lions Bay	0.9	0.2	0.0	0.6	2.2	3.3	18.5	1.9	4.0	13.4	2.1	5.0	10.4	62.4
%	2	0	0	1	4	6	36	4	8	26	4	10		
Rural Areas	6.0	0.1	0.0	1.4	7.8	0.1	9.4	7.3	0.9	3.2	4.1	5.2	9.2	54.7
%	13	0	0	3	17	0	21	16	2	7	9	11		
Total Plan Area^g	73.7	5.8	0.2	2.6	179.2	10.3	144.7	69.7	9.3	39.5	52.9	48.7	123.4	760.0
%	12	1	0	0	28	2	23	11	1	6	8	8		

Source: Tables generated in conjunction with Garry Horne / BC Stats (2004), op. cit.

Notes: (a) "Primary" sectors include primary processing. Percentages are of basic employment and income (i.e. of total minus non-basic).

(b) Includes direct employment plus indirect employment in related supplier industries. (c) "Other" includes parts of manufacturing and transportation not already allocated to another basic industry, as well as "rural services". (d) Transfer payments such as employment insurance, income assistance, old age security and Canada Pension payments. (e) Primarily investment income and corporate pension plan payments. (f) "Public Sector" includes all levels of government and the services provided by those governments, including education, health, policing and municipal services. (g) Totals for communities do not add to Plan Area total due to methodology of data allocation. (h) Although the 2001 Census showed no agricultural employment in Pemberton itself, the surrounding Electoral Area C had 77 farms in 2001, with between 70 and 75 people reporting agriculture as their principal industry of employment. Others may also work on the farms but have their greatest number of hours in other industries.

Payments" are payments from senior governments, such as welfare payments, Old Age Security pensions, Guaranteed Income Supplements, Canada Pension Plan, Employment Insurance benefits, Federal Child Tax benefits and other income from government sources. "Other Non-Employment Income" includes investment income, such as dividends and interest, retirement pensions, superannuation, annuities, alimony, etc.

- **Whistler** – The Whistler economy is highly dependent on tourism, which accounts for 59% of employment and 45% of before-tax income. Although the employment dependency is about the same as it was in 1996, the income dependency has increased. After the public sector (18% of income), the third most important source of basic income is construction (13%), reflecting the rapid growth of the community.
- **Pemberton** – The Pemberton economy is also driven mainly by tourism with 57% of employment and 46% of income dependent on this sector. This is a dramatic change from 1996 when the equivalent percentages were approximately 32% of basic employment and 23% of basic income. The forest sector accounted for 3% of employment in 2001, compared with 18% in 1996.
- **Squamish** – The Squamish economy continues to depend on forestry and the public sector, but there are signs that the rapid and substantial tourism development in Whistler is filtering down the corridor and diversifying the economic base. One-third of the community's basic employment is in tourism (compared to 27% in 1996), along with 17% of its basic income. The forest sector (20% of income)⁹, the public sector (22% of income), construction (9%) and "other" basic industries (10%) diversify the local economy. The majority of provincial and federal government offices in the Plan Area are located in Squamish.
- **Lions Bay** – The Lions Bay economy is dominated by the public sector and "other" basic industries, with little resource activity or tourism. The importance of the government sector is likely due to public sector workers commuting to other Lower Mainland communities from Lions Bay. Film industry activity (8% of income and employment) and high-tech (10% of employment, 6% of income) are important sectors. The proportion of income from investments and pensions is the highest in the Plan Area, indicative of the community's role as a retirement area.
- **Rural Areas** – The rural areas (including Indian Reserves) have the most diversified economic dependency profile in the Plan Area. The public sector (21% of income), tourism (17%), construction (16%) and forestry (13%) all contribute significantly. Non-employment sources of income, including transfer payments, pensions and investment income, is also among the highest in the Plan Area. As one might expect, the rural areas are the only sub-area where agriculture is prominent, accounting for 7% of basic employment and 3% of income. Employment related to First Nation Band Councils is a major influence on public sector employment and income.

4.4 RECENT AND ANTICIPATED TRENDS IN ECONOMIC STRUCTURE

There is little reason to believe that the broad economic trends evident in the labour force and economic dependency data over the last 15 to 20 years in the Plan Area are going to change. In fact, the successful bid for the 2010 Olympics, other proposed development projects (e.g. resort and university development) and continued in-migration of older age groups are more likely to accelerate the transition throughout the Plan Area to an increasingly service-based economy. This transition, notwithstanding, the primary resource and goods-producing sectors will remain important in the Plan Area economy.

⁹ The importance of forestry to the Squamish economy has likely declined since 2001, due to the closure of Interfor's Empire sawmill (temporary closures preceded the permanent closure in 2004).

The strong historical growth in the tourism sector and the number of tourism-related investments being proposed in the Plan Area suggests that this sector will continue to be one of the most significant growth factors for the foreseeable future.¹⁰ Tourism and population-related demand pressures on private and public infrastructure in the Plan Area will mean continued strong construction activity.

Forestry will continue to be an important component of the Sea-to-Sky economy. The value added and knowledge-based components of the forest industry are expected to continue growing, but there could be continuing reductions in primary processing due to declining harvest levels on the British Columbia coast and ongoing consolidation of corporate ownership and processing capacity. There is likely to be continued downward pressure on timber harvest levels due to increasing constraints related to visual quality, recreation, tourism, habitat needs, and impacts of other land uses (e.g. resort and energy developments).

The government sector will continue to be a major stabilizing factor in the economy of the Plan Area. In the longer term, growth in the government sector will likely keep pace with a growing population and economy. Small businesses (including home-based businesses) will continue to be an important source of employment creation, reinforced by advances in communications technology. Plans are proceeding for the proposed Sea-to-Sky University in Squamish. With a potential student population of 400 by 2007, the university would have a significant economic impact on the Plan Area, and could provide a stimulus for a number of spin-off research and service industries. The scenic beauty and proximity of the Plan Area to Vancouver will likely continue to attract film industry activity.

There will likely be a spill-over of growth from Whistler into other communities of the Plan Area due to market factors such as the cost of housing and tourist accommodation, as well as institutional factors such as Whistler's bed unit cap. In-migration of "urban refugees", retirees and commuters will likely continue. The travel time between Squamish and Vancouver is comparable to the Vancouver-to-Fraser Valley suburbs commute. With ongoing highway upgrades on Highway 99 bolstered by Olympic spending, the Howe Sound area and Squamish will become increasingly popular as "bedroom communities", which will have implications on the economic structure of the area.

¹⁰ Regarding the outlook for Whistler, Section 6 of the *RMOW Resort Community Monitoring Report 2003/04*, op. cit., discusses major trends and future projections in resort visitation, employment, and real estate and development, as well as related policy considerations. The report can be accessed at: <http://www.whistler.ca/Sustainability/Performance.php>

5 COMMUNITY SNAPSHOTS¹¹

5.1 PEMBERTON

Incorporated in 1956, Pemberton is located in the Pemberton Valley, 91 kilometres north of Squamish, on Highway 99. It is one of the oldest communities in the Plan Area, originally identified as a potential route for the fur trade and a centre of activity in the 1860s for miners heading to the Cariboo Gold Rush.

Over the last 20 years, the community's population has been one of the fastest growing in the country, increasing from less than 500 residents in the early 1980s to an estimated 2,204 residents in 2004. Growth patterns in the surrounding rural area have been similar. The average employment income of community residents in 2000 was \$31,058 (before-tax), close to the provincial average of \$31,544. The median age was 31.6, well below the province's (38.2).

The major sources of jobs in the Pemberton area are tourism, the public sector, construction and the retail trade. The tourism sector is tied closely to Whistler, while the surge of residential and commercial construction in the corridor has lifted demand for primary and especially trade contractors. Many people who work in Whistler have their residences in Pemberton, due to the lower cost of housing. Agriculture and forestry each account for approximately 5% of the local labour force. Forestry activity consists mostly of logging and silviculture activity, as well as small-scale wood processing (including log homes, poles, and firewood).

As it increasingly draws visitors from Whistler, Pemberton is developing a growing reputation as an outdoor adventure hub. Three provincial parks are nearby. It is also a staging area for Mount Currie, Birken, D'Arcy, Lillooet, Goldbridge, Meager Creek and Whistler. Outdoor activities include ski mountaineering (McGillivray Peak), cross country skiing, snowmobiling, trail riding, golfing, hiking, rafting, jet boating, and para-gliding. The mountain biking community rates Pemberton as one of the better riding areas in the province.

5.2 SQUAMISH

Incorporated in 1948, Squamish is located on Howe Sound, 65 kilometres north of Vancouver, amid a unique setting of ocean, rivers, mountains, and granite cliffs. Squamish bills itself as "The Outdoor Recreation Capital of Canada", but still has strong ties to the forest and transportation sectors which originally supported its economic base.

The population in Squamish climbed about 50% between 1986 and 1996, but has levelled off since then, with the 2004 population estimated to be 15,390. The average employment income of community residents in 2000 was \$31,625. The median age (35.3) is slightly below the provincial median age.

Squamish has a diverse economic base. It still maintains an important forestry sector, but most of the expansion is occurring in the service sector, and this is expected to continue. Some key tourism attractions (eight provincial parks, Shannon Falls, significant rafting, climbing, mountain biking and wind surfing features, and close proximity to Whistler), population growth and new project

¹¹ The source of the statistics presented is Statistics Canada, 2001 Census.

developments will continue to add more service jobs to the labour force. The strategic location between Vancouver and Whistler means over five million vehicles per year pass through the community. The close proximity to Whistler has allowed Squamish to emerge as an affordable residential and service centre. It also benefits from the international exposure to Whistler-bound visitor markets. Major project developments – such as Sea-to-Sky University (due to open in 2005), Highway 99 upgrades, downtown and waterfront expansion, ongoing commercial and residential development – as well as the closure of Interfor's – sawmill suggest that the transformation from a goods-based to service-based economy will continue. Squamish maintains an under-utilized deep-sea port and remains an important link along the BC Rail mainline. The town's future transportation role, with the sale of BCR to CN Rail, is unclear.

5.3 WHISTLER

The Resort Municipality of Whistler is located on Highway 99, 57 kilometres north of Squamish and 34 kilometres south of Pemberton. It was incorporated in 1975 as the first designated resort municipality in the country. After a series of awards over the last 12 years as one of North America's premier ski resorts, Whistler has solidified its position as one of BC's most popular visitor destinations.

Population growth in Whistler has consistently exceeded overall provincial population growth over the last 20 years. For the ten year period ending 2001, the population more than doubled, increasing from 4,459 to 9,284. The 2004 population is estimated at 9,754. The average employment income of community permanent residents in 2000 was \$33,812, about 7% higher than the provincial average. The age demographics of Whistler residents are strikingly different from the rest of the Plan Area. More than two-thirds are in the 15 to 44 age group, and there is a very high proportion of young adults when compared to neighbouring communities. Conversely, the percentage of children and seniors is well below the Plan Area average.

The economy in Whistler is firmly linked to the destination resort. After Whistler Village and Blackcomb Mountain were opened 1980, there was a slowdown stemming from a North American recession. By the late 1980s construction activity picked up again and the municipality began expansion of its summer amenities. World-class golf courses complement the hiking, mountain biking, sightseeing and nature viewing that has helped create a four-season destination. Throughout the 1990s, Whistler won awards for best resort design, best skiing, best golfing, best snowboarding and best hotel, and is now considered among the top mountain resorts in the world.

Census data indicate that 30.1% of the total labour force is in the accommodation and food and beverage sectors, compared with 8% for the province.¹² Other prominent service sectors include the following: arts, entertainment, and recreation (10.3%), retail trade (9.4%), construction (8.6%), administrative services (including building maintenance) (6.3%), professional services (5.5%), real estate (5%), and public administration (4.4%). The primary and manufacturing sectors, which are key to the economic base outside Whistler, have very little profile in the community.

¹² Ibid, page 41.

5.4 LIONS BAY

Lions Bay, approximately 10 kilometres north of Horseshoe Bay in West Vancouver, was incorporated in 1971. Built on the outwash fan of Alberta Creek, the community rests below the famed twin peaks known as the Lions, one of the more popular day hikes over the North Shore Mountains. Over the years, a number of engineering projects have protected Lions Bay from the debris and water hazards that used to regularly affect the community.

Over the last four years the population has remained relatively steady at around 1,400. The average employment income of community residents in 2000 was \$75,900, more than double that of the province. Consistent with this, Lions Bay has a high percentage of residents in the 45 to 64 age group, when career earnings are at their highest.

Eighteen per cent of the labour force is classified in the professional, scientific and technical service sector. Retail trade, health care services, education, information and culture, and finance were also important job contributors. The majority of residents commute to West Vancouver and other neighbouring municipalities for work, as the employment base in Lions Bay is small.

5.5 FIRST NATIONS

Aboriginal communities across British Columbia have diverse cultures, languages, and social structures. A philosophy of a spiritual connection to the land forms the basis for many First Nations choices concerning land and resource management.

5.5.1 Socio-Economic Profile

There are seven First Nations which have reserve lands and asserted traditional territory in the Sea-to-Sky LRMP area. Although all have members who live in the Plan Area, the different aboriginal communities reflect rich cultural diversity. This is due in part to the fact that the Plan Area straddles two major watersheds that have historically supported two distinctly different linguistic families: the Coast Salish and the Interior Salish. Within the Plan Area, the Coast Salish linguistic family has been traditionally associated with the Squamish River Watershed, and the Interior Salish linguistic family with the Lillooet River watershed.

Aboriginal people live throughout the Plan Area, in and adjacent to all the municipalities. In general terms, members of the Squamish Nation are primarily based in North Vancouver, with some members living in Squamish. The community of Mt. Currie, near Pemberton, is largely populated by members of the Lil'wat Nation, and the community of D'Arcy at the head of Anderson Lake has a large population of members of the N'Quatqua First Nation. The In-SHUCK-ch Nation comprises three bands located between Harrison Lake and Lillooet Lake (Skatin, Samahquam and Douglas).

Labour force data for 2001 remain consistent with previous First Nations' employment profiles, in which public administration and the resource sectors are leading employers.

Table 6 summarizes the asserted traditional territories for First Nations with reserves in the Plan Area. Also shown are other First Nations who do not have large populations of residents within the Plan Area, but have a portion of their asserted traditional territories in the Plan Area. The primary First Nations

that have an interest in the Plan Area are the In-SHUCK-ch, N'Quatqua, Squamish, Tseil-Waututh, Lil'wat, Sto:lo and Musqueam.

Table 6: Asserted Traditional Territories in the Plan Area

First Nation	General Location	Approximate Territories In Plan Area	
		Hectares	% of Total
With Reserves in Plan Area			
In-SHUCK-ch Nation Skatin Samahquam Douglas	Mid-Lillooet Lake Upper Lillooet Lake Head of Harrison Lake	198,271	18.0%
N'Quatqua Nation	D'Arcy / Devine	69,745	6.3%
Squamish Nation	Squamish / Cheakamus Watersheds	507,220	46.1%
Tseil-Waututh Nation	Indian Arm, Indian River Valley	55,916	5.1%
Mount Currie (Lil'wat)	Upper Lillooet River Watershed	603,707	54.9%
First Nations Without large populations in Plan Area			
Musqueam Nation	Indian River	24,061	2.2%
Sto:lo Nation	Lower Lillooet Watershed	7,2924	6.6%
Klahoose Nation	Squamish Watershed	6,298	0.6%
Sechelt Indian Band	Squamish Watershed	595	0.05%
Kwakiutl Laich-Kwil-Tach Council	Upper Squamish watershed	392	0.04%

Source: BC Treaty Commission, except for Mount Currie, provided by Lil'wat Nation.

Labour force data for Indian Reserves from the 2001 Census (Table 3), while subject to error due to the relatively small sample size, indicates that employment is more heavily concentrated in goods producing sectors than it is in the Plan Area as a whole. While the proportion of First Nations labour force in government administration (primarily Band administration) is much higher than the average for the Plan Area, the First Nations labour force in other, private sector service industries is proportionately much lower than the average in the Plan Area.

Although there can be considerable variation, the First Nations in the plan area generally have higher unemployment rates than the BC average. First Nations unemployment may be underestimated because of very low rates of participation in the labour force. First Nations also tend to have higher rates of poverty and substandard housing, health and education services.

In addition to the different linguistic and cultural heredity of the First Nations of the Squamish River watershed and the Lillooet River watershed, there are also some socio-economic differences between these groups.

Aboriginal communities in the Squamish River watershed are geographically closer to British Columbia's largest metropolitan area of Greater Vancouver, and the associated infrastructure such as highways and municipal services. The aboriginal communities associated with the Lillooet River watershed are, by comparison, generally more remote and have an increased economic dependency upon

natural-resource based employment. Also, while comparable information for the other aboriginal communities within the Sea-to-Sky LRMP area is not readily available, 2001 Census data indicate that the post-secondary education levels for members of the Squamish First Nation community associated with the Capilano Reserve surpasses the British Columbia average.

Many of the aboriginal communities have active economic development programs. Aboriginal communities have generally indicated support of environmentally-sensitive timber harvesting. Many of the aboriginal communities see acquisition of forest tenures as essential to economic growth. The Squamish Nation, Tsleil Waututh, N'Quatqua, the Lil'wat Nation and Skatin Bands have had or currently have woodlot tenures. There are also a number of joint initiatives with First Nations, the Ministry of Forests and Range and forestry companies, which involve wood processing, timber harvesting, silviculture, and management of recreation sites. MFR recently negotiated agreements involving forest tenure opportunities with the Tsleil Waututh, N'Quatqua, In- Shuck, ch, and Lil'wat Nations and is continuing to negotiate with the Squamish Nation. The Squamish and Tsleil-Waututh Nations currently have less direct involvement in operational forestry than the First Nations within the Lillooet watershed, but these groups, as well as the Samaquam and Douglas Bands, have expressed interest in obtaining timber tenures. Several aboriginal communities are also actively pursuing economic opportunities involving tourism, botanical forest products, and electricity generation projects. Some of the key resource management concerns raised by First Nations are impacts of logging and other uses on fishery resources, botanical forestry, and the protection of heritage and ceremonial sites.

6 FORESTRY

6.1 CURRENT ACTIVITY AND HISTORICAL TRENDS

Land Base

The total land base of the Plan Area is 1,099,259 hectares. Of this, the forested land base is about 397,402 hectares (or 36%). The timber harvesting land base (THLB), the portion of the Plan Area considered to contribute to, and be available for, long-term timber supply, is currently 191,026 hectares (17%) of the total land base. Parks and Protected Areas account for about 235,000 hectares (21%) of the total land base.

Table 7 shows the breakdown of gross land base and timber harvesting land base for the Plan Area¹³.

Table 7: Squamish Forest District Timber Harvesting Land Base¹³

Land Designation	Area (hectares)		% of Total Area	
Gross Land Base		1,099,259		100.0%
Non-forested exclusions	701,857		63.8%	
Forested exclusions	206,376		18.8%	
Timber Harvesting Land Base		191,026		17.4%

Allowable Annual Cut and Apportionment

The current, aggregated AAC in the Plan Area (i.e. the Squamish Forest District) is 753,500 m³, comprising 503,000 m³ in the Soo Timber Supply Area and 250,500 m³ in Tree Farm Licence 38 held by International Forest Products (but excluding timber harvesting on private land).

Table 8 shows the apportionment of the AAC in the Squamish Forest District by tenure type.

Table 8: Squamish Forest District Annual Allowable Cut by Tenure Type

Tenure Type	AAC (m ³)	% of Total AAC
Soo Timber Supply Area	503,000	66.8%
Forest Licences (replaceable)	373,598	49.6%
Timber Sale Licence (<10,000 m ³)	19,190	2.5%
BC Timber Sales	105,197	14.0%
Forest Service Reserve	515	0.1%
Woodlot Licences	4,500	0.6%
TFL 38	250,500	33.2%
Interfor	237,382	31.5%
BC Timber Sales	13,118	1.7%
SQUAMISH FOREST DISTRICT TOTAL	753,500	100.0%

Source: Ministry of Forests – Apportionment System, “TSA, Apportionments and Commitments” report dated 01 December 2004 (TSA apportionment effective 01 October 2000), and “Tree Farm Licence Summary Report” dated 01 December 2004 (TFL AAC effective 06 August 1998).

¹³ Based on Socio-Economic and Environmental Base Case, November 2001. Appendix C – GIS Data Summary.

The AAC determination for the Soo TSA was made on 28 June 2000, and was apportioned among forest licence holders effective 01 October 2000 as shown in Table 9.

Table 9: Soo TSA Annual Allowable Cut Apportionment

Forest Licence	AAC (m³)
A19209 International Forest Products	121,227
A19213 Canadian Forest Products	40,623
A19214 Interfor/Squamish Mills/Weyerhaeuser	37,620
A19215 Terminal Forest Products	59,780
A19216 Doman - Western Lumber	58,466
A19217 Halray Logging/Weyerhaeuser	18,004
A19218 CRB Logging	19,626
A20541 Richmond Plywood	18,252
Soo TSA Total	373,598

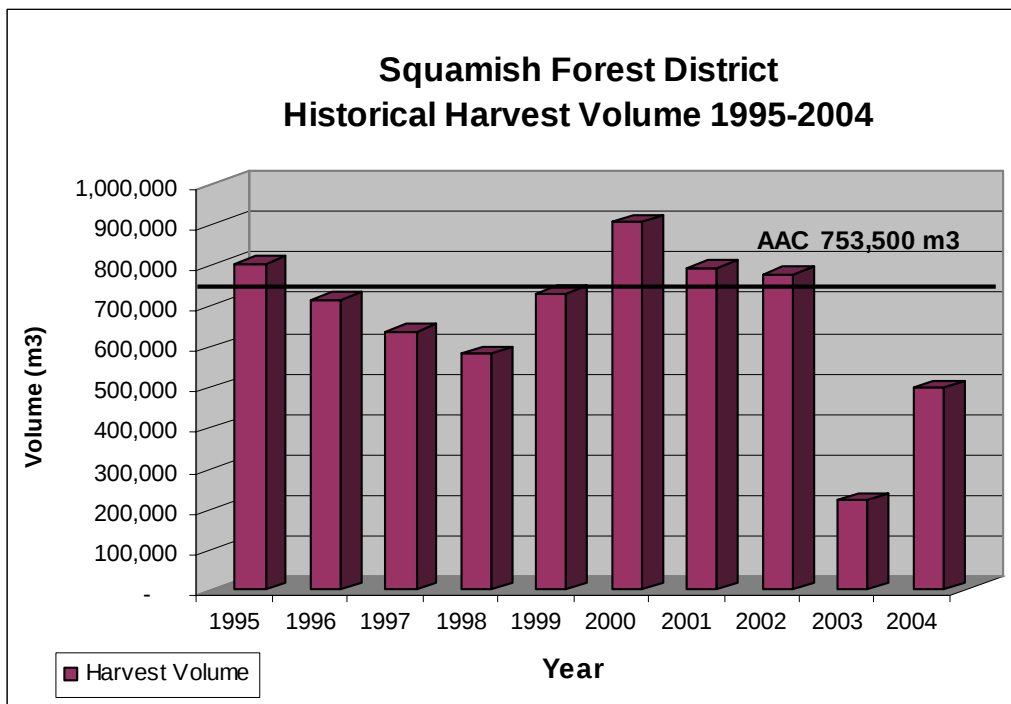
Source: Ministry of Forests – Apportionment System, “TSA, Apportionments and Commitments” report dated 01 December 2004 (TSA apportionment effective 01 October 2000)

Table 8 and Table 9 do not reflect recent AAC reallocation through the Ministry of Forests and Range’s “forestry revitalization plan”. Timber reallocation is a significant factor in the plan area. Interfor has given up 56% of its TFL 38 volume and 27% of its Forest Licence A19209 volume, while Western Forest Products and Canfor have given up their forest licences in the Soo TSA. The AAC given up will be redistributed to First Nations, community forests, woodlots, the value-added sector and new entrepreneurs. BC Timber Sales has also received increased AAC in TFL 38 as part of the Market Pricing initiative. While timber reallocation may not affect the overall AAC, it could have an impact on types or distribution of employment (for example, First Nations participation), depending on how smaller operators are affected.

Timber Harvest Levels

As shown in Figure 3, in 2004 the harvest level was 496,674 m³, rebounding from a low in 2003 of 220,637 m³.

Figure 3: Plan Area Timber Harvest Levels 1995 - 2004



Source: Ministry of Forests, Revenue Branch - Harvest Billing System

Note: Does not include Timber Licence volumes.

Table 10 shows the provincial stumpage revenues related to the timber harvest in the Sea-to-Sky area.

**Table 10:
Squamish Forest District Stumpage Revenue, 1995 - 2004**

	Harvest Volume (m ³)	Stumpage Revenue (\$ mil.)	Average Rate (\$/m ³)
1995	804,048	\$20.5	\$25.50
1996	714,311	\$21.4	\$29.99
1997	636,079	\$20.7	\$32.61
1998	580,021	\$8.6	\$14.79
1999	729,203	\$9.8	\$13.44
2000	906,321	\$10.4	\$11.51
2001	793,378	\$8.9	\$11.22
2002	776,369	\$13.3	\$17.12
2003	220,637	\$3.6	\$16.25
2004	496,674	\$5.6	\$11.25

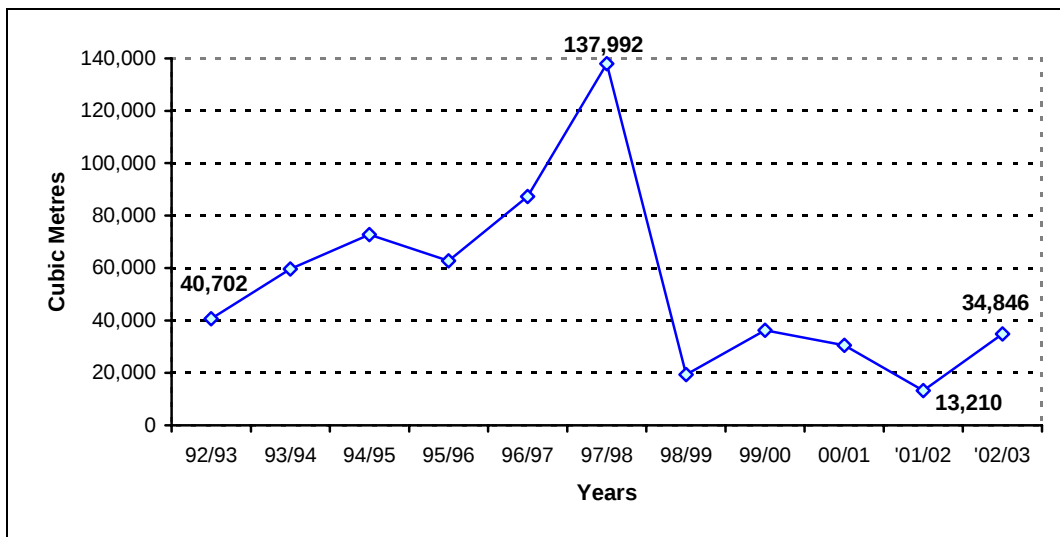
Source: Ministry of Forests, Revenue Branch
Harvest Billing System (scale reporting)

Note: Does not include Timber Licences.

It is possible that harvest levels may remain below the current AAC, at least in the near term. A 2003 study of the coastal forest timber supply pointed out that the demand for logs on the coast has been lower than the physical supply in recent years because many forest stands have not been economically accessible and logging costs are exceeding the value of delivered logs.¹⁴ In addition, significant milling capacity has been closed on the coast in the last five years. Both factors might suggest continued low demand for timber and possible under-harvest of the AAC. An offsetting trend is the growth in coastal log exports.

Private land timber volumes are a very small component of the Plan Area's fibre supply. Harvest activity was highly variable over the last decade, with harvests levels being low since 1999. The peak harvest was 1997/98 when close to 140,000 m³ was harvested. Since then, harvest volumes have been roughly in the range of 20,000 m³ to 30,000 m³.

Figure 4: Private Land Harvest Volume in the Squamish Forest District (1992 to 2003)



Source: Ministry of Forests, Revenue Branch.

Forest Sector Employment

Economic dependency data indicate that in 2001 the forestry sector accounted for 10% of the employment (1,179 direct and 428 indirect supply and service jobs) and 12% of the income (\$73.7 million, before tax) in the Plan Area.¹⁵

The major manufacturing facility is the Woodfibre pulp mill. In 2004, Interfor permanently closed its Empire sawmill in Squamish. There are a number of smaller processing facilities in Brackendale, Mt. Currie, Whistler Pemberton and D'Arcy. Forestry comprises a significant portion of the economy in Squamish and rural areas, but a low proportion of the economy in Pemberton, Whistler, and Lions Bay.

¹⁴ Pierce Lefebvre Consulting, *Analysis of Woodflow in the Coast Forest Region*, Ministry of Sustainable Resource Management, August 27th, 2003.

¹⁵ Tables generated in conjunction with Garry Horne / BC Stats (2004) op. cit.

Only a portion of timber processing jobs associated with the 2001 data (noted above) were supported by timber harvested from the Plan Area. This is typical of the forest industry on the coast, where there is extensive movement and trading of logs. Before the closure of the Squamish sawmill, facilities in the Plan Area imported 60% to 65% of their overall wood supply needs from sources outside the area. The Woodfibre pulp mill imports all of its fibre from outside the area. By comparison, in recent years about 60% of Plan Area harvest and chips from local sawmills have been shipped to mills outside the area, thereby supporting forestry-related jobs in the Lower Mainland and elsewhere in BC.¹⁶

Based on average harvests over the three years 2002-2004 (497,893 m³), the Plan Area timber harvest has recently supported the following levels of employment, employment income, and stumpage revenue.

- **Employment** - An estimated 413 person-years (PY) in the Plan Area (259 direct PY and 154 indirect/induced PY) and 1,499 PY (672 direct PY and 827 indirect/induced PY) province-wide (including the Plan Area).¹⁷
- **Employment Income** - An estimated \$18.3 million (before-tax) in the Plan Area (\$12.4 million direct and \$5.9 million indirect/induced), and an estimated \$61.8 million province-wide, including the Plan Area (\$33.7 million direct and \$28.1 million indirect/induced).¹⁸
- **Stumpage Revenue** - An estimated \$7.5 million in annual provincial government stumpage revenues, at an average stumpage rate of \$15.04/m³.¹⁹

6.2 ANTICIPATED TRENDS

The most recent determination for the Soo TSA by the Chief Forester (June 2000)²⁰ established the AAC at 503,000 m³, of which 90,000 m³ was a partitioned cut for helicopter-operable areas, in which performance would have to be demonstrated to justify future harvests at that level. The Chief Forester indicated that from a biophysical perspective, the total AAC could be maintained for several decades, but that increasing constraints due to factors such as visual quality, recreation, tourism and habitat needs would exert downward pressure on the AAC. Similar analysis by Interfor for TFL 38 indicated that the current AAC of 250,500 m³ could be held for approximately 10 years, followed by harvest reductions over succeeding decades until a long term harvest level of about 125,000 m³ was reached in decade 9.²¹

There is likely to be continued downward pressure on timber harvest levels due to increasing constraints related to visual quality, recreation, tourism, habitat needs, and impacts of other land uses (e.g. resort and energy developments). Forestry employment levels are likely to be affected by timber harvest levels, as well as a number of other factors, including market and wood product price factors, technological change and government policy (such as AAC reallocation). Technological change and industry rationalization in the face of declining harvests throughout

¹⁶ *Soo Timber Supply Area Analysis Report*, Ministry of Forests, August 1999.

¹⁷ Employment estimates for Plan Area based on 0.52 PY/000 m³ (direct) and 0.31 PY/000 m³ (indirect/induced). Employment estimates for province based on 1.35 PY/000 m³ (direct) and 1.66 PY/000 m³ (indirect/induced). Source: *Soo TSA Analysis Report*, op. cit.

¹⁸ Estimated Plan Area average before-tax income of \$47,837 (direct) and \$38,206 (indirect/induced) derived from Dr. G. Horne / BC Stats, op. cit. Estimated province-wide average before-tax income of \$50,111 (direct) and \$34,028 (indirect/induced) derived from BC Input-Output Model (BC Stats 2005) and discussion with Dr. Garry Horne, 23 June 2005.

¹⁹ Harvest volumes and stumpage rates from Ministry of Forests - Harvest Billing System, scale data.

²⁰ *Rationale for AAC Determination, Soo Timber Supply Area*, June 29, 2000.

²¹ In addition to the TSA and the TFL, there are private forest lands and Timber Licence holdings in the Plan Area, but harvest volumes from these have been relatively small.

British Columbia will likely result in displacement of some workers, but will also increase timber utilization efficiency. This will be a gradual process, as older processing facilities are replaced with more efficient technology, and as forestry firms further consolidate their processing capacity to most efficiently utilize available timber supplies.

There may be increases in value-added processing. Any future declines in logging employment due to harvest reductions may be partly offset by more labour intensive harvesting resulting from alternative harvesting practices. Overall, the forestry sector will continue to be important to the Plan Area economy, particularly for Squamish, rural areas and First Nations. However, total forestry employment may continue to decline in the longer term, and will likely lose ground as a proportion of total Plan Area employment.

7 TOURISM AND RECREATION

Tourism is defined in this document as the employment and income generated by the spending of visitors to the Plan Area on such activities as accommodation and food, recreation activities and transportation. **Recreation** is defined as outdoor activities enjoyed by residents of the Plan Area.

Although local recreationists and tourists often undertake the same activities in similar locations, it is typically assumed that spending by local recreationists does not generate net regional employment and income. This is based on the premise that without local recreation opportunities, residents would divert expenditures to other locally produced goods and services. This is likely a conservative assumption, given the availability of high quality recreation opportunities just outside the Plan Area. While the data presented below includes recreation use as defined above, most is attributable to visitors to the area. However, it should also be noted that the scenic beauty, fish and wildlife resources and other natural features that attract visitors to the area, are also highly valued by, and important to the quality of life of, all residents of the Plan Area.

7.1 CURRENT ACTIVITY AND HISTORICAL TRENDS

7.1.1 Overview

The Plan Area is the only area of the province where tourism is the highest ranked basic economic sector, accounting for 43% of the employment (6,441 direct jobs and 489 indirect jobs) and 28% of the income (\$179.2 million, before tax) in 2001.²² About 53% of the estimated tourism employment is in Whistler, about 34% is in Squamish, and 8% is in Pemberton.

Tourism in the Plan Area is linked to land use and resource management issues (i.e. is directly dependent on resource values such as wilderness, natural features, viewsapes and fish and wildlife resources). About one quarter of all visitors directly participate in outdoor activities²³, but the majority of other visitors also value the viewsapes, wilderness settings and other natural attributes and features of the region. Many commercial tourism activities are reliant on Crown Land resources. Anecdotal evidence of conflicts between user groups, and significant volumes of unauthorized commercial activity throughout the corridor, all attest to increased demand for commercial and public outdoor recreation.

7.1.2 Industry Structure

Communities in the Plan Area cater to a mix of tourism markets, including skiers, touring travellers, outdoor recreationists, resort visitors, and a large contingent of excursion visitors from Greater Vancouver. The physical resources of the region, impressive, unique, and in some cases internationally significant, are the major draws for these markets. Visual quality of the landscape will continue to be an important influence on trip experience for these visitors. The tourism industry in the area is made up of diverse business types, from international resort operations to numerous independent, small business operators. The last inventory of existing use in the region showed approximately 286 businesses engaged in tourism operations, evenly split between accommodation facilities and commercial outdoor

²² Source: Tables generated in conjunction with Garry Horne / BC Stats (2004), op. cit.

²³ Tourism British Columbia (1998), *Destination Report The Report on Visitors to Whistler*, 1998.

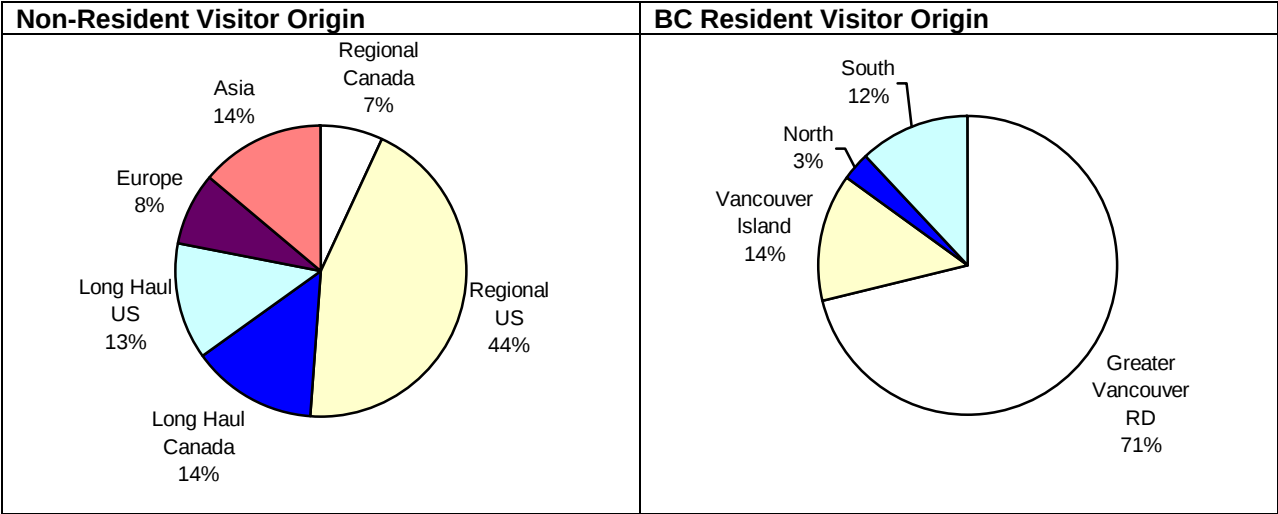
recreation operators.²⁴ There are many more businesses in the retail, service and transportation sectors which depend in part on tourism markets and revenues.

- Whistler has the bulk of tourism infrastructure, built facilities, and amenities. These include approximately 115 accommodation facilities, 95 restaurants, over 200 retail shops and a number of other recreational amenities such as adventure operators, three international class golf courses, and one regional-class golf course.
- Squamish has a variety of built facilities including more than 20 accommodation facilities, 50 food and beverage services, 140 retail outlets, 25 adventure travel outfits, 11 recreation facilities, 10 attractions (museums, galleries and studios), two golf courses and commercial stable / horse riding operators.
- Pemberton has four motels/inns, five B&Bs and a lodge resort, in addition to several food and beverage establishments. There are several outdoor adventure operators, several stables, as well as one international class and one regional class golf courses.
- Lions Bay is primarily a residential community that does not have major commercial tourism facilities, but it is in close proximity to a number of high quality recreational amenities.

7.1.3 Tourism Markets

The geographic origin of current tourism markets to the region as a whole is unknown. The last Tourism BC Visitor Study, released in 1998, did not distinguish the Sea-to-Sky from the Vancouver Coast & Mountains region and as a result the visitor data is represents the entire southwest area of the province. However, a separate profile of Whistler visitors was compiled.

Figure 5: Visitor Origin for Whistler, 1996



Source: BC Visitor Study – 1998.

In 1996, approximately 2 million visitors (includes overnight and day travellers) visited Whistler, representing 7% of all BC visitors.^{25:26} A total of 900,000 visitors came from non-resident destinations, while the other 1.1 million were BC residents (Figure 5).

²⁴ Clover Point Cartographics, *Forest Tourism Opportunities Supplemental Study for Squamish Forest District & In-Shuck-ch/N’Quatqua Statement of Intent Area*, Ministry of Small Business, Tourism and Culture, March 31, 2000.

²⁵ Tourism British Columbia (1998), *ibid*.

Other observations from the 1998 Whistler Report (British Columbia Visitor Study) include:

- Visitors to Whistler were responsible for spending \$523 million, or 6% of total spending by BC visitors. Non-resident visitors were responsible for two-thirds of spending, totalling \$352 million, an average of \$84 per day and \$318 per stay. BC resident visitors accounted for one-third of spending, or \$171 million. Assuming that total revenues have kept pace with room revenues (discussed below) since that time, then in 2002 total tourism expenditures in Whistler were approximately \$1.18 billion.
- The majority (92%) of overnight visitors to Whistler, both resident and non-resident, came for leisure purposes. Close to 50% of visitors come to the resort specifically for outdoors/wilderness activities, while another quarter of non-residents also come for the sightseeing opportunities. This clearly separates Whistler from other regions of the province where visiting friends and relatives is the primary trip purpose and outdoors/wilderness activities are not as important.
- Primary trip activities included downhill skiing/snowboarding (50%), sightseeing (22%), hiking/backpacking (19%) and bicycling (8%). Outdoor activities are more frequently undertaken in Whistler than they are in other regions of the province. Eleven per cent of total non-resident visitor spending (\$38.7 million) in 1996 went toward outdoor activities. Although Tourism BC did not calculate outdoor activity spending by residents, the fact that participation levels in outdoor activities by residents and non-residents are similar suggests a comparable spending pattern. This would value total visitor spending on outdoor activities in 1996 at approximately \$57 million.

More recent statistics released by Tourism Whistler indicate that the visitor profile to the resort has not changed significantly over the last 10 years. Figure 6 shows that Whistler hotel visitors in 2002 had a similar market origin profile to the average Whistler visitor in 1996. The Tourism Whistler data do show a marked change in the market origin of visitors between the summer and winter seasons. In the winter, USA visitors outnumber Canadians, and overseas visitors account for one quarter of the total. In the summer, visitors are predominantly Canadian, as the percentage of both USA and overseas visitors declines. Tourism Whistler's visitor volume estimation model estimated a total of 1.86 million visitors in 2002. Major activities while in Whistler include dining out and shopping, but outdoor activities remain high on the list, particularly in summer, when one third of all visitors participate in hiking, lake and beach activities, general sightseeing and biking. The major winter outdoor activity is downhill skiing/snowboarding.

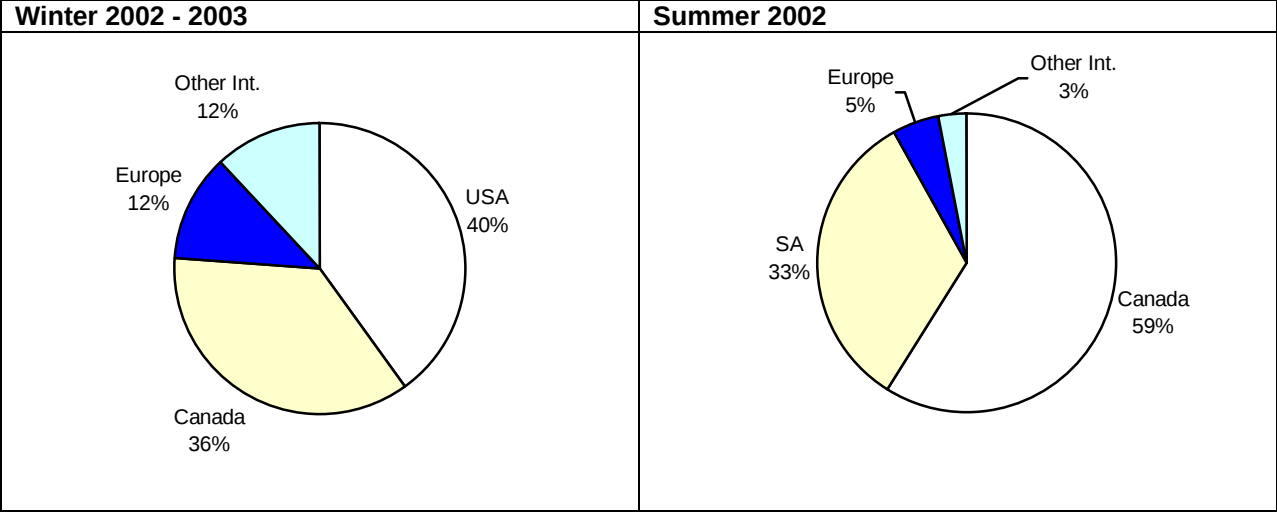
For further information, readers are referred to the *RMOW Monitoring Report*²⁷. The report presents information, for years up to 2003/04, regarding tourism market trends, visitation statistics (including visitor days, average length of stay, market origin, and visitor characteristics), and commercial accommodation trends.

²⁶ Starting in 2000/01, the total number of annual visitors declined for four years, dropping to 1.90 million in 2002/03, a decrease of 17% from the high recorded in 1998/99. In 2003/04 the total number of visitors for the year recovered to 2.0 million, 11.8% below 1998/99. See *RMOW Monitoring Report*, op. cit., page 43.

²⁷ *Resort Community Monitoring Report 2003/04*, op. cit., section 4 - *Resort Economy*. The report can be accessed at: <http://www.whistler.ca/Sustainability/Performance.php>

The visitor data collected by the region’s three Visitor Info Centres (VICs) in Whistler, Squamish and Pemberton does not represent the “typical” visitor, so is not presented here. Generally, the profiles reflect both the BC Visitor Study data and Tourism Whistler’s hotel visitor profile.

Figure 6: Origin of Whistler Hotel Visitors, 2002 - 2003



Source: Tourism Whistler, 2002-03 Whistler Resort Statistics, September 2003.

7.1.4 Visitor Spending

Annual room revenues in the Squamish-Lillooet Regional District (SLRD) grew by 153%, from \$80 million in 1995 to \$204 million 2002²⁸, the highest growth rate in the province and well ahead of the 50% growth in provincial room revenues. ²⁹ Whistler accounts for 97% of SLRD room revenues and 13 per cent of total provincial room revenues. The growth record is attributable to an increase in the number of properties, an increase in the room size of the average property, and increasing occupancy. In the last seven years, 29 hotels have been built in Whistler, all with more than 75 rooms.

According to the last Tourism BC Visitor Study conducted for Whistler, 20% of all spending by visitors is for accommodation.³⁰ Based on official room revenue figures, this implies total visitor spending in the Plan Area of over \$1 billion in 2002.

7.1.5 Economic Impacts

The 2001 Census shows an accommodation labour force of 1,965 workers living in the Plan Area. This does not equate to actual person-years of accommodation employment in the Plan Area because: 1) it includes both employed and unemployed workers, 2) it includes employees who live outside the Plan Area, and 3) it treats seasonal, part-time and full-time workers the same. Thus, the Census estimate might be considered on the high side.

²⁸ BC Stats, *Tourism Room Revenue Annual 2002*, 2004.
²⁹ Room revenues are compiled by BC Stats using the hotel tax file database maintained by the Ministry of Finance. Tax is not payable for several kinds of accommodation, including properties with three or fewer rooms. Thus, most Bed & Breakfasts are excluded from the room revenue figures.
³⁰ Tourism British Columbia (1998), op. cit.

There are some important offsetting factors, however. First, non-resident employees commuting into the region to work at the hotels would not be included in the above estimate. Secondly, and perhaps more importantly, the impact of foreign workers, particularly younger Australians, New Zealanders and British, who congregate annually to work in Whistler, is not clear. Although they are required to fill out the Census as temporary workers, they may not have been captured since most depart at the end of the ski season and would not be residing locally when the Census was conducted. Even if they were staying in the region during the Census, they may have been missed or unwilling to complete the survey. Temporary workers are generally difficult to capture in Census coverage and are often under-counted.³¹

Alternative estimates for determining accommodation employment can be derived using Plan Area room revenues in 2001 of \$204 million. Applying industry average wage and salary costs, as well as Plan Area average accommodation wages, yields an employment estimate of 2,370.³² The BC Input-Output Model (BCIOM) yields a slightly higher estimate of 2,605.³³ As previously noted, as the room revenues dataset does not capture the entire lodging industry, actual accommodation employment would be underestimated. These estimates suggest that direct provincial accommodation employment supported by Plan Area room revenues can be estimated in the range of 2,400 to 2,600 full-time equivalent positions (ignoring the effects of worker residency on the Census estimates).

Based on the more conservative accommodation employment estimate of 2,400, total direct employment supported by Plan Area tourism activity is estimated to be 7,774, using the BC Stats direct tourism ratio for the Plan Area in 2001.³⁴ The associated employment income is \$227 million.³⁵ Indirect employment is estimated at 934 positions, with associated employment income of \$34.4 million.³⁶

Provincial government revenues from room revenues were \$16.3 million in 2002.³⁷ There are also provincial revenues from outdoor recreation activities in the Plan Area (these activities are discussed in the following section). The provincial government earns 2% of gross lift revenue from alpine skiing licensees. Projected revenue from Whistler operators in 2004 is \$1.8 million.³⁸ The province is also projecting royalty payments of \$90,000 and rents of \$25,000 from commercial recreation operators in 2003/04.³⁹ Royalties and rents associated with commercial recreation will be higher in the future, as more commercial recreation activities are licensed and previously unlicensed uses receive tenures and existing and new licence applications are processed.

³¹ Personal communication, Bruce Meyers, Statistics Canada, Edmonton.

³² Calculations based on hotel industry average labour cost of 40% and Plan Area accommodation income of \$34,426 (2001 Census).

³³ Direct employment of 14.17 per \$million of spending, after accounting for front-end taxes of 9.87% (Garry Horne, *British Columbia Provincial Economic Multipliers and How to Use Them*, Ministry of Finance and Corporate Relations, May 2001).

³⁴ Direct tourism ration for Squamish Forest District is 2.99 (Garry Horne [2004], *ibid.*).

³⁵ Based on an average accommodation and food services income of \$31,741 (2001 Census).

³⁶ 1.13 indirect/induced multiplier for Plan Area (Garry Horne/BC Stats [2004], *op. cit.*).

³⁷ Room tax = 8% of room charges.

³⁸ Personal communication, Tammy Hillier, Land and Water BC.

³⁹ Personal communication, Tammy Hillier, Land and Water BC.

7.2 TOURISM SUB-SECTORS

7.2.1 Downhill Skiing

Downhill skiing and snowboarding are the primary drivers of visitation to Whistler in the winter. The average annual growth in skier visits at Blackcomb and Whistler Mountains during the 1990s was 5% per year, to just over 2 million annual visits by the end of the decade. Over the last three years, skier visits have levelled off as the growth in capacity slows (both in terms of mountain lift capability and hospitality inventory). Visitation has also been negatively affected by broader travel industry trends (e.g. 9/11, SARS, rise in Canadian dollar).⁴⁰

The economic impacts of downhill skiing in the Plan Area are significant, as it drives winter visitation and is directly responsible for the majority of expenditures, including room, food and beverage and transportation revenues. Approximately half of all visitors to Whistler engaged in downhill skiing and snowboarding.⁴¹ This would have accounted for more than \$500 million in spending in 2002.

7.2.2 Commercial Recreation Activities

To determine the location, intensity and value of commercial recreation use in the study area, a brief analysis was undertaken of Crown Land Commercial Recreation applications and tenures. The available data contained numerous gaps. Projected client numbers for the 2001 to 2007 period are known from management plans submitted by tenure holders, but for various reasons, including incomplete reporting, the actual number of client days still needs to be determined from actual use which are obtained annually from tenured operators.

Recently, Land and Water BC (LWBC) implemented a Commercial Recreation Tenure Incentive Program which resulted in increasing the number of tenures to at least 62 licensed commercial recreation operators in the Plan Area.⁴² LWBC received another 13 applications for commercial recreation. Currently, major activities and tenure locations are as follows:⁴³

- Heli-skiing – Whistler, Pemberton, Squamish.
- Cat-skiing – Tricouni Peak and Cypress Peak.
- Nordic skiing – Callaghan.
- River activities (rafting and kayaking) - Elaho, Squamish, Lower Cheakamus, Green, Birkenhead and Lillooet rivers.
- Snowmobiling - Hurley Road, Pemberton Icefield, Meager Creek, Rutherford and Callaghan.
- ATV riding – Brandywine, and Daisy Lake.
- Horse trail riding - Pemberton Valley and Brandywine.
- Miscellaneous (dirt biking, paintball, mountain biking) – near Whistler.

⁴⁰ Tourism Whistler, *2002-03 Whistler Resort Statistics*, September 2003.

⁴¹ Tourism Whistler, op. cit.

⁴² Personal communication, Kevin Lee, Land and Water BC.

⁴³ LWBC website <http://www2.lwbc.bc.ca/ApplicationPosting/index.jsp>

Stakeholders have identified concerns about carrying capacity for recreation use between types of uses and about maintaining environmental values on the land base. Provincial agencies, local governments, and stakeholders are considering options for addressing these issues.

ATV tours, mountain bike tours, ski touring and other activities where commercial activity is suspected are not well represented among existing licensee business plans or plans submitted as part of applications for tenure.

7.2.3 Guide Outfitting

Outfitting territories (or portions thereof) in the Plan Area have low harvests and are rarely worked because the financial return does not justify the cost of operation.⁴⁴ Almost all the effort is focused on black bears, but the average activity is low (10 kills, 10 hunters, 30 hunter days annually). There has been no registered activity for Mule Deer or Wildfowl over the last 10 years, while only two goats and two cougars were killed during this time.

Freshwater and saltwater angling are important recreational activities for Sea-to-Sky tourists, but are often undertaken as secondary activities in conjunction with primary products such as hiking, backpacking or trail riding. There has been an increase in angling guide licences issued in the Plan Area in recent years, as commercial operators respond to heavy demand from Whistler-bound visitors. There are no classified streams in the Plan Area.

7.3 RECREATION ACTIVITY

7.3.1 Parks

The park system, which comprises about 21% of the Plan Area, is well developed and is a strong lure for domestic and international travellers. There are a number of provincial parks, including popular locations such as Blackcomb Glacier and Shannon Falls, which account for substantial visitor volumes. BC Parks data (see Table 9, below) for both day use and campground use indicate that there were 559,003 day use visiting parties (3.5 persons per party) in 2000 and 38,037 campground visiting parties (3.2 persons per party).⁴⁵ Growth in day use and campground visitation was a modest 0.6% during the 1993-2000 period.

7.3.2 Recreation Sites and Trails

The Ministry of Forests and Range no longer fully maintains the province's 1,600 recreation sites and trails. Instead, it has negotiated partnership agreements with local groups, forest companies, First Nations, regional districts and other parties to manage high-use sites. Sites and trails not managed under partnership agreements are being maintained by users.

The Ministry of Forests and Range provides for public recreation within Provincial Forest, generally without any fee. In the Plan Area, there are 367 kilometres of official trails, 23 recreation sites and 26 recreation huts. Of the recreation sites, nine are managed with user fees (the agreement holder may

⁴⁴ Personal communication, Jack Evans, Ministry of Water, Land and Air Protection.

⁴⁵ Data for Blackcomb Glacier includes ski use.

charge a small fee to offset maintenance costs), another six are managed without fees, and the remainder are user-maintained.

There are three interpretative forests in the Soo TSA - Brohm Lake (400 ha.) near Squamish, Cheakamus (2,886 ha.) near Whistler, and Shadow Lake (125 ha.) near Pemberton. This blending of tourism and forestry, within a working forest, is intended to provide an outdoor recreation experience together with education about forestry and wildlife management practices, and includes interpretative sites and trails, and forestry demonstrations.

Table 10: Plan Area Park Use, 1993-2000

PARK		Avg. Annual %change 1993-2000	2000	1999	1998	1997	1996	1995	1994	1993
Alice Lake	c	2.1	12,792	13,662	13,049	11,584	11,351	11,897	12,152	10,838
	D	1.7	80,882	78,847	97,115	84,064	83,641	80,483	84,394	70,668
Birkenhead Lake	c	-2.6	4,183	4,631	6,022	5,166	5,333	5,882	6,754	5,162
	D	-1.6	1,893	2,393	3,971	3,216	2,382	2,935	2,698	2,156
Blackcomb Glacier	d	7.7	107,000	105,700	N/a	85,039	47,555	49,846	35,049	59,014
Brandywine Falls	c	1.8	1,940	2,160	1,944	1,815	1,966	2,049	1,815	1,678
	D	0.2	46,362	49,640	52,189	44,775	46,924	52,584	63,850	45,635
Chieftain Viewpoint	d	-	-	-	56,692	59,897	64,520	62,221	57,193	57,756
Garibaldi	c	-8.3	2,396	1,479	3,989	3,604	4,832	5,102	5,318	4,773
	D	-2.5	21,874	26,692	28,415	28,948	30,641	32,268	30,571	26,756
Joffre Lakes Park	d	5.1	12,600	14,046	13,802	9,932	3,880	7,410	9,301	8,435
Murrin	d	-0.2	45,640	43,623	56,453	47,842	47,494	45,350	43,635	46,284
Nairn Falls	c	2.6	7,672	7,962	9,674	8,177	7,294	7,976	7,772	6,242
	D	0.6	32,537	34,987	30,309	29,904	24,600	41,551	35,021	31,057
Porteau Cove	c	2.5	9,054	9,282	7,710	7,442	7,629	7,794	8,189	7,453
	D	2.4	86,883	93,735	92,731	86,251	86,378	78,369	77,408	72,139
Shannon Falls	d	1.0	123,332	166,407	163,692	151,995	136,375	131,662	123,673	114,201
Total	c	0.6	38,037	39,176	42,388	37,788	38,405	40,700	42,000	36,146
	D	0.6	559,003	616,070	765,231	631,863	574,390	584,679	562,793	534,101
Source: BC Parks (later with Ministry of WLAP), Garibaldi/Sunshine Coast District.										
Notes: Blackcomb Glacier includes ski use. c=campground, d=day use Parties defined as: Day use = #parties x 3.5 = #people. Campground = #parties x 3.2 = #people Backcountry days = #parties x 3.0 = #people. Backcountry nights = #parties x 3.0 = #people										

7.3.3 Major Recreation Activities

The Sea-to-Sky Plan Area plays host to wide variety of recreational activities and serves as a major outdoor area for the approximately 2.2 million residents of the Lower Mainland. Activities include cross-country skiing, ski touring, ski mountaineering, snowshoeing, hiking, mountaineering, white water kayaking, river rafting, angling, nature appreciation, wind surfing, sailing, swimming, paragliding, snowmobiling, motor-biking, four wheel driving, and all terrain vehicle riding.⁴⁶ The following are brief profiles of the major activities.

⁴⁶ Outdoor Recreation Council of BC, *Public Recreation Study of the Squamish Forest District*, Land Use Coordination Office, December 2000.

- **Hiking/backpacking** - The Plan Area is a major hiking destination for Lower Mainland residents. The Lions Bay area draws heavy use of the Binkert Lions Trail and its related network that runs up Howe Sound to Squamish. Unnecessary Mountain, Brunswick Mountain, Deeks Lake and Deeks Bluff, Petgill Lake and Stawamus Chief and Squaw are all popular trails. During the peak summer months, they can sometimes carry excessive foot traffic.

Elfin Lakes, Mamquam Lake, and Opal Cone, all in the Diamond Head area, are somewhat more remote than Lions Bay but are considered to provide spectacular hiking opportunities.

Further north, the Black Tusk area has some renowned hikes, including several around Garibaldi Lake (Black Tusk, Panorama Ridge), Brandwyne (Brandywine Meadows, Brew Lake), Whistler (Wedgemont, Rainbow and Russett lakes and the ski hills) and Pemberton (Lizzie, Joffre).⁴⁷

The BC Mountaineering Club has built four huts in the Plan Area, two of which are maintained by BC Parks in Garibaldi Park. The other two huts are at Mountain Lake (Mount Sheer) and North Creek (Lillooet Valley). Club members use the huts at no charge, while non-members pay \$10 per person per night. The Alpine Club of Canada maintains a hut for members at Lake Lovely Water in the Tantalus Range, and the UBC Varsity Outdoor Club has huts at Phelix Creek and Mt. Brew.

- **Mountaineering/Climbing** – There are purported to be over 1,000 climbs of all levels of difficulty in the Sea to Sky Corridor.⁴⁸ In addition to the Grand Wall of the Stawamus Chief, popular areas include Cal-Check, Lillooet Edge, Murrin, Nordic Rock, Rogues Galley, Malamute, Apron and Smoke Bluffs.
- **Mountain Biking** – Pemberton, Whistler, and Squamish have quality biking experiences. Many biking enthusiasts travel to Squamish for single track because higher elevations further north do not lose their snow until early summer. Squamish is renowned for its single track because of the efforts of a dedicated corps of trail builders and riders. There are also at least two major mountain bike competitions in the Squamish/Whistler area annually, which bring in thousands of participants and spectators (Squamish Test of Metal and the Cheakamus Challenge). Whistler bike park is also a huge draw.
- **Kayaking/Canoeing/Rafting** – Over 100 different whitewater paddling runs on 46 streams have been identified in the Plan Area that are navigable by canoe, kayak and raft. These support a variety of public and commercial recreation uses. Kayaking, in particular, is growing in popularity, where there are several good runs of moderate grade for beginners to learn on. Due to improved equipment, more expert users are finding more challenging water on a number of creeks in the region. A recent study of whitewater potential suggested that the Sea-to-Sky region is recognized within the

⁴⁷ There has been no access to Lizzie Lake since 2003.

⁴⁸ 99 North Magazine, *Where to Climb*, <http://www.99north.com/guides/climb.html>.

paddling communities of the Pacific Northwest and the southern US as a destination with abundant water flows and among the best “steep creeking” experiences in the world. There is concern among paddlers that projects being planned by independent power producers will compromise stream navigability and use.⁴⁹

- **Horseback Riding** – The terrain of the Plan Area generally does not lend itself to trail riding, but there is a small core of operators in the Squamish (equestrian centre), Brakendale, Pemberton and Devine/Birken areas.
- **Snowmobiling** – Snowmobiling is a major winter outdoor activity in the Plan Area. The Pemberton Ice Cap has some of the most extensive alpine snowmobiling territory in the province, and draws recreationists from throughout the province and the northwest United States. Major snowmobile routes exist through the Rutherford Valley and Brandywine Valley up to the ice cap and around through the Callaghan Valley (circle route). Now that the Ice Cap has been discovered by people outside the Plan Area, the use and conflicts are increasing rapidly.

There are also excellent snowmobiling areas along the Hurley River Road to Bralorne, Face Mountain and Lone Goat. The Callaghan Valley and Brandywine, south of Whistler, are also popular.

There are four snowmobile clubs in the area: Hidden Valley Snowmobile Club, Powder Mountain Snowmobile and Outdoor Recreation Club, Pemberton Snowmobile Club and Black Tusk Snowmobile Club. Black Tusk Snowmobile Club maintains a clubhouse and use area at Brohm Ridge, but the long-term viability of this site is in question due to the proposed Garibaldi at Squamish Resort Development.

With the advance of snowmobile technology, snowmobile use is now evolving as a transportation mode for skiers and snowboarders who are accessing terrain outside the ski hills. This has allowed snowmobilers to access more areas and exacerbate interactions with wildlife and other non-motorized back country users.

- **Wildlife Viewing** – The British Columbia Recreation Atlas lists three significant wildlife viewing sites in the Plan Area.⁵⁰ They include Birkenhead Lake Provincial Park (birds, goats), Cheakamus River (salmon, eagles) and the Squamish Estuary (eagle, waterfowl, shorebirds). There are no commercial operators with a primary focus on wildlife viewing in the Plan Area, although many lodges and resorts offer seasonal wildlife tours, mainly in and around Squamish.

7.3.4 Hunting and Fishing

Hunter data over the last decade indicates that the number of hunters, the number of days they spent hunting and the number of wildlife they kill are all in decline, although the downtrend is more obvious

⁴⁹ Confluence Environmental Consulting, *Whitewater Stream Inventory (2002) of “Sea to Sky”*, Squamish Forest District, British Columbia, Ministry of Sustainable Resource Management, April 2002.

⁵⁰ Ministry of Environment, Land and Parks, *British Columbia Recreation Atlas*, Fourth Edition, 1997.

for some species than others. Mule Deer are the most popular big game, but since 1994 the number of hunters has declined by 49% and the number of deer killed has declined by 57%. Goat and bear hunting activity is also down. Hunter effort for cougar has remained stable, but represents a very minor proportion of the overall hunting activity. The number of hunters pursuing waterfowl is relatively stable. In three of the last four years the number of birds killed has fallen below the 10 year moving average, but in 2001 there was a record harvest.

The vast majority of resident hunters in the area are from the Lower Mainland.⁵¹ The main target species of black bear is widespread throughout the province, so very few hunters outside the Greater Vancouver area would be motivated to hunt in the Plan Area.

Although data on resident fishing activity are not available, the activity is believed to be significant, even though the region is not known as a fishing destination and contains no classified streams. There is excellent fishing for rainbow, cut-throat and steelhead trout Dolly Varden and Bull Trout in the numerous lakes and streams within easy reach of the main highway. Area lakes were largely barren, but stocking programs have spread rainbow and cutthroat trout throughout many of them. The steelhead population is low compared to historic levels, but it is still a highly valued angling opportunity (catch and release only). The Squamish River supports a very large chum run, and this fishery has become extremely popular in recent years. Salmon fishing (chinook and pink) is popular in Howe Sound.

Table 11: Resident Hunter Harvest and Effort, 1994 - 2002

Species	2002	2001	2000	1999	1998	1997	1996	1995	1994
Mule Deer									
Kills	298	393	281	344	410	319	481	593	694
Hunters	823	622	1001	1039	1127	1135	1382	1508	1606
Hunter Days	4690	5830	4684	4937	5656	5105	6475	6354	7301
Mountain Goat									
Kills	0	0	2	0	0	1	9	2	2
Hunters	8	8	21	13	20	16	21	25	10
Hunter Days	38	76	129	60	60	72	82	67	43
Black Bear									
Kills	84	113	93	137	101	105	111	139	106
Hunters	212	297	298	338	297	279	293	337	360
Hunter Days	1068	1478	1223	1107	1023	974	1155	1242	1279
Cougar									
Kills	7	15	0	3	0	2	1	2	6
Hunters	10	20	11	13	12	15	18	18	17
Hunter Days	58	50	34	31	118	67	54	117	82
Wildfowl									
Kills	1124	2276	1054	1270	2183	1710	1773	1499	1747
Hunters	472	460	527	452	506	496	691	784	401

Source: Ministry of Water, Land and Air Protection.

7.4 ANTICIPATED TRENDS

The Plan Area's strong historical growth, its proximity to the growing population of the Lower Mainland, its growing stature as an international ski destination and increasing worldwide demand for a

⁵¹ Personal communication, John Thornton, Ministry of Water, Land and Air Protection.

diversity of quality outdoor recreation experiences, fuelled by increased incomes of an aging population, all suggest continued growth in the tourism industry and increasing pressure for continued improvements in commercial facilities, transportation links and hospitality infrastructure.

Reflecting these demands, several proposed developments could have major implications for tourism in the Plan Area.

- Hosting the 2010 Winter Olympic Games will have major implications for the Plan Area. First, there will be a significant addition to the tourism capacity of the region, particularly in the Callaghan Valley, where several alpine events will be hosted. The development of a new cross-country ski area, other sports facilities and new housing (perhaps employee only) will increase the diversity of winter activities. It is anticipated that the exposure of the Olympics will also generate more tourist traffic in the Plan Area well after the event is completed, similar to Vancouver's experience following Expo 86.
- The proposed Garibaldi at Squamish ski resort is located 13 kilometres north of Squamish, at Brohm Ridge. The development, if it goes forward as currently proposed, is expected to take 10 years to complete and have a capacity of over 19,000 skiers. The project has been under review in the Environmental Assessment (EA) process since December 1997. Discussions continue between the province, new owners, and First Nations, to resolve outstanding issues.
- The proposed Cayoosh ski resort in Melvin Creek Valley was certified under the province's *Environmental Assessment Act* in August 2000. Terms and conditions have been attached to the environmental assessment certificate to ensure that the project addresses possible impacts on mountain goats and grizzly bears, water supply, sewage disposal, access road design and costs, and implications for local First Nations. However, this project is currently stalled because of a lack of approval from First Nations.⁵² The project would have a daily skier capacity of 12,500, with upper and lower villages, a golf course, and other recreational amenities. Most of the economic impacts of construction and operations would probably occur outside the Plan Area, as Lillooet is expected to be the service centre for the resort, but there would still be a major spin-off impact in the Plan Area, particularly in Pemberton.

Additions to transportation infrastructure in the Highway 99 corridor, and to accommodation capacity and services, are likely to lead to an increased capacity for tourism and population growth. Commercial tourism would also be supported by infrastructure investments outside the Plan Area, such as the new convention centre and cruise ship facilities in Vancouver.

Tourism growth may be constrained by factors such as Whistler's bed unit cap, other growth management strategies that may be adopted by communities and the Squamish-Lillooet Regional District, and infrastructure limitations. On the other hand, constraints on commercial accommodation may result in Whistler increasingly servicing the "high end" of the market, while demand for other accommodation will be increasingly met by other communities in the Plan Area which have greater capacity for growth.

⁵² Personal communication, Al Raine, Sun Peaks Resort.

Demand for outdoor recreation in the Plan Area by residents and tourists is expected to grow. BC Stats projects a 38% increase in the Lower Mainland region population in the next 25 years. Marketing of Whistler and other communities to tourism markets will also increase demand. Demand for outdoor recreation in the Plan Area by residents and tourists will also grow strongly. There is likely to be increasing demand for commercial river rafting, snowmobiling, heli-hiking, heli-skiing, heli-biking, snowshoeing, and other product types not yet identified. Demand is also expected to increase for non-commercial public recreation activities, such as kayaking, mountaineering, and snowmobiling. Freshwater and saltwater sport fishing demand will likely continue to grow, subject to resource constraints and effectiveness of stock rebuilding programs. Hunting activity is not likely to increase significantly because of resource constraints and declining popularity among recreationists from large urban areas.

In the longer term, increasing utilization of some parks and MFR recreation sites in the Plan Area will add to the congestion now being experienced at some sites. These pressures may result in the imposition of management constraints in those parks and recreation sites which have already reached their capacity for peak use. Congestion may also result in diversion of some visitors outside the Plan Area. Capacity constraints in many of the well-established parks and recreation sites suggests that excess demand for these facilities will continue, and future tourism growth in the area will rely increasingly on access to the remaining forested and non-forested land base.

Although a large component of the current tourism sector is based on downhill skiing, the area's tourism base is diversifying and this trend is expected to continue. As the ski industry matures and the bed unit cap is approached in Whistler, the hospitality sector will dedicate more planning and marketing to the slower "shoulder seasons" in spring and autumn.⁵³ This seasonal expansion will require more product development that relies on access to backcountry resources and features. An important consideration is the resolution of conflict between motorized and non-motorized activities in the backcountry, and between commercial and non-commercial public recreation use. The resolution of such conflicts could limit certain types of uses in some areas.

Timber harvesting in the Plan Area can increase road access to the forest land base and to tourism and recreation opportunities.⁵⁴ The GIS inventory of scenic areas is not exhaustive, and there may be other visually sensitive areas that currently have no explicit management protection. Also, almost 80% of existing tourism activity areas, 47 % of high summer tourism capability areas, 60% of high winter tourism capability areas, and 60% of guide outfitter territories, are included in areas that will be subject to increasing resource and related road development over time. Improved access management planning, could help reduce long term risk to outdoor recreation values upon which many outdoor recreation activities are based.

Resource development and related access may also reduce wilderness (i.e., roadless) recreation opportunities in the Plan Area over time. The largest impact will be in the semi-primitive class, representing almost 45% of the Plan Area, and most of which lies in the TSA and TFL 38. As a result, the amount of roaded recreation opportunities will increase while existing Provincial Parks such as

⁵³ Personal communication, Barrett Fisher, Tourism Whistler.

⁵⁴ 1994 *Forest, Range and Recreation Resource Analysis*, op. cit. See survey of public preferences regarding conditions considered acceptable for recreation use. Most respondents (62%) preferred an unaltered setting, but would accept sites where modifications were not evident.

Garibaldi, Clendenning Creek and the Upper Lillooet will face increasing pressure from recreationists seeking true wilderness experiences and backcountry opportunities. This will also increase the pressure on the remaining semi-primitive non-motorized class in the TSA and TFL. It is unlikely there will be much change to the primitive ROS class, since most of this area (about 63%) is included either in Parks and Protected Areas or does not contain operable timber.⁵⁵

The fact that 83% of the Plan Area land base is currently inoperable for logging (i.e., is outside the THLB), and that about one-third of the THLB is constrained by management policies to protect fish and wildlife, other environmentally sensitive areas and visual quality, substantially mitigates the direct impacts of timber harvesting on the attributes upon which “nature-based” tourism and recreation rely. However, as evidenced by historical trends, higher prices for wood fibre and products and new technology such as helicopter logging may expand the THLB, which could continue to exacerbate resource conflicts. Potential mineral development and related road access impacts can also occur outside the THLB.

In summary, growing regional population, increasing visitation, growing recognition as an international outdoor adventure destination, and the hosting of the 2010 Winter Olympics, will increase the demand for Crown land and resources as inputs to the visitor and local recreationist experience. The Sea-to-Sky area is likely to continue to be the only region of the province to be primarily dependent on tourism.

⁵⁵ Doug Levers Consulting, *Strategic Planning for Commercial Recreation Squamish District including the Sea to Sky Corridor*, BC Assets and Land Corporation, February 2000.

8 COMMERCIAL FISHERIES AND AQUACULTURE

8.1 CURRENT ACTIVITY AND HISTORICAL TRENDS

In 2001, the labour force in commercial fisheries and aquaculture was estimated at between 10 and 20 workers, well below the estimated 45 workers in 1996.⁵⁶ First Nations groups also rely on salmon as an important part of their livelihood, food and culture. The commercial fleet based in the area is dependent on the Fraser River system, which is the most important producer of salmon in BC. Several streams and their tributaries, such as the Squamish and Birkenhead Gates, are important salmon producers regionally, but are small producers on a provincial scale and do not contribute significantly to the commercial catch in British Columbia.⁵⁷ The streams and lakes in the Plan Area are currently utilized more for sport than for commercial fishing.

Escapements and harvests of salmon stocks in smaller rivers have declined significantly from historical levels. This has been due to a combination of over-harvesting of salmon and habitat degradation due in large part to past logging practices and other development (including port construction, land filling and log storage in the Squamish Estuary, and logging and power line construction on the Indian River). There has been considerable investment through Forest Renewal BC for watershed restoration and stream enhancement in the Plan Area (e.g. Shovelnose Creek and Ashlu Creek). There are also concerns that the historical emphasis on hatchery production and the progressive concentration of salmon production in a few large stocks has increased the vulnerability of the resource to a significant reduction arising from an unforeseen habitat loss, ocean survival problems or management error.⁵⁸

Currently, there is no farming of finfish or shellfish in Howe Sound, adjacent to the Plan Area.⁵⁹ Finfish production has grown rapidly in British Columbia in the past decade. Shellfish production has also grown, but more slowly. There is limited capability in Howe Sound for shellfish culture. Current studies suggest that 17 beaches (92 hectares) are capable for oyster culture, and of those, 8 totalling 39 hectares are capable of clam culture.⁶⁰ Although these areas are outside the Sea-to-Sky LRMP Plan Area, management strategies within the Plan Area may have implications for these resources.

The Tenderfoot Creek hatchery, a major Salmonid Enhancement Program facility on a tributary of the Cheakamus River, has been in full operation since the summer of 1982. Staff of this facility are also responsible for the Gates Creek sockeye spawning channel near Pemberton. A small hatchery on the Birkenhead River, 2 kilometres north of Mount Currie, has been in operation since 1979.

At time of writing, LWBC did not have any applications for new aquaculture licences in the Plan Area.

⁵⁶ Statistics Canada, 2001 Census.

⁵⁷ *Soo TSA Socio-Economic Analysis*, Crane Management Consultants, December 1994.

⁵⁸ *Soo TSA Socio-Economic Analysis*, op. cit. and *State of the Fraser Basin: Assessing Progress Towards Sustainability*, Fraser Basin Management Program, 1995. The concerns regarding management error stem from the significant uncertainties in predicting run sizes and because of the nature of large scale, mixed ocean fisheries in which smaller, weaker stocks are being harvested with larger, more productive stocks.

⁵⁹ The Plan Area extends only to the high water mark and therefore excludes Howe Sound. However, aquaculture activities in Howe Sound affect the Plan Area economy. Also, land use and resource management in the Plan Area can have impacts on aquaculture activity.

⁶⁰ BC Ministry of Agriculture, Fisheries and Food.

8.2 ANTICIPATED TRENDS

It is likely that employment in commercial salmon fisheries will decline over the next few years, due to Fisheries and Oceans Canada's licence buyback and area licensing programs, which are designed to reduce and redistribute harvesting effort to sustainable levels. These programs will reduce the number of participants in the industry, but will also reduce harvesting pressure on salmon stocks and are expected to increase average incomes for the remaining fishers. The implications of area licensing for the regional distribution of fishers is not yet clear.

9 MINING AND ENERGY

9.1 CURRENT ACTIVITY AND HISTORICAL TRENDS

9.1.1 Mining

Economic dependency data indicates that in 2001 the mining sector accounted for 97 direct and 69 indirect (supply and service) jobs in the Plan Area.⁶¹ Associated with this employment was income of \$5.8 million (before tax). This represented about 1% of the employment and employment income in the Plan Area. Labour force data (Table 4) indicates that the mining labour force is approximately half the size it was in 1981.

Currently, the provincial government receives a modest revenue stream from the activities of the Plan Area's quarries and aggregate operations. In order to encourage mineral exploration, the provincial government instituted the mining exploration tax credit program and BC mining flow through share tax credit program.

Today, the largest component of the mining sector in the Plan Area is industrial minerals (aggregate and granite, basalt, rhyolite, dimension stone). The mining workforce is spread across the Plan Area, with approximately 35 workers living in Squamish, 20 workers in Whistler, 10 workers in the rural areas, and 10 workers in First Nation communities.

Currently, there are about 14 private sector sand and gravel pits, about five quarries and one pumice operation in the Plan Area.⁶² The number of active gravel pits and quarries varies from year to year, with some operating only intermittently.

There are no active metal mines in the Plan Area, although there have been several past producers, such as Britannia and Northair, that had substantial economic impact while in production (see Table 12). The Brandywine Mine near Whistler, which produced gold and silver in the past, is now owned by Aur Amex and has the potential to go back into production in the future.

Table 12: Known Metallic Mineral Resources in the Sea-to-Sky Plan Area

Deposit Name	Type of Resource ⁶³	Location	Tonnage, Commodity and grade
Britannia	Measured	Located in the community Britannia Beach on the east shore of Howe Sound.	1,424,147t at 1.9% Copper
McVicar	Indicated	On the northern slope of Mount Baldwin, 10.5 km east-southeast of Squamish, on a tributary of Raffuse Creek.	119,737t at 2% Copper

⁶¹ Tables generated in conjunction with Garry Horne / BC Stats (2004), op. cit.

⁶² There are also a number of pits operated by Ministries of Forests and Highways. See D. Hora, *Aggregate Resources of the Greater Vancouver and Lower Mainland Market, BC: Problems and Future Outlook*, 1995.

⁶³ Definitions from MINFILE as published in the Coding Manual at this site:

<http://www.em.gov.bc.ca/Mining/Geosurv/Minfile/manuals/coding/codeinv.htm#9.3%20INVENTORY%20CATEGORY>

Deposit Name	Type of Resource ⁶³	Location	Tonnage, Commodity and grade
Ashlu	Proven and Possible	Located at the confluence of Roaring Creek with Ashlu Creek, 45 km northwest of Squamish.	89,350t at 12.34 g/t Silver and 8.57 g/t Gold
Brandywine	Indicated	Between Brandywine and Callaghan creeks about 14 km southwest of Whistler.	134,800t at 85.7 g/t Silver, 1.03 g/t Gold, 0.65% Copper and 5.0% combined Lead and Zinc
Silver Tunnel	Indicated	Situated along Brandywine Creek about 1.6 km south of the Brandywine Mine.	101,413t at 414.70 g/t Silver, 0.27 g/t Gold, 0.190% Lead and 0.430% Zinc
Northair	Indicated	On the western slopes of Mount Sproatt, 1 km east of Callaghan Creek, 45 km north of Squamish.	59,071t at 26.73 g/t Silver, 9.08 g/t Gold, and 2.0% combined Lead and Zinc
London	Indicated	Six kilometres southeast of Alta Lake on the northeast facing slopes of Whistler Mountain, adjacent to Garibaldi Provincial Park.	6,500,000t at 0.66% Copper

There are large sand and gravel reserves near Squamish and between Squamish and Whistler, and known granite deposits near Squamish.⁶⁴ The potential in industrial minerals reflects the geology of the region and the fact that the greatest interest in industrial minerals occurs in proximity to large industrial centres. The road, rail, port and power infrastructure in the area make it attractive for this type of industry. Currently local quarries supply a significant amount of material to Whistler to meet local construction needs and the preference for rockwork.

As shown in Table 13, there are 156 metallic and industrial mineral occurrences (i.e. known areas of mineralization) recorded in the Plan Area, including eight past producers, reflecting the long history of mineral exploration and production in the area.⁶⁵ Most discoveries have been in areas with relatively easy access, while less exploration has occurred in more remote areas. Currently, there are approximately 539 mineral and placer tenures in good standing in the Plan Area (excluding Crown grants of which there are at least 16) which covers about 13% of the area outside existing parks.⁶⁶ About two-thirds of the Plan Area outside existing protected areas has high to very high metallic mineral potential and about a quarter has high to very high industrial mineral potential.

Table 13: Mineral Occurrences in the Sea-to-Sky Plan Area (excludes current aggregate operations)

Status of Occurrence	Number in Plan Area
Producer (Industrial Minerals) ^a	4
Past producer	8
Developed prospect (known resources)	4
Prospect (known significant mineralization)	43
Showing (known mineralization)	97
Total	156

(a) three producers operate at multiple quarries (9 quarry sites).

⁶⁴ *The Economic Role and Function of Highway 99*, Ministry of Transportation and Highways, December, 1999.

⁶⁵ Ministry of Energy and Mines, 2004. MINFILE Database. <http://www.em.gov.bc.ca/mining/Geosurv/Minfile/default.htm>

⁶⁶ November 2004, MapPlace website.

Based on data from the Ministry of Energy, Mines and Petroleum Resources (MEMPR) database known as ARIS (Assessment Report Indexing System)⁶⁷, \$12.2 million (1992 dollars) were spent in exploration between 1947 and 2003 in the Plan Area. It is estimated that only about 40% of exploration expenditures are documented in ARIS⁶⁸, resulting in a total of about \$30 million spent in the plan area – approximately \$536,000 per year. Of this amount, it is estimated that about \$21 million was spent between 1980 and 1991.

Mineral exploration expenditures tend to be cyclical, depending on factors such as market prices, conditions, government policy, material preferences in the construction industry, and land use issues. Province-wide mineral exploration expenditures have increased several-fold, from a recent low of \$25 million in 1999 to \$130 million in 2004. MEMPR expects that \$150 million to \$200 million may be spent on mineral exploration in BC in 2005.⁶⁹

The province utilizes a two-zone land use system for mineral exploration and mining activities in order to provide certainty regarding access to land for mineral resource development. The two-zone system clearly establishes that mineral exploration and development are acceptable, subject to the usual laws that regulate mining, throughout the whole of the province (the mineral zone) except for parks, ecological reserves and lands where mining is prohibited under the *Environment and Land Use Act* (the protected zone).

9.1.2 Energy

In 2001, the labour force involved in the electric power generation and transmission sector was approximately 35 in the Plan Area.⁷⁰ The majority of this labour force resided in Squamish.

About half of the plan area has high geothermal potential.⁷¹ The Garibaldi Volcanic Belt in the Plan Area is the most significant of three principal areas of known geothermal potential in the Lower Mainland. Within this belt there are six fields, of which the Mount Meager and Mount Caley fields are the most promising.

The Mount Meager field is the most promising geothermal site in BC, and has the potential to generate sufficient electricity to meet the annual energy requirements for a population of up to 200,000. Western GeoPower currently is completing a drilling program and conducting a feasibility study to confirm the commercial viability of the South Meager Project to support an initial generation of 100 megawatts of electricity by 2007.⁷² There has also been investor interest in the feasibility of a geothermal power plant at Pebble Creek and a geothermal tenure in the Mount Caley field.

As shown in Table 14, there are eight power generating facilities in the Plan Area with total capacity soon to be 323 MW of power. This is up sharply from 2000, when the Plan Area produced only 212

⁶⁷ Ministry of Energy and Mines, 2004. <http://www.em.gov.bc.ca/mining/Geosurv/Aris/default.htm>

⁶⁸ Assessment Report Indexing System (ARIS): Assessment Report Data, BC Ministry of Energy and Mines. <http://www.em.gov.bc.ca/Mining/Geosurv/Aris/expl97.htm>.

⁶⁹ *BC Mines and Mineral Exploration Overview 2004* with verbal update from Jamie Pardie, Regional/Staff Geologist, MEM.

⁷⁰ Statistics Canada. Based on a sub-set of the utilities labour force highlighted in Table 5 (NAICS 2211 – electric power generation, transmission and distribution)

⁷¹ Ministry of Energy and Mines, MapPlace.

⁷² Western GeoPower Corp. website, <http://www.npgeopower.com>

MW of power from three projects. Demand for hydro-electricity in the Lower Mainland, the main market for power generated in the Plan Area, has been growing steadily as the population has increased. However, until recently most of the demand growth for electricity has been met by large projects outside the Lower Mainland region.

Table 14: Sea-to-Sky Plan Area Existing Electrical Generation Stations

Location	Company	BC Hydro Contract	Size/Type of Generation
Cheakamus/ Daisy Lake	BC Hydro	N/A	140 MW hydroelectric
Mamquam River	Northern Utilities Inc.	Yes	50 MW hydroelectric
Rutherford Creek	Rutherford Creek Power Ltd.	Yes	46 MW hydroelectric
Miller Creek	Miller Creek Power Inc.	Yes	32 MW hydroelectric
Upper Mamquam River	Consortium of companies	Yes	25 MW hydroelectric (Under construction)
Soo River	Summit Power Corp.	Yes	12 MW hydroelectric
Brandywine Creek	Pacific Northwest Energy Corp.	Yes	7.6 MW hydroelectric
Furry Creek	Eaton Power Corporation	Yes	10.4 MW hydroelectric

There are numerous waterways in the Plan Area which have good potential for small-scale power production. As of March, 2004, there were approximately 35 water licences and a further 57 licence applications on streams and rivers in the study area for small scale hydro development by Independent Power Projects (IPPs). Some proposed projects (Table 15) are in the advanced stages of evaluation or development. These projects can generate significant construction employment, although operating employment would be much smaller.

Table 15: Sea-to-Sky Plan Area Proposed Electrical Generation Projects

Location	Company	Size/Type of Generation	Status
Ashlu Creek	Ledcor Power	30-50 MW run-of-river	Crown tenures and water licence offers made to applicant.
Meager Creek	Western GeoPower Ltd.	100-200 MW	Pre-application, resource proving
Fitzsimmons Creek	Ledcor Power Ltd.	8 MW run-of-the-river waterpower	Review ongoing
Mkw'alts (Ure) Creek	Cloudworks Energy	49 MW run-of-river waterpower	Crown tenures and water licence offers made to applicant.
Douglas Creek	Cloudworks Energy	35 MW run-of-river waterpower	Crown tenures and water licence offers made to applicant.
Fire Creek	Cloudworks Energy	25 MW run-of-river waterpower	Crown tenures and water licence offers made to applicant.

A major concern of IPPs is the related hydro lines and road access that may cause deterioration of scenic views and other resource values (e.g. wildlife habitat).

There are no known oil and gas reserves in the Plan Area, although there are a small number of workers who live in the Plan Area and work in the oil and gas industry.

The direct utilities sector work force in the Plan Area averages approximately \$48,273 per year in employment income. Therefore, the total full-time direct work force of 35 would earn approximately \$1.7 million annually.⁷³

At the provincial level, the indirect and induced activities would support a further 55 jobs and \$2.0 million in employment income. Of this total approximately 15 workers with employment income of \$0.6 million would accrue to Plan Area residents. Overall, 90 direct, indirect, and induced jobs would be supported by utilities activities in the Plan Area creating total employment income of \$3.7 million annually.⁷⁴

The numerous IPPs in the region also make a noticeable contribution to the provincial revenue stream. In 2003, the IPPs paid over \$1.8 million to the provincial government with \$0.8 million of this coming from the Mamquam River/Northern Utilities Inc. alone. In addition, the large Cheakamus/Daisy Lake hydro site pays over \$3.2 million a year for water power rental charges. In total, the electricity generation sector contributes over \$5.0 million to the provincial government each year.

9.2 ANTICIPATED TRENDS

9.2.1 Mining

Prediction of trends in the mining sector is extremely difficult because of the "hidden" nature of the resource, and because there are many factors that influence world supply and demand for metals. As well, the local mineral potential, infrastructure, tax policies, investment climate and regulatory environment can affect local exploration effort.

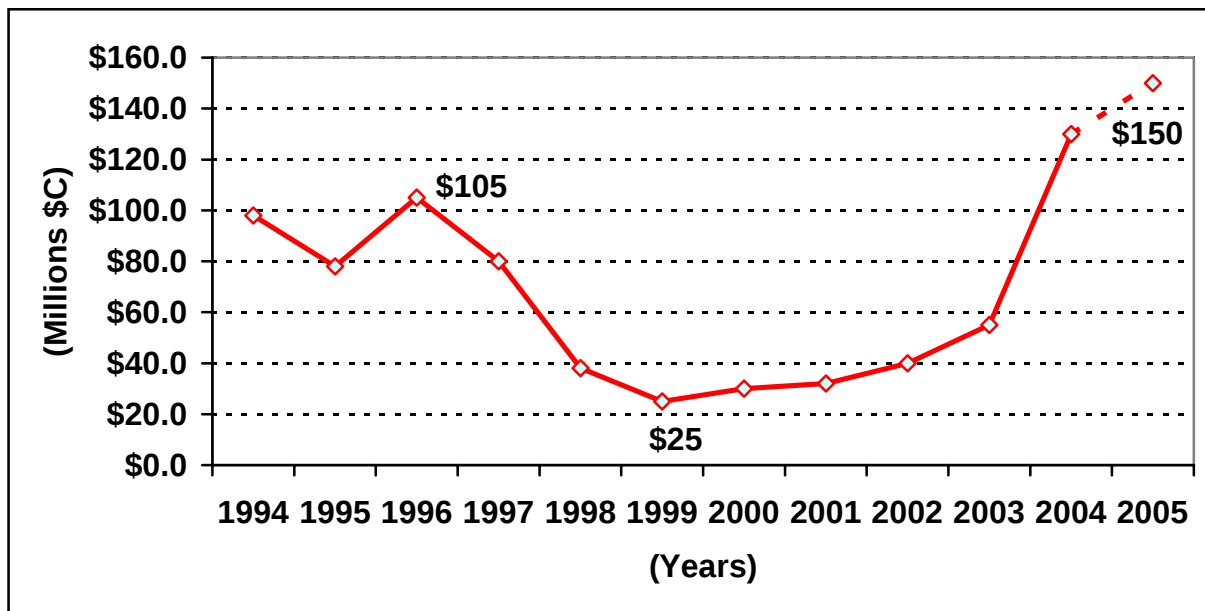
Currently a strong recovery in metal prices is beginning to generate new interest in mineral exploration throughout the province. As well, the recent re-introduction of the mineral exploration tax credit by the provincial government suggests that exploration and development expenditures in the Plan Area may increase from present levels. Figure 4 shows the recent expenditures on mineral exploration for British Columbia. This figure suggests that mineral exploration expenditures are increasing in the province, and that for 2005 it is anticipated that exploration expenditures may rise to over \$150 million. Much of this upswing is being driven by higher prices, due to increased demand for metals from other countries like China, for example, and from renewed consumption in the United States.

About 30% of high to very high metallic mineral potential is included in areas with additional management constraints put in place for other resource values, which could result in higher exploration and development costs. Although the probability of a mine development resulting from a particular occurrence is uncertain, a major discovery in the area would generate significant economic impacts and likely result in further exploration in the area.

⁷³ Statistics Canada

⁷⁴ Based on information in BC Stats / Ministry of Management Services (2004), op. cit.

Figure 4: Mineral Exploration Expenditures in BC – 1994 to 2004



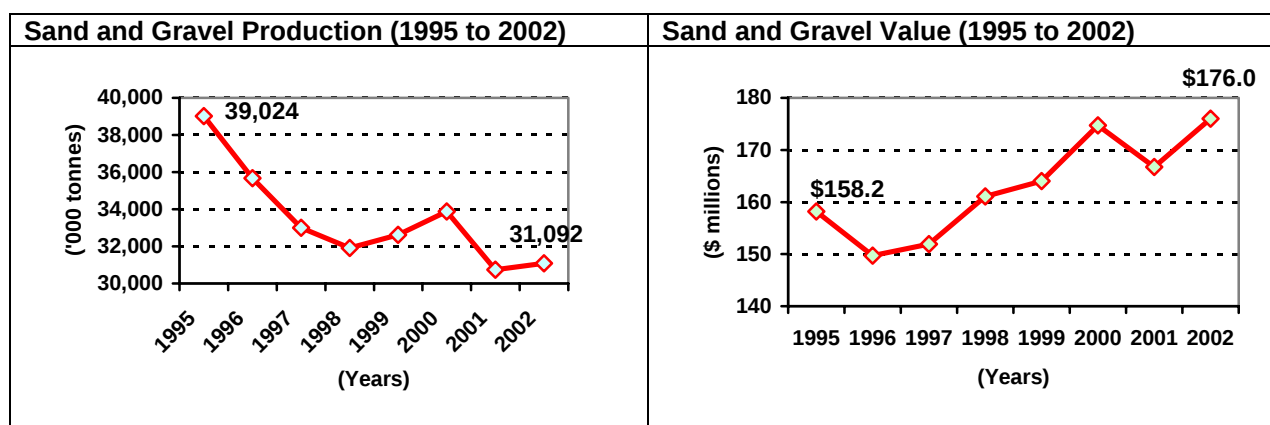
Source: Ministry of Energy, Mines and Petroleum Resources.

The high potential for industrial minerals in the Plan Area and within close proximity to the Lower Mainland market suggests the likelihood of additional projects proceeding in the future. Ornamental stone (granite, basalt) will continue to be used in both Whistler and Squamish construction. About 27% of high to very high industrial mineral potential is included in areas with potentially constraining resource management direction, put in place for the management of other resource values.

It is estimated that sand and gravel reserves south of the Fraser River will decline considerably over the next 10 years. Regional demand, driven primarily by construction activity, is expected to grow steadily with population and the size of the regional economy. As well, BC sand and gravel resources are increasingly being exported to markets on the west coast of the United States. In 2002, \$26.3 million or approximately 15 per cent of total BC production was exported to the United States. Most of this product is being exported to coastal areas in California, which have seen aggregate imports from BC grow from almost nothing in 2000 to \$22 million in 2002.⁷⁵ As illustrated in Figure 5, while sand and gravel production has been flat in recent years, the value of the aggregate produced has increased steadily.

⁷⁵ Peak Solutions Consulting, *Aggregate Opportunity Analysis: Lillooet-Lytton-Nicoamen-Savona Areas*, December 2003.

Figure 5: Sand and Gravel Production and Value for British Columbia – 1995 to 2002



Source: Natural Resources Canada, *Mineral Production of Canada, by Province and Territory*, Minerals and Mining Statistics Online, 2004.

It is possible that the resources in the southern portion of the Plan Area will become an increasingly important source of sand and gravel for the Lower Mainland and export markets. However, the Plan Area's sand and gravel resources will face competition from other aggregate resources that are close to tidewater on Vancouver Island and throughout coastal BC. About 38% of high to very high aggregate potential in the Plan Area outside existing parks is within areas with potentially constraining resource management direction.

9.2.2 Energy

BC Hydro expects peak demand for hydro-electricity in the Lower Mainland to grow significantly over the next 20 years.⁷⁶ Most of this demand increase will be met by projects outside of the region, and several power generation projects initiated by Independent Power Producers in the Plan Area have good potential to contribute to this demand. These projects can generate significant construction employment, although operations employment would be minor. There is also a potential for conflict between the small hydro-power producing projects and the recreational use of the rivers.

MEMPR indicates there have been an increased number of applications for small scale geothermal and hydro prospects by independent power producers.⁷⁷

9.2.3 Employment Trends

Overall, employment in the mining and energy sector is expected to increase in the short to medium term, due to continued demand for construction aggregates, industrial minerals and exploration activity. There is potential for further employment increases if a metallic mineral deposit is discovered and/or the energy prospects identified above proceed. In the longer term, employment will fluctuate with market conditions, and as new deposits are developed.

⁷⁶ 1995 Integrated Electricity Plan - Electric Load Forecast 1994/95 - 2014/15, BC Hydro, 1995 and An Update to the 1995 IEP, op. cit.

⁷⁷ It should also be noted that low temperature geothermal resources (i.e. hot springs) that are regulated by Land and Water BC also have tourism development potential.

10 AGRICULTURE

10.1 CURRENT ACTIVITY AND HISTORICAL TRENDS

In 2001, the agriculture sector accounted for 153 direct and 28 indirect (supply and service) jobs in the Plan Area, accounting for about 1% of total employment.⁷⁸ The labour force in this sector increased significantly over the 1981-96 period, although in part this was due to the very small size of the labour force in 1981.

The Sea-to-Sky Plan Area has a very small proportion of total provincial agriculture activity. The region has about 77 farms (0.3% of the provincial total) with 5,084 hectares of agricultural land (about 0.2% of the provincial total). About one-third of the farmland is in crops. Much of the underutilized farmland represents less productive classes of land. Most of the farming in the Plan Area takes place within the Agricultural Land Reserve, about 98 per cent of which lies within settlement boundaries. A large proportion of the arable land, particularly in the Pemberton Valley, is within Indian Reserves.⁷⁹

Figure 6: Farm Activity in the Sea-to-Sky Plan Area, 2001

	Plan Area 2001	BC 2001	Plan Area as % of BC
Number of Farms	77	20,290	0.3%
Gross Farm Receipts (\$millions)	3.8	2,307.7	0.2%
Average Farm Gross Receipts (\$)	49,500	113,000	43.8%
Total Farm Capital (\$millions)	62.1	15,831.6	0.4%
Average Farm Capital (\$)	860,000	780,000	110.0%
Total Area of Farms (hectares)	5,084	2,587,118	0.2%
Potato production			
Farms reporting	22	393	5.6%
Total Area (hectares)	n/a		-
Cattle/calves			
Farms reporting	36	7,726	0.5%
Total Area (hectares)	2,242	814,949	0.3%

Source: Census of Agriculture, 2001.

Farms in the Plan Area are smaller than the provincial average, and more capital intensive, although the majority of capital is accounted for by land value. The Pemberton Valley area has the largest acreage in active production, primarily in seed potatoes, alfalfa and cattle ranching. Hay and other fodder are grown mainly for on-farm use. Mixed farming is common. Extensive dyking and channel improvements have assisted in development.

⁷⁸ Tables generated in conjunction with Garry Horne / BC Stats (2004), op. cit.

⁷⁹ Statistics Canada, Census of Agriculture, 2001.

Pemberton seed potatoes, grown according to specific measures under the *Seed Potato Act*, are certified virus- and disease-free, and command high prices in Canadian and export markets. Approximately 6% of all farms in the province reporting potato production are in the Pemberton area. There has been discussion of vegetable processing and alfalfa dehydrating developments in the past, however, any significant increase in activity may conflict with the seed potato growers, who rely on their relative isolation for disease control.

There is a small cluster of organic growers, also in the Pemberton area.

Although there is a range of production and income levels within the agriculture sector, the average farm income is less than \$50,000, less than half the BC average.

The Plan Area holds three range tenures, which are used as grazing permits. These tenures, located in the upper meadows of Miller Creek, cover roughly 4,000 hectares and provide approximately 136 Animal Unit Months (AUMs).

10.2 ANTICIPATED TRENDS

Markets for commodity products will continue to increase as regional, national and international demand grows. However, this is unlikely to have much of an impact in the Plan Area where commodity production is minimal. The exception is potatoes – activity in the Pemberton area is expected to remain buoyant as the area has developed a specific competitive advantage in the production of disease-free seed potatoes.

After many years of consolidation during the 1980s and 1990s, the food processing industry in the province has started expanding again. Although it is moving towards fewer, larger and more specialized processing facilities, there is an emerging small-scale and micro processing sector that is responding to niche opportunities in specialty and ethnic products. Rising demand for convenient, healthy, organic, high quality foods is also likely to encourage more development in the specialized processing sector.

Whether these industry trends will positively affect agriculture production and employment in the Plan Area is uncertain. Although agriculture is rarely discussed as a contributor to the local economic base, the developments discussed below suggest a more prominent future role for the sector.

- The predominance of small farm and hobby lots with relatively low productivity is an issue. There are no supply-managed⁸⁰ producers in the Plan Area so the type of strong institutional and supplier support characteristic of these commodities is not present. Owners/producers in the Plan Area have fewer opportunities and resources to expand production and explore new options. However, new industry associations at the provincial level (e.g. the Small Scale Food Processors Association) should help in general, particularly with the competitiveness of smaller operators.
- An expanding regional population will increase demand for local production.

⁸⁰ Dairy, eggs, or poultry.

- The Whistler Farmers' Market will also stimulate the sector's future development as direct farm marketing is a critical path component for small-scale growers and processors.
- Growing summer tourism markets also bode well for local agriculture production. As the farmers' market has demonstrated, visitors are keenly interested in agriculture as an activity and a source of food. The opportunities for agri-tourism have barely been explored in the region despite there being strong linkages with many outdoor recreation pursuits (e.g. trail riding).
- Although it is only indirectly related to farm activity, beverage processing could potentially help expand and diversify the local economy. There are several micro-breweries in operation, while two major bottled water producers use Whistler-area water, although production facilities are located outside the Plan Area.

There are also several factors which may serve to limit agricultural production.

- A looming issue for the Plan Area is how much physical growth can be accommodated without adversely affecting agriculture. Many municipalities in the GVRD are having to deal with this dilemma - the results may be beneficial to agriculture, or they may not. For the Plan Area, an expected surge in in-migration and the aging demographic will continue to create demand for more and alternate forms of housing, including "rural estates". There may also be attempts to remove land from the Agricultural Land Reserve (ALR). The arable land base in the Plan Area is small and it occurs in settlement areas where future growth pressures will be intense. At some point, communities such as Pemberton are likely to see efforts at ALR removal if spillover growth from Whistler continues.
- Concerns over or threats to Pemberton's seed potato sector may limit incompatible agriculture activities, including processing.
- A significant portion of arable land is within Indian Reserves, which may not be available for future agriculture use.

11 NON-TIMBER FOREST PRODUCTS AND TRAPPING

11.1 CURRENT ACTIVITY AND HISTORICAL TRENDS

11.1.1 Non-Timber Forest Products

The term “non-timber forest product” (NTFP) refers to a broad range of resources in the forest. Also known as botanical forest products or non-wood forest products, the terms generally describe any product in the forest, other than the trees used for the production of lumber and other solid wood products or pulp.⁸¹ While there are hundreds if not thousands of such products in the forest, just over 200 products are currently commercially harvested in British Columbia.⁸²

NTFP commercial production in BC is variously valued in the hundreds of millions of dollars, a figure difficult to attribute reliably because of the notoriously secretive nature of harvesting activity and its cash-based economy. The major cash crops of wild edible mushrooms and floral greenery (e.g. salal) are thought to account for at least \$100 million in sales annually at the producer level.⁸³

There are several species of wild edible mushrooms that are commercially harvested in the Plan Area, the most important of which, currently, are Pine mushrooms. Although data on participation is weak, mushroom harvesting provides part-time employment and supplementary incomes to many resident and non-resident pickers in the Plan Area during peak season in a productive year.⁸⁴ Many First Nations peoples also participate in harvesting. Mushrooming is particularly active adjacent to Garibaldi Provincial Park, and around Pemberton, D'Arcy, and Mt. Currie.⁸⁵ There are also a number of other botanical forest products harvested commercially in the Plan Area for food, decorative, or medicinal purposes.

No permits or licences are required for harvesting NTFPs on Crown land, so there are no direct government revenues from this activity.

The overall economic impact of NTFPs from the Plan Area is uncertain. However, there are some productive growing areas where production data has been documented.

The Blackwater Pine Mushroom Management Area is located northeast of Pemberton via the public road to Birkenhead Lake Provincial Park. Pine mushrooms have been collected from the area for the past 50 years. Japanese workers at a sawmill operating in D'Arcy in the 1940s introduced the native and non-native communities to the mushroom. Collection for personal consumption (fresh, dried, or canned) has continued since then. Commercial harvesting for export to the Japanese market began in 1978.

⁸¹ This section draws on the work of Sinclair Tedder, Darcy Mitchell and Ramsay Farran, *Seeing the Forest Beneath the Trees: The Social and Economic Potential of Non-Timber Forest Products and Services In the Queen Charlotte Islands/Haida Gwaii*, South Moresby Forest Replacement Account and Ministry of Forests, March 2000.

⁸² deGeus, Nelly, *Botanical Forest Products In British Columbia: An Overview*, Integrated Resources Policy Branch, British Columbia Ministry of Forests, 1995.

⁸³ Wills, Russel M. and Richard G. Lipsey, *An Economic Strategy to Develop Non-Timber Forest Products and Services in British Columbia*, Forest Renewal BC Project No. PA97538-ORE, 1999, cited on p.4 of Tedder, Mitchell and Farran, op. cit.

⁸⁴ *Soo TSR Socio-Economic Analysis*, op. cit.

⁸⁵ *Soo TSR Socio-Economic Analysis*, op. cit.

Revenues to commercial pickers in the late 1990s were estimated at \$100,000 to \$300,000 annually.⁸⁶ This study also estimated short-term expected benefits of implementing the Blackwater harvesting plan at \$1.08 million government stumpage revenue, and an increased 20-year pine mushroom yield with a value of \$1.54 million.

11.1.2 Trapping

There are a number of licensed and non-licensed (mainly First Nations) trappers active in the Plan Area. Census data for 2001 indicates trapping was not a primary activity for any participants. The number of trappers in the Lower Mainland has declined significantly since 1985, while the number of non-licensed trappers has remained approximately constant.⁸⁷

11.2 ANTICIPATED TRENDS

11.2.1 Non-Timber Forest Products

Some segments of the NTFP industry appear to be growing rapidly, and may have significant potential for future growth. For example, sales of medicinal herbs in the United States reached \$5 billion in 2000, more than a three-fold increase from 1995 and are projected to grow further. Demographic conditions and consumer preferences are behind the growth. The surge in organic, natural and functional foods and supplements, together with a more educated public willing to seek alternative treatments to expensive forms of modern foods and medicines is also driving the expansion.

Exports of NTFPs domestically and to Europe and Pacific Rim countries could increase substantially if more efficient means of product storage and preservation were developed for the more perishable products. Fresh mushrooms cannot be preserved for long and require precise temperature and humidity conditions. For floral greenery, boughs must not be allowed to dry out, while cedar will sour if not kept damp and cool. Green herbs and plants used in nutraceuticals are among the most delicate of all and require very careful handling to prevent wilting and bruising.

What these market forces will mean for local production is hard to predict. The harvesting of NTFPs at the provincial level is currently unregulated and measuring economic activity is difficult. MFR has been studying guidelines for at least 15 years but has yet to implement a permitting system, in part because of the lack of success in other jurisdictions, such as Washington State.

The management of pine mushroom values in Blackwater Creek is an example of how the management of multiple use values can generate incremental economic benefits for the region. Although participation in NTFP activities in the Plan Area appears to be growing, there is little data upon which to base estimates for potential, sustainable harvests. Without this information and appropriate regulation, unrestricted entry into the industry and inadequately planned development of other industries (e.g. continued timber harvesting, recreation) may threaten the sustainability or preclude some of the commercial potential in these products. As well, indiscriminate harvesting of NTFPs has raised concerns about damage to timber (e.g. improper harvest of boughs), poor harvest techniques (e.g.

⁸⁶ Olivetto Timber, *Timber Harvesting Plan for the Blackwater Pine Mushroom Management Area*, Small Business Forest Enterprise Program, Ministry of Forests, January 1999.

⁸⁷ Ministry of Water, Land and Air Protection trapping statistics.

damaging mushroom habitat & productivity by pulling up moss & digging up immature mushrooms), and loss or shift in species composition.

11.2.2 Trapping

If historical trends continue (e.g. declines in the extent of older forests upon which depend important trapped species such as fisher and marten, as well as decreasing dependence on trapping as a source of livelihood), a continued decline in the total number of trappers in the Plan Area could be expected. GIS information indicates that about 71% of habitat for fisher and about 61% of old growth forests are in areas without additional management constraints above the basic requirements and will be increasingly fragmented by resource and related road development over time.

12 FILM INDUSTRY

12.1 CURRENT ACTIVITY AND HISTORICAL TRENDS

British Columbia has a significant film and television production industry, and is the third largest production centre in North America, after New York and Los Angeles. The film industry has spent over \$1 billion annually in British Columbia over the past five years, and employs approximately 30,000 people in production work (full-time and part-time). Since 1994, the industry has grown at an average annual rate of over 15%.

For the Sea-to-Sky area, it is estimated that in 2001 the industry employed 240 people and accounted for \$9.3 million in before-tax income (about 1% of the employment and income in the area).⁸⁸ The film industry is not technically part of the tourism industry, but is related because of the business it generates for the hospitality and services sector (i.e. accommodation, food and beverage, transportation, equipment rentals and business services). The film industry also shares the tourism sector's interest in protecting the visual integrity of the area and utilizing the attractiveness of the area's natural features.

The exact scale of the local industry is not available. However, between 1991 and 1999, over 100 feature film, television, and commercial productions were shot in the Sea-to-Sky area. In Squamish, there were 16 major productions in 2000, 13 in 2001 and 10 each in 2002 and 2003.⁸⁹ The drop-off in the number of local productions is attributable to an overall industry downturn over the last three years, rather than to a loss of market share. In neighbouring Britannia Beach, 20 productions were shot in 2003, a major source of income in the community.⁹⁰ Major films include "Freddy Got Fingered", "Say It Isn't So", "Insomnia", "Walking Tall" and "Scoobie Two". Television series, commercials, music videos and other specialty productions are common. In 2002, The Whistler Film Group opened, to coordinate film shoots in the Whistler area.

Impacts on local communities are related to the number of production days. The greater the time spent in the community, the more per diem spending by cast and crew and the more likely producers are to purchase other services, such as accommodation, transportation, food, security and waste removal. As an example of the spending and spin-offs that major productions can generate, in Squamish the producers of "Say It Isn't So" spent \$340,000 on location fees to private property owners, accommodation purchases (1,300 total room nights), service purchases, and donations. This figure does not include the per diem spending by individual cast and crew members.

Although annual production expenditures in British Columbia have been generally declining over the past three years (primarily in "domestic" production), BC's film and television industry nevertheless experienced an unprecedented level of production in 2003 (\$1.4 billion), largely due to big-budget foreign feature films. Because of the increased value of the Canadian dollar, fewer big budget feature films and increased global competition, the BC Film Commission estimates that 2004 production will be in the range of \$1 billion.

⁸⁸ Tables generated in conjunction with Garry Horne / BC Stats (2004), op. cit.

⁸⁹ Personal communication, Trudy Coates, District of Squamish.

⁹⁰ Personal communication, Kirsten Clausen, Britannia Mining Museum.

12.2 ANTICIPATED TRENDS

Future activity in the Plan Area will be driven by provincial trends. The BC film industry has experienced unprecedented growth over the last few years, but global trends and the climbing Canadian dollar will continue to affect the industry.

The Plan Area will likely continue to attract film production activity. Proximity to the Lower Mainland for Vancouver-based crews, transportation improvements to Highway 99, and the increased attention of the region to the global community in anticipation of the 2010 Winter Olympics, will generate future activity as producers and location managers become more familiar with the region. British Columbia's customer service, diverse locations, professional crews, world class infrastructure, and proximity to Los Angeles, will likely continue to attract productions to the province.

13 TRANSPORTATION

13.1 CURRENT ACTIVITY AND HISTORICAL TRENDS

The northern portion of Highway 99 is a primary, rural two-lane highway 307 kilometres in length, running from West Vancouver through Lions Bay, Britannia Beach, Squamish, Whistler, Pemberton, Mt. Currie before continuing through to Lillooet. The corridor offers an alternative route to Highways 1 and 5 between the interior and the Lower Mainland. The Forest Service route from Lillooet Lake to Harrison Hot Springs, while not a highway, is an important transportation route to FN communities in that area. There is local interest in upgrading the road, which would improve transportation conditions for First Nations and stimulate tourism.

The Highway 99 corridor is one of the fastest growing areas of British Columbia. Growth in tourism, population and commuting has generated most of the traffic increase on the Highway. Interregional traffic is fairly light on Highway 99, which primarily carries winter ski and summer recreational and touring traffic to and from Whistler. However, traffic volumes south of Squamish are building faster than elsewhere, suggesting increasing commuter use between Squamish and Vancouver. Annual traffic counts at Whistler, Squamish and Horseshoe Bay have increased over the 1989-1998 period at 5.0%, 6.3% and 3.8%, respectively.

Freight use related to forestry activities has been relatively stable.

Scheduled bus service is provided by Maverick Coach Lines along only a portion of the corridor between Vancouver and Pemberton and by Perimeter Transportation between Vancouver International Airport and Whistler. Transit services are offered in Squamish and Whistler, while rural transit is available in Britannia Beach from Squamish and the Vancouver-Horseshoe Bay transit service extends to Lions Bay.

Prior to completion of the BC Rail - CN transaction, BC Rail owned and operated the only rail line through the study area, forming a part of the company's mainline. The primary commodities hauled by rail are forest products. BC Rail operated four passenger services: the Whistle Explorer, Royal Hudson, Pacific Starlight and Cariboo Prospector, all of which no longer operate.

There are five air-related facilities in the Plan Area. Community airports are located in Squamish and Pemberton. There is a float plane base located at Green Lake in Whistler, and heliport facilities are located in Whistler and Pemberton. The only scheduled air service in the region is provided by float plane by Whistler Air Services Ltd. Charter services are available throughout the study area.

There is one ferry service in the Plan Area, from Squamish (Darrell Bay) to the Woodfibre pulp mill.

Squamish has three deep-sea terminals (two at Squamish Terminals and one at Woodfibre) and two shallow draft berths (one each at Interfor and Nexen), which handle between 150 and 200 deep sea ships annually. There are also two berths at Britannia Beach. CN Rail and Squamish Terminals transport and ship products and materials from BC's interior for export to world markets. Currently there is considerable rail and shipping capacity available in Squamish. Most of the rail and ship traffic in and out of Squamish is in forest products, either pulp or lumber, which is directly dependent on forest

industry activity, both in Squamish and along the CN Rail mainline. Although Squamish Terminals' specialty is the handling of wood pulp, the terminal has also handled paper, lumber, board products, steel and general products. It is believed that in recent years the facility has operated at one-third to one-half of its capacity.

Table 16: Average Annual Daily Traffic (AADT) on Highway 99, 1989-2000

Year	Horseshoe Bay ⁹¹		Squamish ⁹²		Whistler ⁹³	
	AADT	% Change	AADT	% Change	AADT	% Change
1989	9,802	-	4,404	-	9,573	-
1990	9,367	-4.4%	4,346	-1.3%	9,964	4.1%
1991	9,671	3.2%	4,926	13.3%	10,427	4.6%
1992	10,527	8.9%	5,377	9.2%	11,124	6.7%
1993	11,304	7.4%	5,662	5.3%	12,101	8.8%
1994	12,200	7.9%	6,000	6.0%	13,600	12.4%
1995	12,700	4.1%	5,800	-3.3%	14,800	8.8%
1996	12,400	-2.4%	5,800	0.0%	15,400	4.1%
1997	13,200	6.5%	6,400	10.3%	16,000	3.9%
1998	13,500	2.3%	7,500	17.2%	14,900	-6.9%
1999	13,600	0.7%	7,700	2.7%	14,800	-0.7%
2000	13,500	-0.7%	8,000	3.9%	15,200	2.7%
2001	13,305	-1.4%	7,931	-0.9%	n/a	n/a
2002	13,392	0.7%	8,276	4.4%	n/a	n/a
2003	13,586	1.4%	n/a	n/a	n/a	n/a
Avg. Annual Growth⁹⁴		2.7%		5.1%		3.9%

Source: B.C. Ministry of Transportation and Highways

13.2 ANTICIPATED TRENDS

Traffic on Highway 99 is expected to grow strongly for the next 10 years, ranging from 2.0% to 7.0% annually, until the year 2011, depending on the section of the corridor.⁹⁵ Strong growth is expected on the Whistler and Pemberton section of the corridor, but Official Community Plans project a doubling of the Plan Area population in the next 25 years with much of this growth slated for between Lions Bay and Squamish. However, until a Growth Management Strategy is prepared by the regional district, population growth targets for the region will remain unclear.

British Columbia's Ministry of Transportation is undertaking improvements to Highway 99 between Horseshoe Bay and Whistler to improve its safety and reliability, with a budget of \$600 million and an estimated completion prior to the 2010 Winter Olympics. Improvements will include highway widening and straightening, improved sightlines, passing lanes and other design innovations and measures to reduce hazards, shorten travel times and increase capacity. Over the longer term, the improvements will

⁹¹ Permanent Count Station P-15-5, 1.0 km north of Route 1/99 at Horseshoe Bay. This station is just south of the entrance into the Soos TSA.

⁹² Permanent Count Station P-15-3, at Cheekye River Bridge, 11.5 km north of Squamish.

⁹³ Permanent Count Station P-15-4, 0.2 km north of the Gondola parking lot at Whistler.

⁹⁴ Based on all yearly data available.

⁹⁵ *The Economic Role and Function of Highway 99*, op. cit.

serve population growth, tourism, other economic development in corridor communities, and increasing demand for resident travel, visitor travel and goods movement.

Recent studies commissioned by the Ministry of Transportation and Highways suggest that multi-modal transportation, and not just highway, improvements will be needed to handle future demand. Thus, passenger rail, bus, air, and passenger-only ferry services will likely all receive attention.

Shortly after the completion of the BC Rail - CN transaction, CN invited proposals from qualified parties to operate third-party passenger tourist trains over BC Rail's network between North Vancouver and Prince George. The Great Canadian Railtour Company was announced as the winning bidder in December 2004. Passenger service is scheduled to begin on May 1, 2006 between Whistler and Prince George. The season is scheduled to run from May to October, with trains over-nighting in Prince George.

BC Rail and CN are major players in future port use in Squamish. An important factor in the utilization of existing transportation facilities is the overall level of activity in the forestry and resource economy of the province. CN Rail has made a commitment to the Port of Prince Rupert for the movement of commodities such as coal and lumber. The Northwest Transportation Corridor Task Force and the Northern Alberta Development Council continue to push for efficient and affordable rail and truck transportation services west to Prince Rupert and Kitimat. A diversion of any resource commodity traffic away to Prince Rupert would represent direct competition for Squamish.

There has been past discussion about Squamish as a multi-modal transportation hub with a second deep water port facility, although to date there has been no investments or planning.

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15 LIST OF ACRONYMS

AAC = Allowable Annual Cut

ARIS = Assessment Report Indexing System

FPC = *Forest Practices Code of BC Act*

GIS = Geographic Information System

GVRD = Greater Vancouver Regional District

HA = Hectares

ILMB = Integrated Land Management Bureau (within Ministry of Agriculture and Lands)

IPP = Independent Power Producer (hydro)

LHA = Local Health Area

LU = Landscape Unit

LRMP = Land and Resource Management Plan

LWBC = Land and Water BC

MEMPR = Ministry of Energy and Mines and Petroleum Resources

MFR = Ministry of Forests and Range

MSRM = Ministry of Sustainable Resource Management

MOE = Ministry of Environment

MW = Megawatts

NTFP = Non-Timber Forest Product

SLRD = Squamish Lillooet Regional District

THLB = Timber Harvesting Land Base

TFL = Tree Farm Licence

TSA = Timber Supply Area

TSR = Timber Supply Review