HAIDA GWAII -
QUEEN CHARLOTTE ISLANDS

LAND USE PLAN

SOCIO-ECONOMIC BASE CASE

Final Draft

by

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EXECUTIVE SUMMARY

BACKGROUND

- The Base Case is defined as the socio-economic profile and trends in the absence of the Haida Gwaii / Queen Charlottes Islands Land Use Plan (LUP), and serves as a benchmark and context within which to evaluate implications of LUP recommendations when they have been completed.

- This draft report updates an unpublished 1997 base case study with more recent Census data on population and labour force and other, existing documentation (e.g., MSRM *Background Report*, MoF *Timber Supply Reviews*).

- The report has incorporated input from a number of local representatives and comments from the Planning Forum, but relies heavily on secondary information sources which cannot fully reflect the unique nature and sense of community of the Islands.

- Although the land use management regime can indirectly affect a number of sectors, this report focuses on sectors most strongly linked to land use.

- The report documents some of the potential linkages between some sectors and environmental values, but the current status and trends in such values are to be documented in a separate Environmental Base Case.

- Prior to the analysis of land use scenarios, the Base Case timber supply analysis will be updated to incorporate spatial factors and current management practices, as well as Geographic Information System (GIS) data on the current management regime.

POPULATION

- The Census 2001 population of 4,935 represents a decline of about 12% from 1996 due primarily to closure of Masset CFB and forestry and fishery employment declines.

- Overall HG/QCI population has been slowly declining, but has been dramatically reduced in some communities, over the 1981-2001 period.

- Population has declined in all non-Haida communities, creating concerns in some regarding loss of key services and viability. RDA D (Tlell, Tow Hill, Lawn Hill, Miller Creek) is the only non-Haida area experiencing consistent growth, due in part to the attractiveness of these areas and availability of private land.

- Haida population increased by about 60% from 1981-2001, and almost doubled as a proportion of total HG/QCI population (16% to 29%) over this period.

- BC STATS projects very slow growth in population over the 2001-2031 period of about 0.3% per year. Haida population will likely continue to grow as a proportion of total HG/QCI.

- The average age of the population is lower on the Islands than for the rest of BC, primarily due to a lower proportion of retirees. However, population on the Islands is aging, which will reinforce demand for related services.

- BC STATS data indicate that HG/QCI has among the highest rates of drug offences, suicide, infant mortality, & teen pregnancy of the 78 Local Health Areas in BC, in part due to lack of health facilities. Unemployment rates are higher, & education levels / labour force participation rates are lower than the BC average.

ECONOMIC STRUCTURE

- Current labour force of roughly 2,775 is 10% higher than 1981 despite the population decrease over this period, possibly due to an increase in labour force participation rate.

- Forestry (33%) and the public sector (30%) are by far the most significant sources of livelihood on HG/QCI, together accounting for almost 2/3 of total income.

- Other important private sector sources of livelihood are tourism (7%), construction (5%) and tourism (4%), together accounting for about 16% of total income.

- Non-employment income sources (transfer payments, social assistance & EI payments, public & private pensions), together account for 17% of total income.

- Goods producing sectors declined absolutely and proportionally (from 41% to 32% of labour force) over the 1981-2001 period.

- Service sector labour force increased absolutely and proportionally (from 59% to 68% of labour force from 1981-2001.

- There has been growth in construction (Haida housing) and manufacturing (wood processing), despite the overall decline in goods producing sector. Most services have been growing, except for public administration (CFB Masset closure and recent provincial cutbacks). The highest growth rate has been in business, personal and miscellaneous services.

- In absence of land use changes, historical trends in economic structure are expected to continue, reinforced by aging population and tourism.

- Census / economic dependency data provide the best overview of economic structure but are still subject to some error for smaller communities, particularly on reserves, and do not fully capture part time livelihoods and "underground" activities (e.g., trapping, mushrooms, subsistence fishing and hunting).

FORESTRY

- Forestry is the single most important industry in HG/QCI, accounting for about 28% of employment and 33% of income in 2001.

- Total Crown AAC is 1.7 million m3/yr from Timber Supply Area (TSA) and three Tree Farm Licenses (TFLs), a decline from previous AACs of about 1.9 million m3/yr.

- Overall harvest levels on Crown forest lands have been about 25% less than total AAC over the past several years (and lower in 2003) due to market conditions, harvest deferrals in Haida Declared Protected Areas, and other factors.

- About 3.5% of the current harvest is processed by local mills, none of which have secure timber supply. A large proportion of logging jobs are also held by non-residents.

- Current MoF projections indicate that overall AAC, based on current land use, is expected to decline somewhat over next several decades. Base Case timber supply projections will be updated for the final draft of this report. Future harvest levels are uncertain due to market and other factors. The productivity and economic viability of second growth timber will be key factors affecting future harvest levels.

- Resolution of Haida Declared Protected Areas, and ultimately the settlement of Haida rights and title through treaty or the courts, could significantly affect total AAC and/or extent to which timber harvesting and processing benefits accrue to local residents.

TOURISM

- Tourism is the second most important private sector industry on HG/QCI, accounting for about 13% of employment and 7% of income.

- Tourism's income contribution is less than its share of jobs on the Islands due to lower average wages. A proportion of tourism is also business-related.

- Overall ferry and airport visitation has levelled off over the past 5 years, after increases through the 1980s and early 1990s.

- The most important components of the tourism industry include commercial food and accommodation in the main communities, and saltwater charters/lodges.

- Most lodges are non-locally owned. A large proportion of jobs in lodges and other benefits of the local sport salmon fishery go to non-residents.

- Hunter-days and park use have all declined over recent years. There has been an increase in sport fishing activity and visits to Gwaii Haanas.

- Tourism is considered a growth sector and an important element of economic development strategies by all communities. Gwaii Haanas, other wilderness attributes and Haida culture are key competitive advantages, but lack of facilities an impediment.

OTHER ACTIVITIES STRONGLY LINKED TO LAND USE

- Commercial fishing/processing accounts for about 7% of employment and 4% of income on HG/QCI/QCI. Much of this dependent on non-local stocks.

- There has been a significant decline in salmon fisheries employment since mid-90s due to the fleet buyback, area licensing and fisheries management and allocation policies. There has been a shift in harvesting from salmon to non-salmon species, but harvest levels for non-salmon is still constrained by resource limits.

- The shellfish aquaculture sector has good growth potential. Finfish aquaculture does not appear to be supported on HG/QCI, and there are more attractive finfish aquaculture sites elsewhere in BC.

- Mushroom harvesting provides an income supplement for up to 100 resident pickers. There is good growth potential that could be encouraged with improvements in the regulatory and management framework.

- Mining accounts for some employment in sand/gravel and quarry operations. Growth potential is difficult to predict due to “hidden” nature of resource.

- There is some small scale power production on the Islands, with some potential for added capacity. There is significant offshore oil/gas development potential if federal/provincial moratorium and Haida title can be resolved. The extent of benefits for HG/QCI will depend on the nature of agreements allowing development to proceed.

COMMUNITY / HAIDA ISSUES

- The affirmation of title and rights to their ancestral lands is of paramount importance to the Haida. All of the above concerns that the Haida share with other communities, are viewed in the context of maintaining their integral relationship with the land and marine resources of the Islands, in perpetuity.

- All communities appear to share a number of concerns including: lack of local benefits from Crown lands and resources; lack of health, recreation and other social services, sustainability of timber harvest levels and their impacts on non-timber values; impediments to economic development; and the need for greater cooperation to achieve common goals.

PROVINCIAL ISSUES

- This report focuses on local population, jobs and income. Local benefits from resources are a key issue, but HG/QCI resources also generate economic benefits at provincial level. HG/QCI also benefits from public services which are in part funded by resources and taxpayers located elsewhere in BC, although community officials feel that such services are sub-standard compared to most other areas in BC.

- Net economic value of resource use (i.e., resource rents) are also an important provincial management concern, not just distribution of (e.g., local) benefits from the resource.

- Data on provincial impacts are more readily available for timber and much more limited for activities such as tourism, fisheries, and mushroom harvesting.

- For example, total average timber harvest on the Islands 1998-2002 generated up to 1,200 direct harvesting, silviculture and processing jobs and another 1,800 indirect and induced jobs annually for other provincial residents.

- Gross provincial stumpage and corporate/income tax revenues associated with current HG/QCI timber harvest are estimated at about $45 million/yr, excluding forestry-related public costs, and no alternative sources of corporate and labour income.

- A very rough estimate of net economic value of the timber resource on HG/QCI (using stumpage as a proxy for resource rents) is about $21 million/yr, or roughly $14/yr/BC household. This is also equivalent to a net present value of about $350 million. These estimates may not adequately reflect public sector costs (e.g., for resource management) or impacts on other sectors (e.g., tourism).

- Provincial employment, revenues and resource rents associated with other resource sectors such as, mining, botanicals, fisheries and land-based tourism are small relative to forestry.

1.0 INTRODUCTION / PURPOSE

The purpose of this report is to develop a socio-economic "Base Case" for the Haida Gwaii / Queen Charlotte Islands Land Use Plan (LUP). The Base Case is defined as the current status and anticipated trends in population and the economy in the absence of the LUP process. The Base Case provides a context and a benchmark against which to evaluate the implications of land use changes. This report attempts to be consistent with the provincial government guidelines for socio-economic impact assessment. The guidelines recommend the use of multiple "accounts" or indicators of economic and social significance, including employment and income, government revenues and net economic value.[1] This report can be updated as new information becomes available and with input from resource agencies and stakeholders. The environmental Base Case will be documented in a separate report.

Initiatives to address Haida Nation interests (e.g., Weyerhaeuser's reduction of its HG/QCI harvest rate) and ultimate resolution of Haida rights and title through treaty or the courts are part of the Base Case, as are on-going processes such as the Timber Supply Review (TSR), the new results-based Forest and Range Practices Act (FRPA), and moves by some forest companies to certify forest practices. Initiatives such as eco-system based management (EBM), the Protected Areas Strategy (PAS), and the resolution of the Haida Declared Protected Areas, could also be implemented without the LUP. However, these initiatives will require input from, and therefore be partly attributable to, the LUP. Regardless of how the Base Case is defined, the cumulative socio-economic impacts of all the above factors can be addressed in the evaluation of land use scenarios.

This report updates a previously unpublished socio-economic base case undertaken as part of initial preparation for the land use planning (LUP) process, and draws on the more detailed information in *Background Report* prepared for the LUP, the most recent *Timber Supply Analysis* for the TSA,[2] as well as the following:

- 2001 population and labour force estimates from BC STATS
- Documentation of population and labour force trends from 1981-2001
- BC STATS economic dependency estimates for 2001 to better document all sources of employment and non-employment income
- Discussions with local stakeholders, officials and resource agencies (see Appendix A)

[1] See *Social and Economic Impact Assessment for Land and Resource Management Planning in BC: Interim Guidelines*, 1993. These guidelines are currently under revision. See *Socio-Economic Assessment for Land and Resource Management Planning in BC: Guiding Principles*, by Pierce-Lefebvre Consulting, 2003.

[2] See *Queen Charlotte Islands Land and Resource Management Plan Socio-Economic Base Case*, Draft for Discussion, G. Holman, et al, December, 1997. See also *Queen Charlotte Islands-Haida Gwaii Background Report*, Draft, LUP Process, July, 2003; and *Queen Charlotte Timber Supply Area Analysis Report*, Ministry of Forests, October, 2000. Timber supply analyses for Tree Farm Licenses on HG/QCI are also

For sectors that are more strongly linked to land use, historical and anticipated trends in the nature and level of activity are briefly summarized. Other, more indirectly linked sectors are included in the analysis of historical trends. The assessment of anticipated trends in the Base Case is primarily qualitative because quantitative forecasts are not usually possible.

2.0 GEOGRAPHIC, ECONOMIC AND LOCAL GOVERNMENT SETTING

The Haida Gwaii / Queen Charlotte Islands is an archipelago of 150 Pacific Ocean Islands located along the mid-west coast of British Columbia. The Islands, also known as Haida Gwaii, are approximately 250 kilometres long and 80 km wide, with a total land area of just over one million hectares. The Islands are separated from the BC mainland to the east by Hecate Strait, and from the Alaska border to the north by Dixon Entrance.

The geography of the Islands, with mountainous terrain and deep fjords, temperate rain forests, sub-alpine tundra and salmon spawning streams, is quite similar to that of coastal BC, but the ecology of the Islands is quite unique. There are at least 39 species and sub-species of plants and animals unique to the Islands.

Haida Gwaii ("islands of the people") is the ancestral home of the Haida people, who claim the entire Islands as their traditional territory. In 1993, the Haida Nation began treaty negotiations with the governments of Canada and British Columbia. In 2002, the Haida filed a statement of claim with the Supreme Court of BC asserting their rights and title to the Islands and surrounding waters.

The Islands are sparsely populated, with a population density of less than 1 person per square kilometre. Population has been declining in recent years. The majority of the population live on the two largest islands - Graham Island in the north and Moresby Island to the south. Graham Island has three main settlement areas: Masset / Old Massett, Port Clements / Tlell, and Queen Charlotte City / Skidegate. Skidegate and Old Massett are the Haida communities on HG/QCI. Sandspit is the main settlement area on Moresby Island. The economy of HG/QCI is dominated by forestry and public sector employment.

Haida Gwaii / Queen Charlotte Islands is part of the Skeena – Queen Charlotte Regional District (SQCRD). The Regional District is responsible for land use planning (with assistance from Advisory Planning Commissions) and a number of local services in unincorporated communities, which are divided into several Electoral Areas. These unincorporated areas include Area D or rural Graham Island (including Tow Hill, Rural Port Clements, Tlell, Lawnhill, and Miller Creek); Area E or Moresby Island (including Sandspit); and Area F or the Queen Charlotte City / Skidegate Landing area.

The municipalities of Port Clements and Masset are also included in the SQCRD, and have similar responsibilities as the Regional District with respect to land use planning and service delivery. Local governments prepare Official Community Plans and zoning bylaws to guide land use on private land. Such designations are also developed for Crown lands that may be used for future growth and settlement, and apply to Crown tenants or if the land becomes private, but are not binding on provincial activities or resource regulation.

Each of the Electoral Areas and municipalities on HG/QCI send representatives to the Regional District Board. The Haida Band Councils for Skidegate and Old Massett hold seats on the Graham Island Advisory Planning Commission, but neither these villages or the Council of the Haida Nation are directly represented on the Regional District Board.

3.0 POPULATION AND AGE STRUCTURE

3.1 Current Population and Historical Trends

Total 2001 Census population in the Islands is estimated at 4,935, a decline of about 11.8% over the 1996-2001 period (see Table 1), after an increase of about 5.4% from 1991 to 1996. Total population in the Islands remained roughly constant over the 1981-96 period, although this masks cyclical fluctuations and the experience of some communities, particularly on Moresby Island, which have suffered dramatic declines since 1981.[3] This is similar to the population trend over the 1981-96 period in northwest BC (i.e. Skeena-Queen Charlotte and Kitimat-Stikine Regional Districts). Population for BC (dominated by the lower mainland and south Vancouver Island) increased by 36% from 1981-96.

The population decline over the 1996-2001 period in the Islands appear to be largely due to the closure of Canadian Forces Base (CFB) Masset, and declines in forestry and fisheries employment.[4] This is reflected by the fact that population declines over the 1996-2001 period were most pronounced in Masset, the location of the former armed forces base, and in more forestry-dependent Port Clements and Moresby Island. While the population as a whole on both Graham and Moresby Islands, including the unincorporated communities of Queen Charlotte City and Sandspit, decreased over the 1996-2001 period, both Haida communities, Old Massett and Skidegate, had population increases, a continuation of a long standing historical trend.[5] Population in Regional District Area (RDA) D, which includes the unincorporated communities of Tlell, Tow Hill, Lawn Hill and Miller Creek increased. This could be partly the result of population movements between communities on the islands, but also other factors, such as availability of private land.

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[3] For an analysis of the impact of establishing Gwaii Haanas on population see Gwaii Haanas Transition Study, J. Broadhead, 1995. The results of this study are not accepted by all communities on the Islands.

[4] The closure of CFB Masset began in 1996, but significant relocations of personnel did not occur until after the June, 1996 Census. Armed forces personnel declined from about 320 in 1996 to about 16 by 1998. Taking into account average family size, this alone could account for almost all of the population decrease from 1996 to 2001. To date, most of those purchasing CFB houses are not full time residents of the Islands.

[5] Under-reporting by Haida communities has historically been a problem resulting in less statistically reliable estimates of population, labour force and other Census data.

The 11.8% decline in population in the Islands over the 1996-2001 period compares to a decline of about 8.5% for northwest BC (i.e., Kitimat-Stikine and Skeena-Queen Charlottes Regional Districts), reflecting the downturn in the forestry and fishing industries. In fact, were it not for the closure of the CFB Masset, total population on the Islands would not have declined, or declined less than for northwest BC. However, the Islands population decline clearly contrasts with the 4.9% growth in the total BC population over the 1996-2001 period. Also, there is a marked contrast in population trends between Haida Nation and other communities. While the Haida population on Haida communities increased by about 4.5% from 1996-2001, other communities declined by over 17%.

The average age of the population in the Islands is somewhat lower than for BC as a whole, primarily because retirees are not a large segment of the population. Census data for 2001 indicates that 6.3% of the population on the Islands are 65+, compared to 13.0% for BC, likely due to the relative remoteness of the area and the lack of certain types of health care facilities. Although the population on the Islands is younger, on average, than the provincial average, it is still gradually aging, as in the rest of BC. The aging of the population tends to reinforce the shift towards a service economy (see section 4 below).

TABLE 1
POPULATION BY COMMUNITY IN THE ISLANDS (1981-2001)[a]

	1981	1991	1996	2001	% Change 1981-2001	% Change 1996-2001
Graham Island	4,343	4,552	4,980	4,475	+3.0	-10.1
Masset	1,569	1,476	1,293	926	-41.0	-28.4
Old Massett Village	580	632	692	707	+21.9	+2.2
Port Clements	380	483	558	516	+35.8[b]	-7.5
RDA A (incl. Tlell, Tow Hill, Lawn Hill, Miller Creek)	385	282	520	538	+39.7	+3.5
RDA F (incl. Queen Charlotte City)	1,070	933	1,222	1,045	-2.3	-14.5
Skidegate	322	469	695	743	+130.7	+6.9
Moresby Island (RDA E)	1,278	764	618	460	-64.0	-25.6
Sandspit	754	702	568	435	-42.3	-23.4
Other Moresby Island	524	62	50	25	-95.2	-50.0

Total QC Islands	5,621	5,316	5,598	4935	-12.2	-11.8
Northwest BC[c]	68,449	67,737	68,413	62,569	-8.6	-8.5
British Columbia ('000)	2,836.5	3,282.1	3,724.5	3,907.7	+37.8	+4.9

Source: Statistics Canada Census.

(a) Several communities, for example Masset and Skidegate, have higher estimates of current population than indicated by the Census.

(b) Port Clements amalgamated with Juskatla in 1985.

(c) Skeena - Queen Charlotte and Kitimat - Stikine Regional Districts

3.2 Haida Nation Population

Most of the Haida on the Islands live in the communities of Old Massett and Skidegate. Haida population has grown significantly since 1981 due to relatively low out-migration, natural increases and Bill C-31, Indian Act amendments which restored status rights to many Haida. Haida population as a proportion of the total Islands' population has almost doubled, from about 16% to 29% from 1981-2001.[6] Lack of accommodation and employment opportunities are still significant impediments to returning Haida, but housing programs by Old Massett and Skidegate have contributed substantially to the increasing Haida population on the Islands.

3.3 Anticipated Population Trends

Population changes due to the relocation of CFB Masset employees and the salmon fleet reduction program, have already taken place. In the short term, provincial cutbacks, and substantial reduction in timber harvesting due to market difficulties, provincial policy changes and unresolved legal and treaty issues with the Haida, are creating concern in some communities about further loss of residents and key services such as schools, which could result in further employment and population declines. However, school enrollment data for 2002 on the Islands indicate a levelling off of the population decline.[7] Population growth in Haida communities is likely to continue, encouraged by construction of new homes for Band members and economic development projects on reserve lands.

Changes in timber harvest and related employment levels could have population impacts if these changes are significant and sustained in nature. Provincial forest policy changes, particularly rescinding of cut control regulations, could contribute to greater instability in forestry activity resulting from market fluctuations, but the relationship between temporary harvest reductions and population change is not clear.

[6] Census 2001 data indicates that total North American aboriginal population (including those living off Haida communities) comprised over 34% of total population on the Islands.

[7] Data from the Ministry of Education's website indicate that overall school enrollment on the Islands actually increased slightly in 2002.

The resolution of land claims will likely result in greater local control of resources, and depending on harvest levels established on Haida lands, could create more job opportunities for the Haida Nation. This would reinforce historical trends of continued natural growth and influx of Haida to the Islands. With cooperation among communities, greater Haida control of resources could also result in increased employment opportunities for other residents of the Islands. Employment opportunities in tourism will likely resume their growth over time, despite an apparent levelling off of visitors in recent years.

Quality of life considerations also play an important role in people's choices about where to live. The Islands offer unique recreational and scenic wilderness opportunities. Housing prices on the Islands are very low relative to many areas of BC. Community representatives express concerns about lack of health facilities and other services. However, improvements in the level of community infrastructure and services, that all communities on the Islands are undertaking, could help retain and attract younger families, retirees and “urban refugees”.[8]

Recent, long term forecasts for the Islands from BC STATS (August, 2002), predict very slow total population growth, averaging 0.03% over the 2001 - 2031 period. Haida communities are likely to continue growing as a proportion of total population, because of higher natural increases, and in-migration encouraged by increased availability of jobs and housing. However, depending on the future growth rate in Haida population, the above projection implies no growth or even decline in the non-Haida population of the Islands.

4.0 STRUCTURE OF THE LOCAL ECONOMY

The following is a summary of historical trends in, and the current importance of various sectors to residents of HG/QCI. The key indicators of economic significance used in this section are employment and income. The contribution of these various sectors to other residents of the province, in terms of employment, government revenue and net economic value, are summarized in section 6 (Provincial Issues). Other economic indicators such as sales or value of shipments are generally not used in this report because consistent data, over time and by sector, are not as readily available and because they are not as good a measure of economic significance, as other indicators.[9]

Census information comprise the main source of data for the description of economic structure. Census data provide the best overall indication of the structure of the local economy, but do not fully capture seasonal or “underground” sources of income such as fishing, trapping, hunting and mushrooming. Therefore, the diversity and unique nature of lifestyles and livelihoods on the Islands are not fully reflected by these data.

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[8] For an analysis of the how community amenities contribute to the economic “value of place” see *Lost Landscapes and Failed Economies: A Search for a Value of Place*, T. Power, 1996.

[9] See *Interim Guidelines*, op. cit. Some of these indicators are correlated with one another, so that the economic significance of sectors relative to one another often does not change with the choice of indicator.

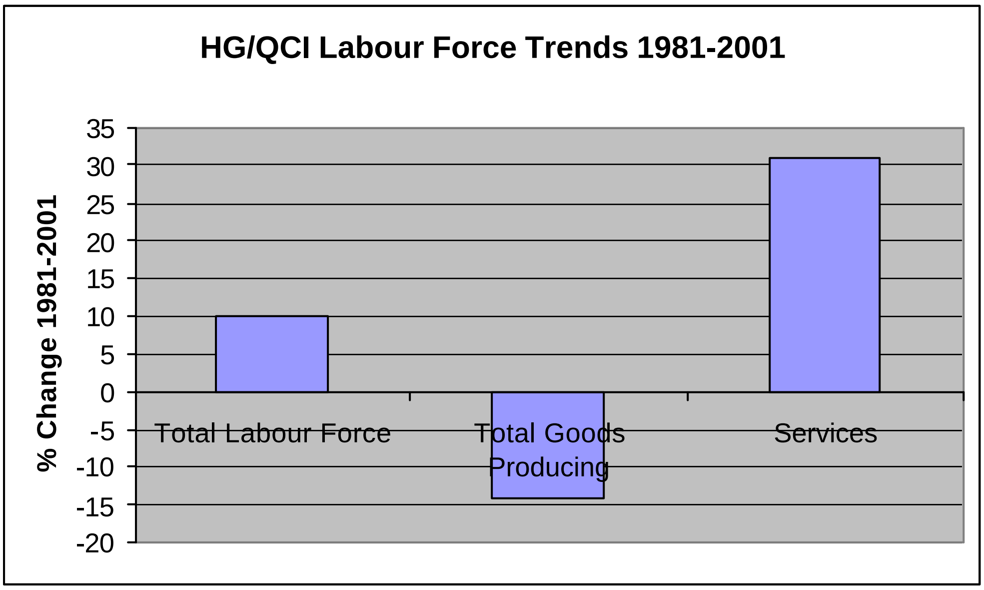
4.1 Current Economic Structure and Historical Trends

4.1.1 Labour Force

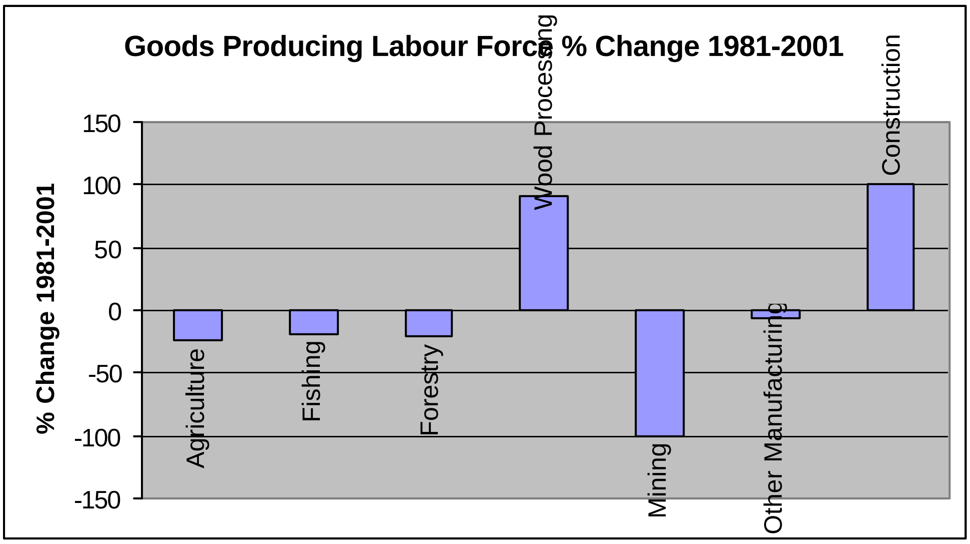
A breakdown of the labour force by community, and trends over the 1981-2001 period for the Islands, is provided in Tables 2 and 3. Labour force data include both employed and unemployed, and allocate the numbers of people (not person-years) to various industries based on their primary activity. Therefore, these data do not fully reflect the economic contribution of part-time activities (e.g. trapping), differences in seasonality among various industries, or unreported earnings (e.g. mushroom picking). Also, trends between the 10 year periods shown in Table 2 and since 2001 are not reflected in these data.

Census data for 2001 indicates that total labour force in the Islands increased by about 10% over the 1981-2001 period.[10] The labour force in goods-producing industries decreased in absolute terms from about 1,000 to 865, and from about 41% to 32% of the labour force from 1981-2001. This was due mainly to significant reductions in mining (e.g., the closure of the Tasu mine) and the forestry labour force. However, the construction and manufacturing labour force grew significantly over the 1981-2001 period, in part reflecting recent activity in housing and other construction, particularly in Haida communities, and increases in secondary manufacturing of wood products.

[10] The increase in the labour force (from 2,485 in 1981 to an estimated 2,770 in 2001) despite a reduction in population could be partly explained by the increase in labour force participation rate by women 1981-2001 (Source: Statistics Canada Census data). Reporting problems for Old Massett (which is included in the above estimates) may also be a problem. However, even using 1996 data for Old Massett, the same trend is evident.



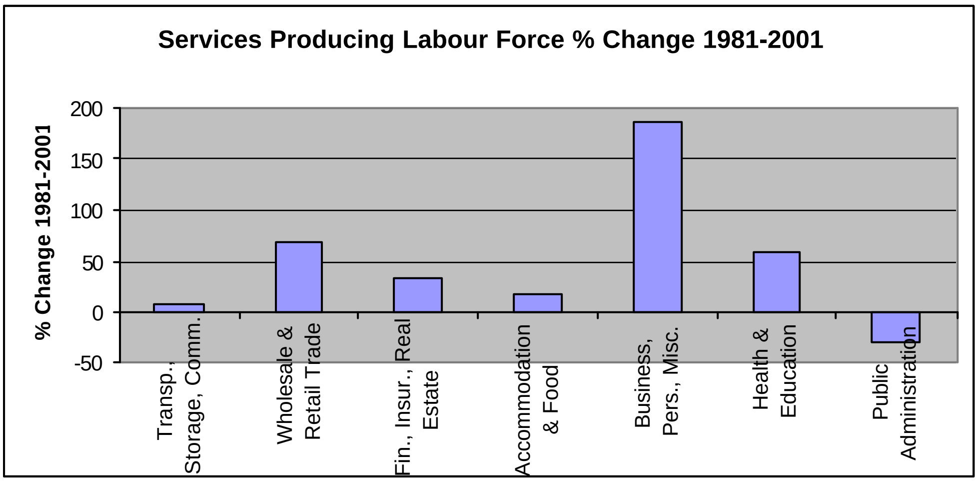
Despite the decrease in goods-producing labour force (which is typically considered to support service sector jobs), and the loss of over 300 jobs at CFB Masset, the service sector labour force increased from 1,420 to 1,860 over the 1981-2001 period, and increased its share of total labour force from 59% to 68%. These structural shifts in the Islands' economy are generally consistent with trends for the entire province. The only component of the service sector that declined in absolute terms over the 1981-2001 period was public administration, due primarily to the closure of CFB Masset.



Growth was highest in the business, personal and miscellaneous service sector.[11] There are a number of possible inter-related factors contributing to this trend, including the decline

[11] This sector includes a number of private sector categories such as professional and scientific services; management and administrative services; waste management; arts, entertainment and amusement services;

in higher wage jobs in primary industries, and increased labour force participation rate by women (who are more highly represented in service industries), growth in self-employment and home-based businesses (aided by improvements in communication and computer technology), the shift to contracting out forestry support services, and growth in tourism.



While the service sector of the economy is a larger employer overall than the goods producing sector, this does not reflect the fact that average wages in some service industries are lower than for goods producing industries. Labour force data also does not reflect that some service industries are dependent on incomes generated by basic goods producing sectors (see discussion of economic dependency estimates in section 4.1.2).

Table 3 provides a breakdown of labour force by community on the Islands. The data in Table 3 is less reliable and may differ from Table 2 because of smaller sample sizes and rounding errors. It should be noted again that Census data is based on area of residence, which is strongly correlated with, but not necessarily the same as the place of employment.

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auto repair; civic and social groups. Source: *North American Industry Classification System*, 1997, Statistics Canada.

TABLE 2
EXPERIENCED LABOUR FORCE BREAKDOWN AND TRENDS IN THE ISLANDS (1981-2001)[a]

	1981	1991	2001	% 2001 Breakdown[b]	% Change 1981-2001
GOODS PRODUCING	1,005 (41%)	795 (32%)	865 (32%)	32%	-14%
Agriculture	20	10	15	1%	-25%
Fishing	110	95	90	3%	-18%
Forestry	585	490	530	19%	-9%
Harvesting/Forest Mgt	530	475	425	16%	-20%
Processing	55	15	105	4%	+91%
Mining	140	10	0	0%	-100%
Other Manufacturing	80	50	75	3%	-6%
Construction	70	85	140	5%	+100%
Utilities	n.a.	55	15	1%	n.a.
SERVICES PRODUCING	1,420 (59%)	1,725 (68%)	1,860 (68%)	68%	+31%
Transp., Storage & Comm.	230	200	245	9%	+7%
Wholesale & Retail Trade	210	250	355	13%	+69%
Finance, Insurance, Real Estate	45	60	60	2%	+33%
Accommodation & Food	160	240	185	7%	+16%
Business, Personal, Misc. Serv.	110	165	315	12%	+186%
Health & Education	265	335	420	15%	+58%
Public Administration[c]	400	475	280	10%	-30%
Undefined	60	0	45		
TOTAL LABOUR FORCE	2,485	2,520	2,770	100%	+10%

Source: Statistics Canada Census data for the HG/QCI Economic Development Area.
(a) Industry classifications changed between 1981 and 2001. An attempt has been made to present comparable data, but there are still some discrepancies (e.g. “undefined” in 1981).
(b) Percentages are of defined labour force which may not add due to rounding error.
(c) Includes federal, provincial, local governments.

TABLE 3
EXPERIENCED LABOUR FORCE BREAKDOWN BY COMMUNITY
IN THE ISLANDS (2001)

	Masset	Port Clements	RDA D Tlell, etc.	RDA F QCC	RDA E Moresby	Old Massett & Skidegate	Total HG/QCI
GOODS PRODUCING	80	160	100	165	105	255	865
Agriculture	0	10	0	0	0	0	15
Fishing	15	0	0	15	0	60	90
Forestry	20	110	95	100	105	100	530
Harvesting	20	90	60	75	105	75	425
Processing	0	20	35	25	0	25	105
Mining	0	0	0	0	0	0	0
Other Manufacturing	25	0	5	10	0	40	75
Construction	10	40	0	40	0	50	150
Utilities	10	0	0	0	0	5	15
SERVICES PRODUCING	400	165	180	485	225	415	1,870
Transp., Storage & Comm.	35	25	20	45	85	35	245
Wholesale & Retail Trade	110	15	45	130	0	60	360
Finance, Insurance, Real Estate	0	25	0	30	10	5	70
Accommodation & Food	40	25	15	25	40	40	185
Business, Personal, Misc. Serv.	60	10	35	65	55	90	315
Health & Education	115	40	50	115	20	75	415
Public Administration[d]	40	25	15	75	15	110	280
Undefined			10			35	45

TOTAL LABOUR FORCE	480	325	290	650	330	705	2,780

4.1.2 Economic Dependency

BC STATS has developed estimates of economic dependency for all regions in BC, and a number of communities, based on 2001 Census data. Economic dependency estimates show the relative importance of different sources of "basic" income, or income flowing into a region from the outside. Basic industries include: (i) resource export industries such as forestry and mining, (ii) tourism and government sectors and (iii) sectors supplying industries (i) and (ii), e.g. machine shops servicing the forest industry. 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 (e.g. local grocery and other retail stores) which serve local demand generated by respending of worker incomes earned in basic activities.

Statistics Canada labour force data do not systematically identify basic and non-basic sectors, nor do they identify tourism or non-employment sources of income (e.g. pensions and investment income). Therefore, labour force data do not provide as comprehensive an indication of the relative importance of various sources of livelihood as economic dependency estimates.[12] Note that basic employment does not include the unemployed (labour force data include employed and unemployed), but does include employment in supplier industries. The economic dependency estimates consider government as a "basic" industry, not because it necessarily generates wealth, but because government spending and employment are determined by a number of factors external to the local economy. Also, government spending and transfer payments (e.g., employment insurance, social assistance) can increase when activity in other basic sectors decreases.

Economic dependency estimates for 2001 for incorporated communities of Masset and Port Clements, as well as Skeena-Islands Census Subdivision B (which includes all other unincorporated communities and the rural areas), and for the Islands as a whole, for after-tax income and employment, are shown in Table 4 below. There have been changes in activity levels in forestry and other sectors since 2001, that are summarized qualitatively below.

Economic dependency estimates use labour force data as an input and also do not adequately reflect supplementary incomes or seasonality factors. The economic dependency estimates in this report are somewhat dated. Also, the economic base approach has some methodological problems, e.g., assumptions required to allocate all economic activity to various basic sectors. Nevertheless, they still provide important additional information on the overall structure of the Islands' economy.

[12] However, labour force data are more appropriate for analyzing trends for many sectors since this data is available over longer time than economic dependency estimates.

As shown in Table 4, which includes all Haida and non-Haida communities:

- Forestry-related harvesting and processing is the single largest source of basic income and employment in the Islands, accounting for approximately 33% of after-tax basic income and 28% of employment.[13] There is a wide variation of dependency on forestry among communities, ranging from 8% of income in Masset, to almost 60% of Port Clements' income.

- Despite the importance of forestry to the Islands' economy, about two-thirds of basic income is attributable to non-forestry sectors (e.g. public sector, pension and investment income, tourism, and fisheries).

- The government sector (i.e. health / education and local / Haida / provincial / federal administration) is currently the largest source of employment and the second largest source of income on the HG/QCI, second only to forestry, even after the closure of CFB Masset. Government is important to most communities in the Islands, but particularly in Haida communities, Masset and Queen Charlotte City.

- Tourism is the third largest source of jobs, accounting for 13% of total basic employment. Tourism is less important as a source of income, comprising about 7% of the total, because of the seasonal nature and lower average yearly earnings in this sector.[14] Tourism is important to most areas of the Islands.

- The commercial fishing industry, including related processing, accounts for 7% of total basic employment and 4% of income in the Islands, even after the impacts of fisheries management changes such as fleet reduction. The industry is most important to Masset, Queen Charlotte City and Haida communities.

- Non-employment sources of income (including government transfers, pensions and investments), together, are the third most important source of income, and account for about 17% of total basic income on the Islands. Non-employment sources of income comprise 26% of total income in Masset.

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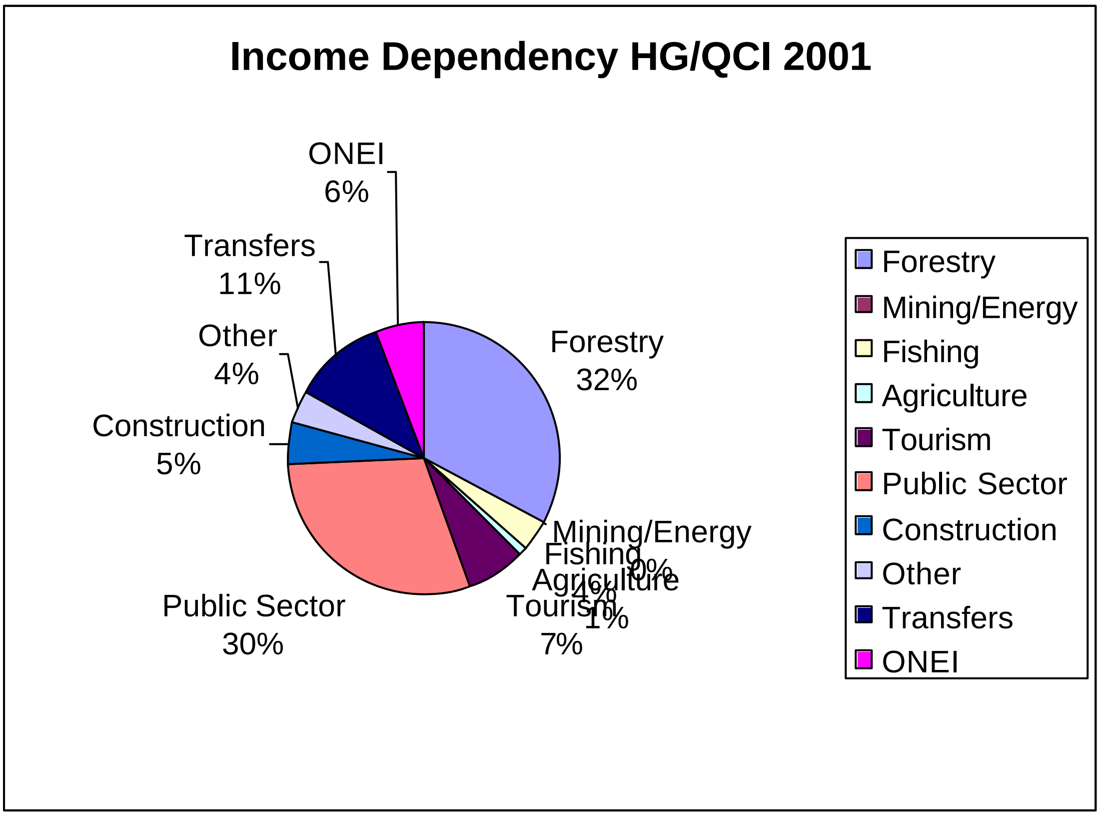
[13] Note that "basic forestry employment" is defined differently than "forestry labour force". The latter includes both employed and unemployed, but does not include indirect employment. Labour force data for 2001, shown in Table 2, suggest that forestry's economic contribution has declined significantly since 1996.

[14] BC STATS economic dependency estimates define tourism as all of the accommodation sector, plus a proportion of food services, retail trade, transportation and other service sectors.


Income Dependency HG/QCI 2001
ONEI 6%
Transfers 11%
Other 4%
Construction 5%
Forestry 32%
Mining/Energy 0%
Fishing 4%
Agriculture 1%
Tourism 7%
Public Sector 30%
Forestry
Mining/Energy
Fishing
Agriculture
Tourism
Public Sector
Construction
Other
Transfers
ONEI

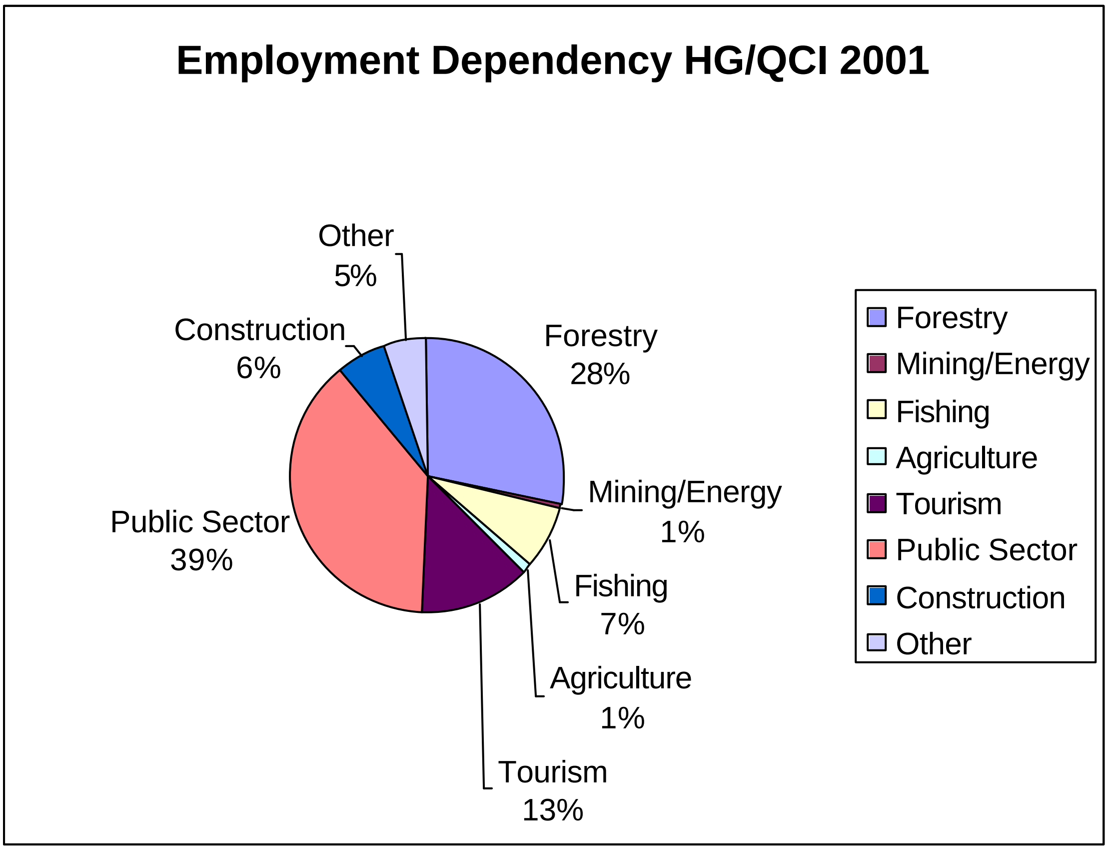

Employment Dependency HG/QCI 2001
Other
5%
Construction
6%
Forestry
28%
Mining/Energy
1%
Public Sector
39%
Fishing
7%
Agriculture
1%
Tourism
13%
Forestry
Mining/Energy
Fishing
Agriculture
Tourism
Public Sector
Construction
Other

TABLE 4
BASIC SECTOR INCOME AND EMPLOYMENT
IN HAIDA GWAII / QUEEN CHARLOTTE ISLANDS (2001)[a]

	Forestry	Mining / Energy	Fishing / Trapp.	Agric. / Food	Tourism	Public Sector	Const	Other[c]	Transf. Paymts	Other NE Inc.	Non-Basic	Total
EMPLOYMENT[b]												
Masset	(8%)	(0%)	(10%)	(0%)	(18%)	(48%)	(2%)	(12%)				(100%)
Port Clements	(42%)	(0%)	(0%)	(5%)	(6%)	(27%)	(16%)	(3%)				(100%)
Rest of HG/QCI[d]	(30%)	(1%)	(8%)	(1%)	(13%)	(38%)	(6%)	(3%)				(100%)
Total Queen Charlottes	(28%)	(1%)	(7%)	(1%)	(13%)	(38%)	(6%)	(5%)				(100%)
AFTER TAX INCOME ($millions)												
Masset	(1%)	(0%)	(20%)	(0%)	(6%)	(40%)	(0%)	(7%)	(12%)	(14%)		(100%)
Port Clements	(58%)	(0%)	(0%)	(0%)	(2%)	(14%)	(11%)	(0%)	(8%)	(8%)		(100%)
Rest of HG/QCI[d]	(35%)	(0%)	(1%)	(1%)	(7%)	(29%)	(8%)	(3%)	(12%)	(4%)		(100%)
Total Queen Charlottes	(33%)	(0%)	(4%)	(1%)	(7%)	(30%)	(5%)	(4%)	(11%)	(6%)		(100%)

Source: Ministry of Finance and Corporate Relations.
(a) Percentages may not add due to rounding. “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 (e.g. primary sectors include primary processing)
(c) “Other” includes parts of manufacturing and transportation not already allocated to another basic industry.
(d) Includes Haida communities of Old Massett and Skidegate, as well as unincorporated communities of Queen Charlotte City, Tlell and Sandspit.

4.1.3 Unemployment, Education Levels and Other Social Indicators[15]

The unemployment rate for the Islands of almost 12% in 2001 is higher than for the provincial unemployment rate for that year of 8.5%, not uncommon for a resource dependent area. Unemployment rates in the Islands were lower than for northwest BC (16.4%) in 2001, but average family incomes were also 7% lower. Education levels are lower than the provincial average, but very similar to northwest BC. About 32% of the Islands' population over 20 years old do not have a high school graduation, compared to about 24% for BC as a whole. Education levels can be an important determinant of the ability to earn livelihoods and successfully adjust to economic change.

Census data indicates that education levels and participation rates are much lower, and unemployment rates much higher among the Haida than for the Islands as a whole. For example, 2001 data for Skidegate indicate that 43% of the population did not have a high school certificate and about 35% of the population 15 years and older did not participate in the labour force in 2001. Census data for 2001 indicate that Haida communities on the Islands had an unemployment rate of about 23% for that year compared to about 8.3% for the rest of the Islands.

Unemployment rates for the Islands may be underestimated to the extent that people have given up looking for work, i.e., are no longer actively participating in the labour force. Unemployment rates in Haida communities have been estimated as high as 60%-70% and for Port Clements as high as 30%.[16]

A number of other indicators of social health suggest that communities on the Islands are facing some difficult challenges. The Islands have among the highest rates of drug offences (8th 1999-2001), suicide (4th 1997-2001), infant mortality (5th 1997-2001), and teen pregnancy (2nd 1998-2000) of the 78 Local Health Areas in BC.[17]

A detailed analysis of the causes of these social issues is not possible in this report. Relatively high unemployment, lack of health and related support facilities, the isolation of island living, and for Haida, the legacy of the residential school system, have all been identified by community representatives as possible determining factors.

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[15] Source: 2001 Census. The Coast Information Team (CIT) is compiling data on a number of social, economic and environmental indicators that can be incorporated into the HG/QCI socio-economic base case as available and appropriate.

[16] Art Leeuw, Community Futures, and Gerry Johnson, Deputy Mayor, Port Clements, pers. comm.

[17] Source: Local Health Area 50 - Queen Charlotte: Statistical Profile, BC STATS. These data can be skewed by the relatively small size of the Islands' population. However, all of the indicators are calculated over a period of several years.

4.1.4 Community Profiles

Graham Island

Graham Island has six main population centres: Masset, Old Massett, Port Clements, Tlell, Skidegate, and Queen Charlotte City / Skidegate Landing. These communities are connected by Highway 16, the only major highway in the Islands. BC Ferries provides service between Prince Rupert and Skidegate Landing three days a week (5 days a week during summer). The Islands' major airport is located at Sandspit on Moresby Island, but there is also daily air service to Prince Rupert, Vancouver and Terrace from the Masset Airport, as well as float plane service from Masset and Queen Charlotte City to Prince Rupert.

Masset and Old Massett: With a total population of over 1,600, the adjacent communities of Masset (926) and Old Massett (707) accounted for about one-third of the Islands' population in 2001.[18]

Services in Masset include elementary and secondary schools, hospital, a recently expanded airport and float plane facilities, a harbour for commercial and recreation use, an industrial park, a museum, and a full range of accommodation and other commercial services. The hospital, recreation facilities and converted office buildings of CFB Masset were transferred to the community and also contribute significantly to local infrastructure. Government (health, education and public administration) is the largest employer in Masset even after the closure of the base in 1996. Manufacturing (including three fish processing / packing plants) and tourism-related services are also important employers.

The commercial, industrial and community infrastructure of Masset is gradually expanding. Slow growth in tourism is encouraging investments in food and accommodation facilities, including a new lodge on the Masset waterfront and bed and breakfast establishments. A new interpretive centre has recently been constructed at the Delkatla Wildlife Sanctuary. Other new home-based businesses are also being established. Fish processing activity focussing on previously under-utilized species and value-added has been increasing. Housing at CFB Masset is attracting more permanent residents, including retirees. Seismic upgrading of both schools is planned. Masset is examining the feasibility of a 5 MW windmill to displace costly diesel power and retain energy expenditures within the local economy. Masset is also planning expansion of its industrial park and a new, integrated hospital facility to also serve Old Massett and Port Clements.

[18] The Masset Administrator reports a current (2003) population of about 1,100. T. Jarvis, pers. comm.

Old Massett is a Haida community located just north of Masset. Services in Old Massett include two gas stations and convenience stores, coffee shop, new Environmental Assessment Corporation, health centre and gift shop. These Band-operated services and Band administration account for the single largest source of employment in the community. Fishing and forestry are still important employers, but at lower levels than historically. The recent dismantling of Forest Renewal BC has also significantly reduced employment in silviculture, stream work, road de-activation and other watershed restoration activities. Old Massett is also the location of administration offices for the Council of the Haida Nation (CHN).

Construction of Band housing and tourism have become increasingly important as sources of livelihood and to economic development planning in Old Massett. The Band Council is working on front-country tourism opportunities, with an initial focus on Hiellen and Tow Hill. In addition to the large Tlaga gaw tlaas housing sub-division (28 homes in first phase of a planned 300 unit development for Band members), Old Massett also has plans for a major cultural heritage site which will include administrative offices, variety of accommodations, small business centre, museum, feast house and a carving shed for large cedar. The proposed location for this centre is on a Crown granted parcel within Masset's boundaries. The Old Masset Development Corporation (OMDC) is formulating an economic development model that includes: sustainable management of the resources, harvesting, local processing, value-added and creation of a local label marketing strategy on finished products.

There has been continued investment by Masset and Old Massett in public infrastructure and commercial services to serve local residents and visitors in the area, which is near the north coast sport fishery, the North Beach - Tow Hill portion of Naikoon Provincial Park, and the Delkatla Wildlife Sanctuary. Masset and Old Massett also have a history of cooperative infrastructure and economic development planning. Examples of this cooperation include the Greater Masset Development Corporation (GMDC – see section 4.1.6 below), jointly owned by the communities, funding partnerships on water and sewage treatment upgrades, and cooperation on servicing and development of Crown lands within the Masset boundary for an industrial park, cultural heritage site and hospital.

Port Clements: Port Clements, with a population of over 500, is located in the centre of Graham Island on Masset Inlet, between the estuaries of the Yakoun and Kumdis Rivers. Community services and infrastructure include a health clinic, elementary school, community centre and recreation park, several B&B's, small retail outlets, oceanside pub, restaurants, motel, and gas station.

It is the most forestry-dependent community on the Islands, and logging, a small sawmill and related construction and transportation account for almost 80% of the jobs in the area. Forest-related industrial development is the main focus of economic development initiatives in Port Clements. The community developed an industrial park in 1985 with 23 lots, all of which are now sold. The park now contains a small primary breakdown mill, with dry kilns, 2 dry land sorts, four custom cut micro mills and a scrap metal yard. A pole peeling plant has just started operations under the ownership of local entrepreneurs and a cogeneration plant using wood waste to generate electricity has been proposed. Negotiations are ongoing with the Province to secure additional Crown land for the industrial park.

Athough tourism has not been as important to Port Clements as forestry, the community has been pursuing opportunities in this sector, and investing in recreation infrastructure. For example, in 2001, the community constructed Sunset Park, featuring 2 km of trail along Masset Inlet, an RV park, tent pads, picnic shelter and wildlife viewing tower overlooking Yakoun River estuary. Future plans include a multipurpose recreation complex, which will also house the library and municipal offices, and an infrastructure funding application for a skating rink has been submitted. Another focus for Port Clements has been the economic development potential on the Masset Inlet waterfront, and negotiations are underway with the federal government to take over the wharf for loading / offloading and servicing of large vessels, for both industrial and tourism uses. The community is also planning to upgrade its water treatment and delivery system, starting in 2004.

Tlell, Tow Hill, Lawn Hill, Miller Creek: Tlell is a small, rural community situated near the mouth of the Tlell River, adjacent to Naikoon Provincial Park, between Port Clements and Queen Charlotte City. Tlell and other unincorporated areas within Regional District Area D (including Tow Hill, Lawn Hill and Miller Creek), together have a population of about 540. There a number of artisan studios, small retail outlets, B & Bs and lodges in the Tlell area, which are tourism-oriented. Farming also provides supplementary income for a number of residents in the Tlell area. Services are limited in these rural areas and residents go to Masset or Queen Charlotte City for banking, health and welfare services and to attend high school. Population data for Tlell and other rural communities within RDA D indicate that they are growing, due to the attractiveness of these areas and availability of private land.[19]

Queen Charlotte City and Skidegate: Queen Charlotte City (1,220) and Skidegate (743)[20] are located on the south east end of Graham Island. Together, these communities have a total population of almost 1,800, accounting for about 36% of total population on the Islands. Forestry, commercial fisheries and construction are all important employers in Queen Charlotte City and Skidegate, but growth in commercial services to meet the needs of local residents and visitors has been significant in both communities.

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[19] Keith Moore, Process Technical Team, pers. comm.

[20] Skidegate estimates current population at 1,000 (Carol Kulesha, Electoral Area Director, RDA F), although this may include all Band members, some of whom live off reserve.

Most of the offices of federal and provincial agencies and the Gwaii Haanas Visitor Information Centre are located in QCC. Secondary and alternate schools, Northwest Community College, a hospital, credit union, community hall, tennis courts, baseball field, large grocery store, liquor store, visitor centre and a range of other community and commercial services are also located there. There is a fish processing plant with retail outlet and number of tourism-related businesses, including gift shops, 11 restaurants and cafes, over one dozen charter and tour companies, 11 hotels and hostels, and a number of B&Bs. The ferry terminal at nearby Skidegate Landing is the main point of connection to Prince Rupert and and the main airport at Sandspit. There is also a fishing fleet harbour and recently upgraded float plane service at QCC connecting to the mainland and to remote parts of the Islands. QCC has received funding up upgrade its sewer and water systems, has applied for funding to construct a seawalk, and has recently set aside land for an industrial park.

Skidegate is located on the northern shore of Skidegate Inlet. Fishing has always been an important mainstay of the community, and the Skidegate Band also owns a logging contract company. Services include a recently constructed gas bar, Gwaii co-op store and business mall with offices and retail stores, a new elementary school and bowling alley. Construction of new housing is ongoing, with 36 units planned for this year and twenty units per year for the next 5 years. Construction is also now underway on a $19.2 million Qay'llnagaay Heritage Centre. This project will extend the existing museum, house a performing arts centre and house the offices of Parks Canada, Gwaalagaa Naay Development Corporation and Haida Gwaii Watchmen. The Band has plans for restarting of a fish plant located in the community.

Gwaalagaa Naay (Ambitious House) Corporation in Skidegate operates several businesses including Taaw Naay Enterprises Ltd. Several new businesses have started with the help of the Corporation, including a clothing store, video store, landscaping/nusery business, and gift shops.

Moresby Island

Sandspit: Sandspit, located on the northeast tip, is the only major community on Moresby Island. The Islands' major airport, providing scheduled service to Prince Rupert, Vancouver and Terrace, as well as nearby float plane service, is located at Sandspit. It is also served on an hourly basis from Skidegate Landing by BC Ferries.

Forestry is still the dominant employer in the community, despite the downsizing of harvesting operations on Moresby due to the establishment of Gwaii Haanas. A salvage mill located at Alliford Bay is still an important employer. Sandspit has an elementary school, community centre, visitor centre, grocery store, gas station, a marina, hotel a number of B&Bs, several restaurants and coffee shops, and a golf course. Residents must go to Queen Charlotte City for banking, health and welfare services and to attend high school.

Sandspit is planning for the establishment of a community water system to replace its current drilled well supply. A new community water system is planned to address health concerns for its residents, and which could also encourage development (e.g., lands owned by Teal-Jones group). The establishment of a new scheduled air service by Canadian Western has resulted in more competitive fares. Utilization of the marina is increasing, in part encouraged by new marine fuel facilities, but there is still capacity to accommodate additional growth. A new motel is being constructed across from marina and the Harbour Society also purchased two lots across from marina for eventual development. Overall, tourism has levelled off in recent years. The community is concerned about population declining below thresholds necessary to maintain basic services. There is inadequate land available for private development.

Haida Nation

Haida Gwaii has been home to the Haida people sincetime immemorial. The total Haida population is currently estimated at about 3,800, of which about 40% live on the Islands, primarily in Old Massett and Skidegate. Many Haida also live in Alaska, Prince Rupert and the Lower Mainland. Many Haida intend to return to the Islands and the two villages are planning housing developments to accommodate this.

The historical reliance of the Haida on the land and marine resources of the Islands have made these resources an integral part of their economy and culture. Current activities in the formal economy are dominated by fisheries (harvesting, enhancement / management projects and processing), forestry (logging and silviculture) and local government. A number of economic development initiatives or opportunities are being pursued, primarily at the Band Council level, include housing developments, recent investments in on-reserve commercial services, tourism, value-added fisheries and wood products, and shellfish aquaculture.

The Council of the Haida Nation (CHN) is mandated by the Haida Constitution to settle the issue of title and rights and to ensure that the Haida relationship with land continues in perpetuity. The CHN filed a statement of intent in 1993 to pursue treaty negotiations to define their rights to lands and resources on Haida Gwaii, and to establish a framework for self-government. The CHN sought a court ruling on the whether Haida claims or title constitutes an encumbrance on area-based forest tenures. After receiving a positive ruling, the Haida have now initiated another Supreme Court action with the intent of affirming aboriginal title to their traditional territories.

The CHN is administered by the Haida Tribal Society, a non-profit society that manages several programs that help to protect and enhance Haida land and resource values and interests, but also have economic development implications. These programs include the

Forest Guardians, the Culturally Modified Trees and Archaelogy Program and the Haida Fisheries Program.[21]

4.1.5 More Recent Economic Trends

Population and employment data beyond 2001 are not available. The most significant change since 2001 has been the sharp reduction in timber harvesting as indicated by harvest billing data provided by the Ministry of Forests for 2002 and 2003 (see section 4.3.1). This would suggest that local forestry employment has also declined considerably, depending on the extent to which local versus non-local employees are affected. Provincial government downsizing in administration also occurred after 2001. This particularly affects Queen Charlotte City, although the scale of the impact is likely much smaller than for forestry. There appears to be continued activity in housing and commercial construction, particularly by the Haida Nation. The number of visitors to the Islands appears to have remained roughly the same in 2002 compared to 2001 (see Table 6 in section 4.3.2), although anecdotal information suggests a decline in 2003.[22]

Overall, it would appear that employment levels on the Islands have declined since 2001. It is not clear whether this has translated into population declines. One indicator of population trends is school enrollment data, which indicates approximately the same level of enrollment in 2002 as in 2001, but data for 2003 is not yet available.[23]

4.1.6 Cooperative Economic Development Initiatives

Each community on the Islands is pursuing its own economic development strategy, some examples of which are outlined in section 4.1.4 above. There appear to be common themes to these community strategies, including enhancement of basic infrastructure, encouraging economic diversification and value-added, and greater community control of land and assets under federal and provincial jurisdiction. Many communities in the Islands also share impediments to economic development, including lack of land for development, energy supply constraints and costs, lack of infrastructure, availability and cost of transportation for goods and people, access to capital, cutbacks in government services.

There are a number of broader-based initiatives involving Island-wide delivery mechanisms or cooperation among communities that echo some of the economic development strategies adopted by individual local governments, and attempt to address common obstacles. Several of these initiatives evolved from the establishment of economic development funding for the Islands as part of the decision to establish the Gwaii Haanas National Park

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[21] A description of these programs is provided in the *Background Report*, op. cit.

[22] Moresby Island Management Committee, meeting of June 16, 2003.

[23] Ministry of Education, op. cit.

Reserve. In 1988, at the request of the islands communities, the federal and provincial governments established funding to construct a small craft harbour near Sandspit, visitor centres in Queen Charlotte City and Skidegate, an economic development trust fund and the South Moresby Forest Replacement Account (SMFRA) to enhance forest productivity and value.

The Gwaii Trust was established in 1994 as a locally controlled, interest bearing fund to advance economic diversification and sustainable development on Haida Gwaii/Queen Charlotte Islands.. Depending on investment earnings of the fund, up to $3 million per year is allocated by the Gwaii Trust, responding to community input, on a range of infrastructure improvements. These investments are based on the principle that attractive, well-serviced communities provide an essential foundation for socio-economic development. The Trust invests in "social capital" in the broadest sense of the term, including training and education programs, health, arts and culture and governance to improve the quality of life for existing, and to attract new, residents. Other initiatives by the Trust include examining the feasibility of operating the SMFRA program (discontinued, and now re-activated) and a study of Islands-wide governance to enhance the effectiveness of local governments.[24]

The federal government, to mitigate the impacts of the closure of CFB Masset, transferred the facilities at the base and established a multi-million dollar fund to help cover necessary upgrading and ongoing operating costs. The Greater Masset Development Corporation (GMDC), jointly owned by the Village of Masset and the Old Massett Village Council, was formed to take over and manage the housing and recreation, health and administration facilities at CFB Masset and the related funding. The Corporation has now leased most of the administration offices (e.g., to Community Futures), and sold all of the approximately 190 houses on the base. Most of the housing has been sold to non-residents, but the proportion of full time residents is expected to increase over time.[25] The base hospital has been turned over to the Province, but as noted above, there is a joint plan by Masset, Old Massett and Port Clements to construct a new hospital and integrate existing and expanded public health, extended and acute care facilities on Crown land between Masset and Old Massett. GMDC received timber rights to forested lands on the base, and is considering the establishment of a woodlot. GMDC is continuing to explore purchase and management options for land around the communications facilities that are still operated by Department of Nation Defense, including possibilities for eco-tourism and trails.[26]

The Community Futures (CF) program, funded by Western Economic Diversification Canada and Human Resources Canada, was established to provide assistance to small businesses on the Islands. Community Futures acts as a lender of last resort and attempts to build business

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[24] *Gwaii Trust Business Plan*, 2002.

[25] T. Jarvis, pers. comm.

[26] Pers. comm., John Disney, Old Massett Development Corporation (OMDC), and Chris Bywater, GMDC, for original 1997 draft *HG/QCI Socio-Economic Base Case*, op. cit.

expertise and capacity. Priorities for the local CF organization have been to foster cooperation among communities on the Islands (e.g., regarding the community forest proposal for the Tlell watershed) and to encourage entrepreneurship among youth. CF works collaboratively with all communities and other economic development agencies such as the Gwaii Trust, which contributed to CF's initial capital investment endowment. CF is currently investigating the feasibility of broadband communications facilities and a distance education package with Northwest Community College.

Another initiative with important economic development implications has been the Islands Community Stability Initiative (ICSI) which was intended to facilitate the establishment of a community forest license and to increase local processing of timber. However, ICSI is no longer active. While Ministry of Forests has approved in principle a community forest proposal for the Tlell watershed, at this time there is no consensus among communities on the Islands about how, or whether to proceed with this initiative.

4.2 Anticipated Economic Trends

Short term changes in external factors such as world market prices for wood products and tourism are difficult to predict. However, without changes in resource management or local control, it is likely that over the medium to longer term, the historical trends in the structure of the Islands' economy will continue for the forseeable future. This will include the shift from primary goods-producing (e.g. forestry and fishing) to service sectors and value-added manufacturing. These structural trends will be reinforced by tourism growth, an aging population, and as local entrepreneurs continue to displace imported goods/services. Per capita income may decline, with a shift to generally lower wage service industries. The number of women in the labour force may increase, reflecting growth in the service sectors in which they have traditionally participated, and the need to supplement family incomes.

The economic development initiatives by individual communities and other, Island-wide or cooperative organizations such as the Gwaii Trust, Community Futures and the Gwaii Trust, and the resolution of land claims, will help to further diversify the economy of the Islands.

A more detailed discussion of individual sectors in the economy that are most strongly linked to land use and resource management follows below.

4.3 Base Case for Economic Sectors Strongly Linked to Land Use

The following is an outline of current activity and historical trends for sectors of the Islands' economy that are most strongly linked to land use, including: forestry, tourism, fisheries, other "nature-based" activities such as trapping and harvesting of botanicals, and mining and energy. Other sectors can also be affected by land use planning, although such effects are less direct and more difficult to identify. It should also be recognized that there are a number of factors, other than land use and resource management policy, that influence economic activity in any sector, including market factors, technological change and government policy.

4.3.1 Forest Sector

Current Activity and Historical Trends

As shown in section 4.1 above, the forest sector has been the single most important source of basic income in the Islands and by far the most important private sector employer. Census data indicates direct, forestry-related labour force (including harvesting, silviculture and other support industries and processing) of HG/QCI residents at about 530 in 2001. Timber from the Islands supports an even greater number of harvesting and processing jobs for workers elsewhere in BC (see section 6.0 below).[27] Average wages in the forest industry are relatively high, and include benefits not often available in other sectors.

As shown in Table 5 below, the current total AAC or AAC contribution for the TSA and the three TFLs in the Islands, established by the Chief Forester and Deputy Chief Forester in various decisions from 1995 to 2001, is approximately 1.7 million m3/year. This is about 200,000 m3 less than the total of previously approved AACs due in part to the exclusion of Haida Declared Areas, but also to reflect current forest management practices and objectives. Overall, actual harvest levels of Crown-regulated timber have been roughly 25% lower than the total AAC over the 1998-2002 period. More recent billing data from MoF indicates that harvest levels in 2003 will be significantly lower than in 2002.[28] A number of reasons are cited for this, including the impacts of market conditions in Asia, a 27% tariff on processed wood products shipped to U.S.markets (recently exacerbated by appreciation of the Canadian dollar), Haida Declared Protected Areas and the impacts of the Forest Practices Code and stumpage on the economics of harvesting.[29]

TABLE 5
SHORT AND LONG TERM POTENTIAL TIMBER HARVEST FLOWS [a]
('000 cubic metres)

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[27] Additional information has been requested from Timber West and Western Forest Products regarding local / non-local employment. At this time, Census data provides the best indication of local forestry employment and per cubic metre employment coefficients the best way of estimating other provincial employment.

[28] Current and historical AACs and recent harvest levels based on data in the *Haida Gwaii - HG/QCI Background Report,* op. cit; *TSR Analysis Report*, 2000, op. cit., *Tree Farm License 39 Rationale for AAC Determination, Effective November 21, 2001*, Ken Baker, Deputy Chief Forester; and billing data from MoF Revenue Branch.

[29] Pers. comm. with Keith Moore (PTT), Peter Kofoed (Weyerhaeuser), David Byng (Western Forest Products). A complicating factor regarding the underharvesting issue for TFLs 39 and 25, is that cut control regulation has historically been applied on the entire TFL, not just the portion on the Islands.

	Recent Harvest[c]	Current AAC	Potential AAC End of Decade 1	Long Term Potential AAC
TSA[b]	350	361-475	361-475	323
Weyerhaeuser (TFL 39, Block 6)	791	1,150[d]	1,120	1,030
Timber West (TFL 47, Block 18)	82	100	~110	155
Western Forest Products (TFL 25, Block 6)	61	115	115	182
Total	1,284	1,726-1,840	1,706-1,820	1,690

Sources: Allowable Annual Cut (AAC) from *TSR Analysis Report*, op. cit., 2000*;* Volume contribution to TFL AACs, based on determinations for TFLs 39 (2001), 47 (2003), 25 (1995), and Weyerhaeuser and Timber West timber supply analyses for TFL 39 and 47, respectively.

(a) Range for current and decade 1 AAC reflects inclusion / exclusion of Haida Declared Areas. Long term harvest level assumes inclusion of HDAs.

(b) Based on average harvest levels over the 1998-2002 period by management unit based on billing data from MoF Revenue Branch. These data indicate that the 2003 harvest level for the Islands will be significantly lower than the 1998-2002 average.

(d) Includes partition of 125,000 m3 for Haida declared areas.

<u>Timber Supply Area</u>

A temporary Timber Supply Area AAC of about 361,000 m3 was set in December, 1999 and was re-established in 2003 for the duration of the LUP. This is 114,000 m3 less than the previously approved AAC of 475,000 m3 due to Part 13 designation, recently renewed by the Province, prohibiting harvesting in the Duu Guusd Haida Declared Protected Area. A low volume cedar partition, currently set at about 57,000 m3, has been established to reduce harvesting pressure in some parts of the conventional timber harvesting land base (THLB). There has also been a temporary abeyance of harvesting in the Tlell River watershed to allow for completion of a Local Resource Use Plan (LRUP). Harvest levels in the TSA have averaged about 350,000 m3/year from 1998-2002.

The remaining 1.365 million m3 comes from the three Tree Farm Licences on the Islands held by: Weyerhauser (Weyco) (Block 6 of TFL 39), Timber West (Moresby Island Management Unit, Block 18, of TFL 47) and Western Forest Products (Block 6 of TFL 25).

<u>TFL 39 – Weyerhaeuser</u>

The largest of the TFLs is Weyco's Block 6 of TFL 39. Block 6 accounts for 32% of TFL 39's timber harvesting land base, is located on Graham Island, with smaller portions on Louise Island and the northern part of Moresby. Block 6 does not have a formal AAC, but MoF has provided direction to Weyco since the early 1980s to manage this block as a stand-alone timber management unit in recognition of its importance to the local economy.[30] The current contribution of Block 6 to the total TFL 39 AAC is about 1.150 million m3, approximately reflecting the proportion of the timber land base of TFL 39.

A Haida Declared Areas partition of 125,000 m3 has been established by the Chief Forester on Block 6. This partition does not obligate Weyco to harvest this amount, but does not in itself restrain the licensee from harvesting its full AAC entitlement elsewhere in TFL 39. Actual harvest levels on Block 6 have averaged about 790,000 m3 over the 1998-2002 period, or about 69% of AAC contribution. Recent harvest levels have been lower in recent years, averaging 685,000 m3 for 2001-2002. Partial data for 2003 indicate even lower harvest currrently. In June, 2002, Weyerhaeuser agreed with the Haida Nation to reduce their maximum annual harvest level by about 40% in Block 6 to 600,000 m3, until a sustainable harvest level is confirmed following the land use planning process.

TFL 47 – JS Jones

The Moresby Island Management Unit (Block 18) of Timber West's TFL 47 is located on the north end of Moresby Island.[31] This Management Unit accounts for about 12% of the total TFL 47 timber harvesting land base. The partitioned AAC established for the Moresby MU in the Chief Forester's December, 1996 decision was about 100,000 m3, a reduction of about 24% from the previous AAC. This AAC has been maintained in the most recent determination of August, 2003, with the condition that, on average, until the next review in 1998, no more than 60,000 m3 per year of old growth timber should be harvested. Timber West has harvested 82% of its AAC over the 1998-2002 period.

TFL 25 – Western Forest Products

Western Forest Products' TFL 25 (Block 6 – formerly TFL 24) is located on the upper half of Moresby Island. The AAC of 115,000 m3 for Block 6 was confirmed in the April, 1995 Chief Forester's decision. Another timber supply review process is now underway for TFL 25, and an AAC determination is expected soon **[update]**. WFP has harvested about 64% of its AAC over the 1998-2002 period.

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[30] Peter Kofoed, Weyerhaeuser, e-mail of September 3, 2003.

[31] TFL 47 is being managed and operated by Teal Cedar Products Ltd., a company owned by TS Jones Timber Ltd..

BC Timber Sales

Approximately 158,000 m3 of the total TSA and TFL AACs is currently allocated to BC Timber Sales for competitive bidding, reduced from about 188,000 m3 due to the Haida Protected Area partitions. Data for fiscal years 1996-2000 indicate that actual sales also averaged about 158,000 m3 over this period. Due to recent changes to the Forest Act, Timber Sales will now be awarded primarily to the highest bidder rather than also being available to value-added facilities.

In addition to the Crown AACs summarized above, there are four woodlots with a total AAC of about 8,000 m3, and six active Timber License areas with undefined AACs on the Islands. Harvests on private lands on the Islands have averaged about 30,000 m3/year in recent years.[32]

Silviculture

TFL and TSA licensees are responsible for basic silviculture (including surveys, site preparation, planting, brushing, cone collecting and some spacing). There has been very little enhanced or intensive silviculture (including spacing, fertilization and pruning) with the cessation of Forest Renewal BC and South Moresby Forest Replacement Account (SMFRA) funding in 2001. The revitalization of SMRFA could increase intensive silviculture activities. Total annual employment in silviculture, prior to funding cutbacks, is estimated at approximately 30 person-years, of which only a proportion are local residents.[33]

Processing

Almost all of the timber harvested in the Islands is exported to Vancouver Island or the Lower Mainland for processing.[34] None of the major licensees does any processing on the Islands. Abfam Enterprises (Port Clements) is the largest wood processing facility on the Islands. Abfam saws a range of species for lumber and has recently installed two dry kilns which provide access to the Japanese market. HG/QCI Sawmills used to saw red cedar but now produces a small number of log houses. Both of these mills had 10 year, non-

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[32] *Background Report*, op. cit. Data is for the 1999-2002 period. Harvest levels on private lands have fluctuated significantly over this period, ranging from 4,000 to 65,000 m3.

[33] *Background Report*, op. cit.

[34] A small proportion of Crown harvest on the Islands is exported from BC. Due to recent provincial policy changes, exports from the BC coast have increased in recent years. For example, 2% of Weyco's Block 6 harvest was exported in 2001 and 6% in 2002. Peter Kofoed, e-mail of September 3, 2003. Western Forest Products does not export any logs out of province. David Byng, e-mail of August 10, 2003.

replacement opportunity wood sales, which expired in 1994, and now must bid for wood through BC Timber Sales.

There are also 14 small micro-mills that do custom cutting and serve niche markets. One of the largest is a salvage mill operating at Alliford on Moresby Island. There are two cedar shingle / shake mills on the Islands, one in Masset and one in Port Clements. In addition, there are 8 secondary manufacturers providing services such as custom millwork and kiln drying, and producing a range of specialty products ranging from pallets to furniture and cabinets. A number of local artists and artisans use red and yellow cedar, alder, yew and driftwood for carvings and other wood products. A total labour force of about 100 is reported in the 2001 Census for primary and secondary manufacturing on the Islands.

Total timber throughput of processing facilities on the Islands are roughly estimated at about 37,000 m3 for sawmills and another 20,000 m3 for shingles.[35] This does not represent the total timber requirement of local milling facilities at full capacity, which has been estimated at about 140,000 m3.[36] Estimated throughput at local processing facilities represents about 3.5% of the current, total Crown AAC for the Islands and less than 5% of the current Crown harvest level.[37] None of the primary breakdown and secondary manufacturers on the Islands have secure access to timber in the form of tenure or forest license. They all rely on timber sales provided by BC Timber Sales, salvage opportunities, purchase or trade from the major licensees and TFL holders or private purchases. Inadequate access to standing and salvage timber, have been cited by small processors as key constraints to growth in local processing. The consolidation of BC Timber Sales offices for the Coast Region in the lower mainland, and elimination of MoF's Bid Proposal program (which allowed value-added producers access to timber based on factors other than pure price competition), have exacerbated these difficulties.

Anticipated Trends

Based on the most recently available timber supply review data, the total AAC for the Islands would decline only slightly over the next several decades. The timber supply analysis undertaken for the HG/QCI TSA in 2000[38] indicates that the pre-partition harvest of 475,000 m3/yr could be maintained for one to five decades, depending on the availability of timber from critical areas such as the Duu Guusd and Tlell areas. After falldown begins, harvest levels would have to decline to a long term sustainable level of 323,000 m3 by decade 9. AAC determinations for the TFLs on the Islands indicate that

[35] *Analysis of Woodflow in the Coast Forest Region*, Pierce Lefebvre Consulting, et al, August, 2003. These estimates are higher than provided by Jim Abbot, Abfam Enterprises.

[36] Gerry Johnson, pers. comm.

[37] This overestimates the proportion of Crown timber that is processed locally to the extent that processors on the Islands rely on private timber harvests.

[38] *TSR Analysis Report*, 2000, op. cit.

harvest levels for Block 6 of TFL 39 can be maintained at about 1.15 million m3/yr for 5 years, and then would slowly decline by about 2.6% every 5 years, until a long term harvest level of 1.03 million m3. Management plans for TFLs 25 and 47 indicate that harvest levels can be maintained at current levels for a number of decades, and in the long term, at even higher levels due to the extent of second growth stands nearing harvesting age.

The above projections refer to maximum allowable harvest or timber supply levels, not actual harvest levels that are driven by market, cost and other factors. The Process Technical Team (PTT) will be reviewing the above timber supply projections to determine if they adequately reflect current constraints or downward pressures on harvest rates, such as visual quality objectives, cultural values, community watersheds and netdowns for wildlife and old growth. These projections will also take into account the most recent information on upward pressures on timber supply such as possible higher second growth forest productivity.

A key issue for future timber supply and employment levels is the economic viability of second growth harvesting and marketing. While there is some evidence elsewhere in the province that second growth forests are more productive than currently assumed in timber supply models, concerns have also been raised about the sustainability of current harvest levels as harvesting shifts into second growth stands. MSRM is undertaking a study of the viability of second growth harvesting and marketing for the LUP.[39]

Even if there are timber supply declines in the future, the combined AACs are projected to be significantly higher than recent actual harvest levels. Depending on a number of market, land use and government policy factors, these timber supply projections could hypothetically support higher levels of employment.

However, forestry-related employment on the Islands will be determined not just by harvest levels, but by the extent to which timber harvests are locally processed. As noted above, the consolidation of BC Timber Sales (BCTS - formerly the Small Business program) offices for the coastal region in the lower mainland has raised concerns about accessibility by local bidders for Crown timber. BCTS staff indicate that they are aware of, and are attempting to address the concern.[40]

There are two other processes underway on the Islands that could significantly affect the extent of community control over timber harvests: (i) the resolution of Haida interests in the forest resource (through the treaty process, the courts or interim agreements), and (ii) the

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[39] *The Value of Second Growth Harvesting on Haida Gwaii / QCI*, Draft Terms of Reference, November, 2003.

[40] Meeting with HG/QCI forest licensees and BCTS and MoF staff, January 12, 2004.

success of local government and non-government groups in providing greater local input into forest management, and establishing a locally-controlled forest tenure and increase the local processing of timber on the Islands. In 1999, MoF offered approval in principle of an area-based community forest licence in the Tlell watershed. However, the lack of participation by the Haida mean that the future of this tenure is uncertain at this time.

Provincially, there has been strong historical growth in forestry-related sectors such as value-added/specialty products (e.g. panelboard and co-generation facilities based on waste wood or chips). There is some evidence of these types of projects on the Islands, for example, the dry kilns recently constructed by Abfam. A proposal for a thermal power plant in Port Clements based on hog fuel is also being considered (see section 4.3.6). This could be beneficial for local sawmills and dry land sorts since it may provide a market for their waste wood. In general, greater utilization of harvest waste and problem forest types could be expected, if wood product prices recover.

As noted above, there are a number of areas that have been identified by the Haida, local communities or the Regional Protected Areas Team (RPAT) as areas of interest that potentially conflict with timber harvesting. Several of these interest areas are under immediate development pressure. All of these areas will be addressed through the Land Use Planning process.

There are several other important provincial government forest policy changes that could have significant implications for the forest sector in BC and on the Islands. The proposed relaxation of cut control requirements could exacerbate fluctuations in forestry activity on the Islands. Removal of the "appurtenancy" policy and log export restrictions could reduce the chances of local processing. On the other hand, the proposed 20% takeback from major licensees and possible revenue sharing and tenure allocations resulting from interim agreements with Haida Nation, could increase the chances of local processing, depending on how they are implemented. Licensees indicate that changes to a market-based stumpage system and the move to a "results-based" Forest Practices Code should not have significant cost implications.[41]

There are also changes in forestry management that are being driven by factors other than government policy. Initiatives such as Eco-System Based Management (EBM) and moves by some forest companies to certification, in part due to market pressures brought to bear by environmental groups, could have timber supply, cost and timber value implications. For example, Weyerhaeuser has implemented a version of EBM through variable retention and stewardship zones that reduced long term harvest levels in Block 6 by about 15%. Weyco is also seeking Canadian Standards Association (CSA) certification, but does not expect this will result in any

[41] Meeting with HG/QCI forest licensees, January 12, 2004.

significant timber supply impacts.[42] There are other EBM and certification systems that could result in stronger environmental protection with higher harvest impacts (e.g., the recent agreement on EBM by conservation and forest industry groups for the Central Coast LRMP). However, any analysis of EBM provisions ultimately recommended by the HG/QCI LUP should acknowledge that such trends are already occurring in the Base Case. The harvest impacts of such provisions also must be considered in the context of the potential economic benefits of avoiding boycott campaigns by environmental groups in international markets.[43]

In conclusion, the forestry sector will likely continue to be the single most important basic private sector in the Islands' economy in the foreseeable future. Although AAC levels are projected to continue at roughly current levels for the forseeable future, the combination of market factors, harvest deferrals and forest policy changes will likely mean continued underharvesting and instability in forest sector employment the short term. Forest industry employment and incomes on the Islands could increase if Haida Nation and other local efforts to gain more control over timber harvesting are successful, particularly if this results in greater levels of local employment in harvesting and processing. The level of timber harvesting that is eventually approved on the Haida Declared Protected Areas will also have an important bearing on forestry-related employment on the Islands.

4.3.2 Tourism and Recreation

Tourism is typically defined as the employment and income generated by the spending of non-resident travellers to the study region on such activities as accommodation and food, recreation activities and transportation.[44] Recreation is defined as outdoor activities enjoyed by residents and non-residents of the Islands. Although recreationists and tourists are often undertaking the same activities in similar locations, it is typically assumed by economists that spending by resident 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 a conservative assumption to the extent that residents can choose to travel off the Islands. Recreation opportunities also contribute greatly to the quality of life on the Islands.

Current Activity and Historical Trends

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[42] Peter Kofoed, Weyerhaeuser, e-mail of September 3, 2003. Western Forest Products also indicates that their current forest practices are consistent with certification standards such as CSA.

[43] For an illustrative example of the potential impacts of market campaigns, see *Central Coast Land and Coastal Resource Management Plan (LCRMP), Phase 1 Framework Agreement, Socio-Economic and Environmental Assessment: Final Report*, July, 2001, G. Holman and E. Terry.

[44] Note that, defined in this way, tourism would include business travellers.

Labour force data do not include estimates for tourism, which is comprised of a number of industries. The economic dependency analysis by the Ministry of Finance for 1996 estimates total tourism employment (including all of the accommodation industry and parts of food and other services, retail trade and transportation) at about 420, which represents about 18% of total basic employment in the Islands. Because of the seasonal nature and lower average incomes of these activities, tourism accounts for a lower proportion, about 9% of basic income in the Islands.

Transportation activity provides another measure of tourism activity and trends, although such data does not usually separate the tourism component from local resident and business travel. Ferry and airport traffic volumes to and from the Queen Charlottes have shown a general decline since the mid 1990s (see Table 6). On the Prince Rupert to Skidegate Landing BC Ferries route, vehicle traffic remained relatively steady, but the number of passengers declined 10 percent. This may be linked to changes in ferry service rather than a reflection of actual demand, however. BC Ferries has shortened the shoulder seasons by reducing the number of weekly trips to the islands in spring and fall, and there is a long-standing issue concerning wasted vehicle space on the ferry when commercial vehicle reserves are held to the last minute, but then not taken. Meanwhile, tourists are being turned away because of a "full" ferry if they do not go on a wait list. This situation could be limiting trip planning to the Islands by visitors. Some of these problems are being addressed by the new ferry corporation.

At Sandspit Airport, aircraft movements dropped dramatically between 1998 and 2002 because of the combined effects of the following: takeover of Canadian Airlines by Air Canada, which resulted in reduced service; the cessation of commercial service out of Prince Rupert by Transprovincial Air; and, a shift in fishing lodge passenger traffic to Masset airport. The net impact on visitation is believed to have been minimal.[45] Actual passenger volumes are kept confidential by Air Canada; however, Sandspit Airport indicated that overall, volumes have remained relatively steady over the last three years at 50,000 annually.[46] In light of declining logging camp activity this may suggest an increase in tourism traffic, but the data are not available to verify this.

As noted above, aircraft movements and passenger totals at Masset airport climbed significantly during the six year period ending in 2002. During this period, several fishing lodges altered their transportation methods, flying clients into Masset and then onto the lodge via helicopter. Previusly, they flew in and out of Sandspit by floatplane.[47]

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45 Personal communication, Robert Ells, Sandspit Airport manager, September 4, 2003.

46 Personal communication, Robert Ells, Sandspit Airport manager, May 23, 2003.

47 Personal communication Trevor Jarvis, Administrator, Village of Masset, September 4, 2003. None of the air traffic data includes private float plane information, which is considered confidential by the operators.

Road traffic increased slightly along major Island routes during the 1995 to 2000 period but it is believed this was due to increased local travel as well as off-Island visitors.[48] Taken together, the ferry, airport and road traffic data suggest that the number of visitors arriving on the Islands has remained stable over the last five years.

TABLE 6
FERRY AND AIRPORT TRAFFIC SUMMARY
(1995-2002)

	1995	1996	1997	1998	1999	2000	2001	2002
Ferry- Passengers [a]	53,314	51,354	48,272	49,323	48,509	47,377	48,062	47,966
Vehicles	19390	17,722	17,034	17,598	17,528	17,291	17586	17,718
Airport Movements Sandspit [b]	n.a.	n.a.	n.a.	15,034	14,083	8,183	8,378	8,074
Airport Movements Masset [c]	n.a.	n.a.	272	722	985	963	n.a.	1,261
Passenger Arrivals Masset [c]	n.a.	n.a.	885	5,386	4,342	4,222	n.a.	10,359
Passenger Departures Masset [c]	n.a.	n.a.	912	5,402	4,369	4,254	n.a.	10,160

(a) BC Ferries, Prince Rupert – Skidegate, two-way traffic counts. BC Ferry Corporation, *Event Monthly Summary Table*, 2003.
(b) Aircraft movements for Sandspit Airport. Transport Canada, *Aircraft Movement Statistics Annual Report 2002,* Aviation Statistics Centre, 2002.
(c) Village of Masset

Industry Profile

For descriptive purposes, the tourism sector can be divided into four main categories: commercial food and accomodation in the main communities (including business travellers); fresh and saltwater angling; hunting; and a range of other outdoor recreation opportunities in parks, MoF recreation sites and other Crown lands. These categories are inter-related - for example, commercial lodges often provide outdoor recreation activities as part of their operations.

TABLE 7
TOURISM ACTIVITES ON HG/QCI IN 2003

[48] Personal communication, Al McKean and Larry Proteau, Ministry of Transportation and Highways, Terrace, May 22, 2003.

Tourism activity/ service	# of operators
Accommodation - B&B, Other < 5 rooms	34
Accommodation - Hotel, Motel, Other > 5 rooms	11
Fishing Lodges	17
Camping[a]	7
Marina	3
Museum	3
Golf course	2
Air Transport / Tours[b]	7
Land Transport / Tours	11
Motor Boat Tours	8
Saltwater Fishing Charters	33
Sailing Adventures	6
Sea kayaking	12
Scuba diving	2
Freshwater Fishing Charters	6
Heritage Viewing	25
Hiking / Nature Viewing	6
Hunting (guide-outfitter)	1
Total	198

Source: *Haida Gwaii/Queen Charlotte Islands Background Report*, op. cit.
(a) Camping in this table refers to a business that requires a fee for service.
(b) Air transportation includes transportation on and off the Islands by larger carriers. There are 2 local air charter companies that conduct air tours.

Table 7 provides an inventory of tourism operators and services on the Islands in 2003. Because a number of operators offer a variety of activities, the total number of activities shown in this table exceeds the actual number of tourism operators. As shown by the figures in this table, a significant proportion of tourism operations are based on saltwater activities, including fishing, sailing, kayaking, heritage viewing and motor boat touring. This list is not comprehensive and may have missed some tourism activities. The list does not include many more businesses in the retail and service sectors which depend in part on tourism markets and revenues.

Commercial Food and Accommodation

Census labour force data for the food service (only a portion of which would be attributable to tourism) and accommodation sectors indicate a total labour force of 185 for

2001.[49] As shown in Table 6 above, the 55 fixed-roof accommodation facilities, including hotels, motels and lodges, are a major part of the local tourism industry. There are another four campgrounds and 17 overnight charter companies that provide rustic camping facilities to their clients.

Room revenue trends for the Skeena-Queen Charlotte area (which includes Prince Rupert and the Queen Charlottes) shows little or no change in motel and hotel revenues between 1997 and 2001, although 2000 did represent a peak activity year for both hotels and motels.

Freshwater and Saltwater Angling

Freshwater angling for steelhead, other salmonids and trout, is a popular recreation activity for local residents and for non-local anglers. The Islands are recognized as one of the premier steelhead angling locations in BC. Eight of the Islands' streams were designated in 1992 as Class II streams (i.e. they require that non-residents of BC fish with a licensed fishing guide).[50] These streams represent 20% of all Class II streams in province.

Estimates of angling effort in the Islands are currently available only for guided steelhead fishing. In 1996, there was a quota of 530 angler-days for steelhead issued to the 10 licensed guides in the Islands. Use of the total quota of angler-days has varied over recent years from 50% to 100% of the quota. In 2002/03, the average quota was virtually unchanged at 538 angler days but this was allocated to six guides. This represents a 38% decline in total angling days. Virtually all of the guided steelhead effort is accounted for by visitors (i.e. tourists). The Yakoun River is the most heavily fished on the Islands, accounting for about 50% to 70% of total angler days. Guides have also been issued licenses for several unclassified waterways including the Kumdis, Jalun, Ain, and Awun Rivers and Mosquito and Skidegate Lakes.

In addition to the six licensed freshwater fishing guiding operators, other operators may offer freshwater angling as a secondary activity.

There are concerns about the apparent decline in steelhead stocks on the Islands, due to a number of factors, in the face of growing demand for freshwater steelhead fishing opportunities. In BC, demand is growing at an estimated 2% per year and the growth potential on the Islands is likely higher.

The most significant growth component within the tourism sector over the past 15 years has been the increase in saltwater sport fishing. The Islands tidal fishery targets mainly chinook and coho,

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[49] This includes 1996 data for the Masset Indian Reserve for which 2001 estimates are not available.
[50] The eight streams include the Copper, Datliman, Deena, Honna, Mamin, Pallant, Tlell, and Yakoun.

with some fisheries on pink and chum and occasionally, sockeye (Table 8). As with commercial and subsistence salmon fisheries, the largest share of the sport catch is comprised of non-local stocks. Halibut has become an increasingly popular sport fish. Angler effort has declined slightly since 1994 but has increased to over 40,000 angler days in recent years. Actual sport harvest levels have also increased in recent years, but can vary widely from year to year, particularly for coho. This is due to a number of run-related factors as well as fishery management decisions. The areas primarily fished are Langara Island, Naden Harbour, Masset Inlet, Renell Sound, Skidegate Inlet and Cumshewa Inlet. Increased sport catches of chinook and coho are in part attributable to Fisheries and Oceans Canada's more conservative fisheries management strategy.[51]

TABLE 8
HG/QCI TIDAL SPORTFISHERY ANGLER EFFORT AND HARVEST

	1994	1995	1996	1997	1998	1999	2000	2001
Angler Days	55,819	50,230	29,545	37,927	43,268	41,124	39,321	46,259
Catch								
Chinook	28,974	22,531	669	26,860	28,308	25,800	22,100	30,400
Coho	15,297	11,153	23,041	9,522	0	4,200	10,450	59,700
Other Salmon	2159	3423	4502	1594	3048	4170	6110	5170
Halibut	10,400	10,409	8,352	8,313	7,497	8,737	9,159	13,500
Other Groundfish	7,168	8,430	11,725	12,180	7,841	11,352	11,718	12,300

Source: Fisheries and Oceans Canada.

The number of tourism operators who feature saltwater angling is significant. Table 7 shows 33 offering saltwater angling guiding and charters, but based on previous surveys, there may be as many operators offering it as a secondary activity. A number of these charters are also licensed to operate within Gwaii Haanas (see Recreation Site and Park Use below).

Table 7 shows 17 lodges active on the Islands (12 land-based and five floating), an increase over the 15 lodges documented as active in a 1996 study of the sport fishing industry in the Islands by ARA.[52] While room revenues for hotels and motels have remained steady in the region since 1997, they have more than doubled for fishing lodges in the area.[53] For the HG/QCI area specifically, sport lodge revenues have increased by about 64% over the 1994-2002 period. These lodges are closed over the winter, and most are non-locally owned. This has limited the impact of saltwater sport fishing on the

[51] See *Fishery Doing Fine*, Queen Charlotte Islands Observor, August 28, 2003.
[52] *The Economic Value of Salmon Chinook and Coho in British Columbia, Appendix A The Queen Charlottes Case Study*, G. Gislason, ARA Consulting Group, February, 1996. This study estimated total provincial employment, not local employment.
[53] *Room Revenue by Development Region, Annual Series 1997-2001*, BC Stats, 2003.

local economy. Therefore, while these lodges employ over 500 people (equivalent to about 240 person-years), about 115 jobs (50 person-years) go to local residents.[54]

Hunting

There is one guide outfitter[55] licensed to guide in the Islands, who caters to non-resident hunters of large game animals. There used to be two licensed guides in the region, one for Moresby and one for Graham Island, but these have now been consolidated and worked as a single licence and are being more intensively hunted than in the past. The company's feature hunts include black bear (US$4,450), Mule Deer ($3,500) and saltwater and freshwater angling. In 2001, the Black Bear taken by non-resident hunters from the Islands was 39, up from 19 in 1995. Non-resident hunters took six mule deer in 2001 versus none in 1995.

During the late 1980s and 1990s, the total number of hunters (resident and non-resident) in the Islands averaged about 830 per year, and the average number of hunter-days about 10,000 per year. By 2002, these numbers had declined significantly to 593 hunters, 3,500 hunter days and 1,317 kills. It is estimated that non-resident hunters accounted for about 50% of total hunter-days on the Islands.
In contrast to non-resident hunters who focus on black bear, the bulk of resident hunting activity continues to be on deer, which accounts for 92% of hunter-days in 2002. Most of the remaining effort is for elk (5%) and bear (2.7%). The remaining small portion of the harvest is accounted for by birds (blue grouse, goose, duck). Bird hunting is done mostly by locals from October 1 to January 15, primarily around Masset Inlet/Yakoun Bay-Kumdis.

It has been estimated that about 10% of the HG/QCI residents participate in hunting.[56] In general, hunting opportunities are more readily accessible elsewhere in BC, but the Islands offer a unique experience.

Recreation Site and Park Use

MoF recreation sites, Naikoon Provincial Park and Gwaii Haanas National Park offer local residents and tourists a variety of recreation experiences, including camping, back country hiking, pristine marine touring and opportunities to learn about Haida Nation culture.

There are a number of recreation sites and recreation trails on the Islands that have historically been managed by the Ministry of Forests.[57] For example, two MoF recreation sites are located

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[54] *Saltwater Fishing Lodges in BC – An Economic Profile*, GS Gislason and Assoc., October, 2003.
[55] Pacific Bear Outfitters - www.olmsteadhunting.com
[56] *Queen Charlotte Timber Supply Area Socio-Economic Analysis*, S. Tedder, et al, December, 1994.

in Rennell Sound, one at Kagan Bay near Queen Charlotte City, and four on Moresby Island at Gray Bay, Mosquito Lake, Moresby Camp, and Sheldon Bay. Each of these sites provide day-use and camping opportunities. Currently managed trails are located at Bonanza Beach, Gregory Beach, Riley Beach and 5-Mile Beach (all located in Rennell Sound). There are three other non-recognized trail systems (i.e. Section 102 trails) at Spirit Lake near Skidegate Village and Onward Point and Secret Cove trails located on Moresby Island. Other community-maintained trails include Kiusta/Lepas Bay, Simpson Trail, Golden Spruce, Tlell River Anvil and Dover Trail.

In the past, rec sites and trails were managed under partnership agreements with community groups, Haida Nation and local government. Now that the MoF recreation program has been eliminated, most of these agreements have lapsed. Spirit Lake (Haida) and Onward Point/Secret Cove (Moresby Island Management Committee) are the remaining partnerships. TFL owners also are continuing to maintain some rec sites (e.g., Western Forest Product's Mosquito Lake and Moresby Camp sites).

There are two main user groups for rec sites: family groups during the summer season who are participating in hiking, kayaking, nature viewing and sightseeing activities, and hunters and fisherman in the fall time. Although visitation data is not maintained forest rec sites, recreation officials indicate use has held steady at around 4,000 to 5,000 user-days annually for the last five years.[58] Rec sites and trails are no longer going to be maintained by the Ministry, so these use volumes are expected to drop off over time as facilities deteriorate and basic infrastructure removed, unless other commercial operators or community groups take over these sites.

In addition to public campsites, there are also four privately owned campsites in of Masset, Port Clements, Queen Charlotte City and Sandspit. Weyerhaeuser operates the Papa Johns' campsite on the Yakoun River, which is very popular during the hunting and steelhead seasons.

Naikoon Park, located on the east side of Graham Island is primarily known for clam digging, beach combing and driving and hiking, and is used by local residents throughout the year. Fishing and crabbing are also popular activities. There are two campgrounds, Misty Meadows (30 vehicle/tent sites and 10 tent pads) and Agate Beach (32 vehicle and 11 tent sites). There are four trails (East Beach, Pesuta shipwreck, Tow Hill and Cape Fife) running through Naikoon Provincial Park, and hiking time ranges from a few hours to a few days. Wilderness camping is also permitted throughout the park.

Data for the 2002 season shows declining visitor use of Naikoon Park for both camping and day use. Approximately 23,000 visitor days were registered in 2002 at the Park's

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[57] For a more complete listing of trails, by management category, see *HG/QCI Background Report*, op. cit.
[58] Pers. comm. with B. Eccles, District Recreation Specialist, May 23, 2003.

seven sites, and another 2,585 camping parties at the two campgrounds. Average annual day use during the 1991 to 1995 period was 33,000, indicating a drop of roughly 30%. The decline in campground use from the average 4,400 in the early 1990s has been even more dramatic at 41%.

Gwaii Haanas, located on the southern part of Moresby Island, is not accessible by road. Primary attractions include kayaking, inter-tidal life and the opportunity to experience Haida Nation historical sites and culture. There are currently about 40 Parks Canada employees operating Gwaii Haanas, of which one-third are Haida. Parks Canada generates additional employment by supporting the Haida Gwaii Watchmen (who operate four interpretive camps within Gwaii Haanas), purchasing local services and bringing in professionals who use local accommodation, transportation and restaurants.

In 2001, Parks Canada estimates that 8,974 visitors days and nights were spent in Gwaii Haanas. This is roughly equivalent to 1,700 visitors. Almost half of the visitors were on organized tours and tended to stay in commercial lodging before and after their park visit, whereas independent travellers tended to use boats and campgrounds. The average length of stay by independent tourists was eight nights, while guided visitors spent an average of 3.4 nights. The average length of stay outside Gwaii Haanas was another six to seven days. According to the 1997 BC Visitor Study, the average length of stay for non-resident visitors to Northwest BC was only 4.4 days and 8.9 days for all of BC.

A 1999 study of park activities (Wight, 1999) found kayaking (41%), power-boating (28%) and sailing (20%) to be the most popular recreational pursuits. There are approximately 20 to 30 businesses licensed to operate commercial air or boat trips within Gwaii Haanas during any given year. Each operator is allocated a specific number of user days/nights, ranging from 15 to 2,856 per operator. The Gwaii Haanas Tourism Operators Association fosters quality, ethics and communication amongst tour operators in the park and represents the interests of tour operators regarding issues related to Gwaii Hanaas.

The issue of the sustainable level of use in Gwaii Haanas is being reviewed by Parks Canada. Parks Canada has identified the waters around Gwaii Haanas National Park Reserve and Haida Heritage Site as a potential national marine conservation area reserve (NMCAR). The planned addition of a marine component to the protected area will add 3,467 km^2 of marine protected area to the overall park.

Anticipated Trends

Tourism has been a growth sector and a source of economic diversification on the Islands. In the last 20 years, the historical growth in commercial tourism-dependent services, and visitation estimates supports this conclusion. In the last three or four years, however, some activity measures (e.g. ferry traffic, air traffic, fishing activity, park visitation) appear to have levelled off, and may be indicating either capacity limitations for the existing product base, an overall maturing of certain activity markets (e.g. camping), declining service levels by transportation providers, or a combination of all the above.

At the same time, there are several factors limiting tourism growth in the Islands. The decline of air service options, rise in airfares and reduced ferry access are problematic and have made the process of getting to and off the Islands more difficult. Improving transportation services is very difficult to address at the local level. There is also a lack of availability of tourist products and services demanded by some travellers.
As one of the fastest growing components of the tourism industry provincially, and worldwide, nature-based tourism, or eco-tourism, is a prime market opportunity for the HG/QCI. If it is true, as it appears, that traditional product markets such as hunting, fishing and camping have peaked in BC (and the Islands) then more effort will have to be made in developing products with better growth potential. As the Islands have some exceptional recreational and tourism features of national and international significance, it is apparent that nature-based tourism provide significant opportunities for growth. However, further investments in transportation, infrastructure and human resources are necessary to develop the more sophisticated products that will appeal to the market.

There is a very clear link between nature-based tourism and cultural and historical interpretation. This market interest provides a compelling argument for the development potential of the Islands. Interest in Haida history, culture and art is growing. The ancient village sites, carvers, painters and other artisans already attract people world-wide and could be more closely linked to outdoor activities for a more complete tourism experience. Current plans for facilities to be developed that would showcase Haida culture, history and art confirm that such opportunities have been recognized. The proposed Qay'llnagaay Heritage Centre and resort / hotel planned at the museum site at Skidegate will be a significant attraction. Another example is an eco-tourism course specifically relating to Haida Gwaii being offered by Northwest Community College.

Strong growth in demand for wilderness and cultural experiences in Gwaii Haanas National Park Reserve can be a driver for further product and market development. Opportunities for growth may be constrained in the longer term as existing use areas become saturated. This is of particular concern in Gwaii Haanas, which may be approaching maximum sustainable levels of use. Within the timber harvesting land base, increasing road access associated with progressive harvesting may increase the quantity of recreation opportunities in the short to medium term. However, in the long term, due to increased access and increasing visual disturbance, the availability of backcountry opportunities and the quality of recreation experiences are likely to decline.

The traditional hunting and fishing product markets may have peaked and may not be the growth centres they have been in the past. The demand for quality freshwater and saltwater angling experience in the Islands may grow, but there are ongoing concerns about the cumulative impacts of timber harvesting on fish habitat and growing harvesting pressures on fisheries, particularly steelhead and chinook from recreational, food fisheries, commercial sectors and declining ocean productivity. As angling effort grows, it may become necessary to adopt more stringent use quotas on steelhead streams and non-retention policies for chinook and coho. Fisheries and Oceans Canada has adopted a more risk averse / discrete fisheries for anadromous stocks which appears to be benefitting weaker, sport species, such as chinook.[59] Concerns about the lack of local benefits derived from the salt water sport fishery and its potential impacts on salmon stocks, will continue.

The outlook for non-local sport hunting in the Islands varies with the species and depends on factors such as availability of, and access to critical habitat. Deer populations are not considered to be at risk because they are an introduced species without predators on the islands, and their habitat requirements are compatible with younger seral stages associated with timber harvesting. Continued timber harvesting and increased road access will place increasing hunting pressure on elk and particularly black bear, which also will be affected by the impacts of timber harvesting on large, old trees that they require for denning sites. Overall, commercial and recreational hunting is likely to fluctuate around current levels. Based on historical trends locally and provincially, there is likely to be an increase in guided and non-guided wildlife viewing.

The new opportunities expected of tourism will only generate local benefits and diversification if communities are involved. Otherwise, the pattern already established by the salmon fishing lodges may repeat itself. Most communities on the Islands are working to improve their tourism capacity. Regional tourism associations (Masset, Gwaii Haanas, Haida Gwaii) have been active marketing the Islands and opportunities to visitor markets, as well as engaging in the management of tourism, and addressing possible barriers to development.

While tourism is being seen as an avenue to supplement and diversify the local economy, there are sectors of the Islands society that are concerned about the drawbacks of having increased tourist traffic. Issues around sustainability, the interpretation and display of heritage features and cultural sensitivity have to be incorporated into tourism planning in order to protect the integrity of the tourism product. This has been done in Gwaii Hanaas, so there is little reason to believe it cannot be expanded to the rest of the Islands. The recent completion of a Cultural Heritage Tourism Strategy for the Islands and promotion of tourism operator certifications are positive steps.

The loss of the Ministry of Forests' recreation program is a concern to the Islands, as it is for most areas of the province where recreation sites played a valuable role in serving some tourism market segments. The Ministry is trying, where possible, to give away or transfer management responsibility for recreation sites but this has not met with any success in the Islands, where all seven recreation sites and four trails are no longer being maintained. Community groups and local government do not have the resources to sustain this infrastructure. All sites remain available for

[59] See *Fishery Doing Fine*, op. cit.

public use, but as they deteriorate and have infrastructure removed (e.g. picnic tables, fire rings, toilets), they will be left as user maintained dispersed use sites.

4.3.3 Commercial and Subsistence Fisheries

Census data for 2001 indicate a total labour force of about 90 in fish harvesting and 45 in fish processing. In the early 1990's there were approximately 80 resident salmon vessels. However, the current number of salmon vessels, approximately one dozen,[60] is much lower due to declines in salmon stocks, the impacts of the related salmon fleet reduction program, and more recent harvest restrictions designed to protect weaker coho and chinook stocks. It is estimated that approximately 90 people in the commercial salmon fisheries sector and related activities lost jobs since 1996 as a result of fleet reduction and area licensing.[61]

Commercial fishing for salmon and other species takes place all around the Islands, to the AB Line at Alaska, and across Hecate Straits to Prince Rupert. These fisheries attract both local and non-local fishers. There is also a limited commercial, terminal net fishery in Cumshewa Inlet for chum and coho, supported by the Pallant Creek hatchery. Halibut, salmon, crab and herring are the most important fisheries, but herring roe-on-kelp is an important source of livelihood for Haida Nation fishers. Most fisheries are seasonal in nature, but there are some local fishers who are employed year round for crabs, shrimp and prawn and ground fish.

The Yakoun River and Pallant Creek are probably the most important salmon streams on the Islands to local commercial fishers, and there are large number of smaller streams which cumulatively produce significant numbers of salmon caught in commercial, sport and subsistence fisheries.[62] However, the major source of income for most commercial fishers (including Haida) is from large, non-local stocks e.g. Skeena and Nass River stocks, as well as Alaskan.

The number of Haida Nation fishers from the Islands have declined significantly over the past two decades, and now account for only a small share of the salmon fleet in the area, which is based primarily in Prince Rupert. The herring roe fishery is dominated by off-island fishers, but there are several lucrative herring roe and roe-on-kelp licenses which provide employment for other Haida Nation fishers.

Salmon and non-salmon species are also an important food source for all residents of the Islands, and particularly for the Haida Nation. No data for non-salmon are readily available. Estimates for salmon provided by DFO indicate an average harvest of about

60 Pers. comm., Victor Fradette, DFO.

61 See *Fishing for Money,* op. cit.

62 For a more complete description of local salmon streams and stocks see *Background Report*, op. cit.

27,000 pieces for Haida subsistence and social purposes for the years 2002-2003, although the amount in any given year can vary substantially depending on the size of the runs. Most of this harvest is taken in ocean fisheries, but terminal or instream food harvests are still an integral part of Haida culture.[63] Sockeye accounts for most of salmon consumption. Historical trends are difficult to determine because estimating methodologies and resource abundance can vary substantially over time, but current food salmon harvest levels appear to be higher than estimated for the 1985-94 period.[64]

Interest and activity in commercial non-salmon wild fisheries in BC have increased over time, and this trend is evident in the Islands, with increasing harvests of species such as groundfish, dogfish and shellfish, including geoducks, urchins, and particularly the crab fishery , in which over 50 local and non-local vessels are participating. However, commercial abalone harvests have been banned for over 10 years, increasing harvests of some other non-salmon stocks may be approaching sustainable limits as well.[65] Harvesting of natural stocks of razor clams employs between 125-200 diggers, primarily from Old Massett, on a seasonal basis.

Currently, there are no commercial finfish aquaculture operations in the Islands. There is one small commercial shellfish aquaculture operation at Kagan Bay. There are also some shellfish culture pilot projects being undertaken by the Haida (e.g. oysters, mussels and scallops) in cooperation with the Ministry of Agriculture, Fisheries and Food (MAFF). Early production results from these projects are encouraging, although distance to markets is a constraint to economic viability.[66] The Haida are also involved in an abalone restoration project with Fisheries and Oceans Canada (DFO).

There are three fish processing facilities located in Masset (the largest being Omega Packing), and a buying / processing operation in Queen Charlotte City. These facilities are operational for much of the year, and provided the primary source of livelihood for about 45 people in 2001.[67]

There is a major enhancement facility at Pallant Creek, with a smaller satellite hatchery at Mathers Creek. The Haida Fisheries program is now operating the Pallant Creek facility, at which a number of Haida Nation people are involved in contract and training positions. The hatchery helps to support a small commercial fishery in Cumshewa Inlet. Several smaller Community Economic Development (CEDP) and Public Involvement Projects (PIP) are also supported by DFO. The largest of these is a CEDP project on the Yakoun

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[63] Source: Victor Fradette, DFO, based on data from the Haida Fisheries Program and other sources.

[64] *Timber Supply Area Socio-Economic Analysis*, 1994, op. cit.

[65] Pers. comm., Bill Heath, Ministry of Agriculture, Fisheries and Food (MAFF).

[66] Pers. comm., Bill Heath, Shellfish Production Specialist, MAFF.

[67] Source: 2001 Census data. This estimate does not include those employed in fish processing but whose primary source of livelihood is in another sector.

River operated by the Old Massett Band, which produces small numbers of chinook and coho. Another, small incubation hatchery is operated in Port Clements.

Anticipated Trends

Interviews with staff from DFO and Ministry of Agriculture, Food and Fisheries (MAFF) indicate that most salmon stocks on the Islands are generally below historic levels, as they are in many other areas in BC, due to the cumulative effects of factors such as overfishing (particularly of smaller, weaker stocks), habitat degradation and ocean survival factors.[68] Provincial initiatives such as the Forest Practices Code and federal initiatives such as the salmon licence buyback, area licensing and the move to more discrete fisheries in order to protect weaker stocks, and some enhancement projects all appear to be helping some stocks on the Islands and throughout BC to stabilize, and even recover. The cumulative impacts of continued timber harvesting and road building can negatively affect salmon habitat and production over time. However, factors such as ocean survival, including long term trends in water temperatures, and interceptions by the Alaskan commercial fleet, are less predictable and beyond the control of provincial and federal management agencies. As noted above, commercial fishers on the Islands are largely dependent on the health of non-local stocks.

While the license buyback and area licensing programs may reduce harvesting pressure on salmon stocks, they also reduced participation in the commercial fishery. This can potentially increase the average catch and incomes of those fishers remaining in the industry, but factors such as low market prices and reduced fishing times have diminished the returns to the program.

Based on the local and MAFF interest in shellfish aquaculture, it appears that some commercial ventures could be established in the Islands. Growing conditions for shellfish are considered to be favourable, and comparable to Hokkaido, Japan where a large industry has developed.

After a period of rationalization, salmon farming production has grown in BC despite a government moratorium on new sites. The Provincial government has now lifted this moratorium. Salmon farming could be established on the Islands, but probably not until potential sites in more accessible areas become scarce. Also, communities on the Islands do not appear to support ocean rearing pens.[69]

[68] Escapement data provided by E.A. Perry, Executive Director, Habitat and Enhancement Branch, DFO.
[69] Gerry Johnson, Deputy Mayor of Port Clements, and John Disney, OMDC, pers. comm.

Provincially, there has been a rationalization and increasing concentration of fish processing in the larger centres, particularly the lower mainland.[70] This trend has not been evident on the Islands, where processing for commercial, non-salmon species and sport salmon catches appears to be growing.

Resolution of the fisheries component of the Haida claim, would likely increase their role in the management, their participation in commercial fisheries and possibly Haida Nation allocations of salmon and non-salmon stocks. Although lower harvesting pressure and more selective fisheries will likely be beneficial for fisheries resources, there is concern that without appropriate compensation, treaty settlements could reduce incomes of non-Aboriginal fishers.

4.3.4 Other Land-Based Economic Activity

Current Activity and Historical Trends

Other nature-based 'consumptive' activities which make an economic contribution to residents of the Islands include trapping, botanical forest products and agriculture.[71]

There are about 80 registered traplines in the Islands, which provide seasonal income for a number of residents, mostly Haida. Only one-quarter of these traplines have had any harvesting over the past decade, and only a few have operated fairly consistently over this period. While the income from trapping is small for most participants, supplementing income from other sources,[72] it is also an important cultural activity for Haida people.

Data provided by WLAP indicate that two-thirds of the trapping has occurred on Graham Island, and that marten is the single most important animal trapped, accounting for about 54% of the overall catch. The data also show that while total commercial harvests of furbearing species in the Islands have varied from year to year, the average number of animals harvested, particularly marten, and the number of traplines reporting harvests, has declined over the 1985-95 period. The reason for these trends could be the decline of marten prices since the mid-1980's[73], changing attitudes to traditional livelihoods and possible declines in animal populations (e.g. due to the impacts of timber harvesting on habitat).

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[70] The exception has been processing for farmed finfish, which has actually increased in rural areas. See *Socio-Economic Impacts of Existing Salmon Farming Operations in British Columbia*, Marvin Shaffer and Assoc., for the Environmental Assessment Office, Draft, February, 1997.

[71] There is some agricultural activity on the Islands, mainly centred around Tlell. All of this activity is on private, fee simple lands, and therefore lies outside the land use planning process. There are no agricultural leases or grazing tenures

[72] The labour force and economic dependency data in section 4.1, does not reflect trapping as a livelihood, probably because the participants are employed for a much greater portion of the year in other industries.

[73] Pers. comm., Don Blood, consulting biologist for original 1997 *HG/QCI Base Case*.

There are a number of botanical or non-timber forest products such as wild mushrooms, berries and other wild foods, plants used in wildcraft and medicinal plants that are harvested on the Islands. Some of these non-timber forest products have a long history of use by the Haida. Mushrooms are the most significant botanical from a commercial perspective, and currently they provide an important income supplement to the Haida and other Islands residents. In an average year (production can easily vary by 40%), it is estimated that up to 300 pickers (one-third locals) can earn several thousand dollars per year, harvesting 250,000 pounds of mushrooms (90% chanterelles) on the Islands.[74] Mushroom picking centres on the Islands include the Skidegate Lake area in the northern half of Moresby Island, Masset Inlet and the Yakoun River Valley.

Currently, commercial harvesting of other plants, such as floral greenery and medicinals, occurs at only a very small scale.

There is some agricultural activity on the Islands, with a total labour force of 15 in 2001. Most of the activity is small home-farm businesses growing and selling produce, often organic, around Tlell. There are a couple of large greenhouses built by local farmers for tomatoes and a large organic farm on Maude Island. However, most of the food consumed on the Islands is imported. All of this activity is on private, fee simple lands, and therefore lies outside the land use planning process. There are no agricultural leases or grazing tenures on Crown lands.

Anticipated Trends

Future trends in the trapping industry will depend largely on market factors and on the impacts of timber harvesting on habitat. For marten, the most important species for trappers, the anticipated decline in old growth habitat could result in decreased harvests in the future. However, factors other than timber harvesting affect marten and other furbearing species. For example, the introduction of red squirrels to the Islands has apparently helped to support marten populations.[75]

Chanterelles from the Islands command a premium price because of their quality and because the timing of the harvest compared to other growing areas provides a market niche. Markets for botanical forest products have been growing historically, and this growth in demand will likely continue. There are also significant opportunities available for

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[74] *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*, S. Tedder, et al, 2000. See also Nelly de Geus, Draft Report on the *Agroforestry Industry in B.C: Identification of Issues, Responsibilities, and Opportunities for the Ministry of Forests* (July 29, 1993).

[75] *HG/QCI Background Report*, op. cit.

local processing and sale of products such as aromatic oils, preserves, wines and herbal remedies. Higher transport costs to markets will challenge the local industry's competitiveness. However, more fundamentally, without recognition of botanical forest products in integrated resource management plans (chanterelles appear to do well in younger, second growth forests), and regulation of some activities, the sustainability and commercial growth potential of these activities may be threatened. MoF is now considering options for a regulatory framework for non-timber forest products.[76]

There are some good production soils outside of the current ALR, but the demand for agricultural produce on the Islands will depend on growth in population and the ability of local producers to compete with imported foods.

4.3.5 Mining

Current Activity and Historical Trends

The Queen Charlotte Islands have a long mining history, including gold mining as early as 1859, several coal mines on Graham Island in the early 1900's, and number of small iron mines (some of which also produced copper as a by-product) on Moresby Island. The largest iron mines were Jedway, operating from 1962-68, and Tasu which employed 160 people from 1967-83.

Currently, there are no producing mines, but 10 sand and gravel operations and private quarries operate intermittently. There is an important argillite quarry near near Kagan Bay (used for traditional, highly valued Haida carvings) and another is also located on Graham Island producing rhyolite or "picture rock" that is sold in gift shops in Tlell. Agates of all sizes and colours, used by local lapidarians for jewelry, are easily found on the Islands' beaches.

Census data for 2001 indicate no labour force in the mining sector, which likely understates the contribution of periodic quarry operations to local livelihoods.[77]

Approximately $17 million (in $1986) in exploration activity has occurred over the 1957-1999 period on the Islands. Most of this activity occurred during the 1986-96 period, and focussed on gold, due in large part to activity on the Specogna property (see below). Mapping recently completed by the Geological Survey of Canada, which provided a much improved data base, and a more extensive logging road network, were factors encouraging greater exploration activity during this period. More recently, exploration expenditures have fallen to virtually zero. No mineral notices of work were submitted in 2001 or 2002.[78]

[76] S. Tedder, MoF, Economics and Trade Branch, pers. comm.,.

[77] Labour force data is based on primary occupations and therefore does not adequately reflect some part time or seasonal sources of livelihood.

[78] Source: ARIS provincial government database that tracks work done on mineral tenures.

The most significant mineral deposit on the islands is the Specogna (formerly Cinola) gold deposit, 18 km south of Port Clements near the Yakoun River on Graham Island. A proposal for a large open pit operation was dropped in 1990 as a result of concerns about the impacts of acid rock drainage on the river. The pre-feasibility study for the deposit indicates that the original proposal, if viable, could have provided employment for up to 200 people for an estimated mine life of 12 years.[79]

In total (i.e., including the argillite / rhyolite quarries and the Specogna deposit), there are 157 mineral occurrences in the Islands (95 metallic, 46 industrial mineral, 8 bitumen, 1 hot spring, and 7 coal). Most of these occurrences are showings, but 18 are prospects having some dimension or value and 9 are developed prospects in which there is a high degree of confidence in the tonnage and grade.[80] Twenty-one of the occurrences are past producing mines, although all but five were very small producers (i.e., total production of less than 500 tonnes).

As of March, 2003, there were 104 mineral tenures in good standing on the Islands, down from 207 tenures at the beginning of 1999. Since 1987, there has been a No Staking Reserve in favour of BC Hydro covering a large portion of the Islands, which allows mineral staking and exploration activities on the condition that it does not interfere with Hydro infrastructure.

Anticipated Trends

The "hidden" nature of mineral resources means that it is extremely difficult to predict trends in the mining sector. In addition to the Specogna gold deposit, and iron-copper deposits such as Tasu and Jedway, HG/QCI also has good geologic potential for high grade copper-lead-zinc-gold deposits, and low grade copper deposits (like Myra Falls and Island Copper, respectively, both on Vancouver Island). However, environmental factors, market prices and competition from other potential suppliers worldwide are key constraints. The significant resources of, and continuing demand for, sand and gravel, mean that such operations will continue on the Islands. However, the potential for aggregate deposits is largely unknown because no studies have been done. There are a number of industrial mineral possibilities, including diatomite, perlite, limestone, flagstone and building stone.

4.3.6 Energy

Current Activity and Historical Trends

Electricity

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[79] Estimate provided by Ministry of Employment and Investment from Stage II report by City Resources, 1988. A smaller, reconfigured project, at one time considered by the company, would employ fewer people.

[80] Source: MINFILE, the provincial database that tracks information about known mineral occurrences.

There are two separate electric generation and distribution networks on the Islands.[81] Masset and Port Clements are served by a diesel station operated by BC Hydro in Masset. Tlell, Queen Charlotte City, Skidegate and Sandspit are served primarily by a small hydro facility owned by an Independent Power Producer (Queen Charlotte Power Corporation) at Moresby Lake. There have been problems in maintaining enough water in Moresby lake to provide power throughout the year without backup. The QCI Power Corporation has proposed to draw down water levels on Takakia Lake to increase power production at Moresby Lake downstream.

A BC Hydro diesel station at Sandspit provides backup, seasonal and peaking energy. The option of integrating the Masset and Sandspit systems is not considered feasible by BC Hydro because of the high cost. There has been a proposal for a small hydro project on the Ain River to serve future growth in the Masset area.

Oil and Gas

There is no oil and gas production on the Islands. Petroleum products are imported to and distributed on the Islands by North Arm Transportation and Imperial, which entered the local market after Petro Canada closed down its bulk fuel plant in 1997. The availability of marine fuel is a key requirement for the commercial fishing fleet and fish processing facilities.

There is significant oil and gas potential off the east coast of the Islands in the offshore shelf areas of Dixon Entrance, Hecate Strait, Queen Charlotte Sound, and onshore beneath eastern Graham Island (where numerous oil seeps occur). A Geological Survey of Canada study[82] identifies total recoverable resources of about 2.5 billion barrels of oil (assuming a 25% recovery factor) and about 26 trillion cubic feet of natural gas. The geological characteristics and resource potential has been compared with oil-producing areas such as the Cook Inlet Basin in southern Alaska and the Jeanne d'Arc Basin off Newfoundland (which includes the Hibernia oil field). The potential oil and gas resource volumes of the Queen Charlotte Basin in northeast BC.

In total, 19 wells have been drilled in the Queen Charlotte Basin, onshore and offshore, including: a 1913 well on the west side of Graham Island (reported to have flowed gas), 8 wells on Graham Island between 1949 and 1971 and in 1984, and 8 offshore wells drilled by Shell between 1965 and 1969. One additional well was drilled onshore on Graham Island in 1984.

In 1972, the federal government imposed a moratorium on offshore oil and gas exploration on the west coast of BC In 1981, the Province also established a similar designation - an Inland Marine Zone - covering the same geographic areas. Both of these moratoria are still in place, although

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81 *Queen Charlotte Islands Non-Integrated Area Electricity Plan 1993*, BC Hydro, December, 1994.
82 Dietrich, J.R., *Petroleum Resource Potential of the Queen Charlotte Basin and Environs, West Coast Canada,* Bulletin of Canadian Petroleum Geology, vol. 43, no. 1, 1995.

the provincial and federal governments are presently assessing the potential development of west coast offshore oil and gas resources.

Four major energy companies have recently relinquished the exploration rights to 130,000 ha off the coast of South Moresby Island in recognition of the proposal to establish the proposed Haida Gwaii National Marine Conservation Area off the Islands.[83] However, this represents only a small portion of the outstanding permits and leases in the Queen Charlotte Basin.

Other Energy Sources

Coal was mined on a small scale in the early 1900's from five deposits between Yakoun Lake and Kagan Bay. Historical work suggests that the coal is high in ash and the seams are generally thin. A No Staking Reserve over the area of potential coal resources was established in 1971 precluding exploration that might locate thicker seams with acceptable ash content. The potential for surface or underground mining is considered to be low.

Coalbed methane potential is low on the Islands, but the coalfields of Graham Island are estimated to have small volumes (58 billion cubic feet) suitable for small scale production. The gas could potentially be utilized locally for domestic and commercial space heating or small scale electrical production. However, this would require demonstration that the coal had the properties allowing the gas in it to flow to a production well bore, and that delivered prices would be competitive with existing energy sources on the Islands.

Past studies indicate some low grade oil shale potential exists north of Yakoun Lake on Graham Island. Unless an unforeseen area of much thicker oil shale is discovered, these resources have limited economic potential, given current knowledge.

Geothermal resources at high temperatures can be used to produce electricity, but most are low temperature resources which can be used for space / water heating and recreational applications. The Geological Survey of Canada documents a number of hot springs on the Islands, and has assigned a moderate geothermal potential to Moresby Island, but no high temperature resources on HG/QCI have been identified to date.

Alternate Energy

As noted above, Masset is examining the feasibility of a 5 MW windmill. Both Masset and Port Clements have proposed wood waste-fired plants for district heating and / or power generation. Uniterre Resources Ltd. has submitted an application to the federal and provincial governments to undertake a feasibility study and secure all necessary environmental approvals of a 700 MW wind

83 *Oil Giants Give Up Charlottes Rights*, J. McCarten, Canadian Press, in Times-Colonist, Mar. 20, 1997.

farm in the Hecate Strait off the northeast coast of Haida Gwaii. The application proposes a four year construction period beginning in 2004. However, this proposal would not likely provide service or significant employment opportunities to the Islands.

Anticipated Trends

There is sufficient capacity to fulfill current electricity demand and known increases in the short term, although there may be inadequate supplies for potential new uses in the medium to longer term. The cost of power to commercial / industrial users on the Islands is also very high, approximately double the rates on the mainland grid. Therefore, both the supply and price of electricity are considered serious impediments to economic development on the Islands.

Given the very high costs of power and space heat on the Islands, it appears likely that a wood waste-fired power generation / district heating, and wind or small hydro power generation will prove viable at some point.

Power Smart energy conservation programs are an other alternative to supply options. The Power Smart Program on the Islands (primarily installation of oil or propane heating[84]) has been applied only to new residental buildings. This has reduced demand only marginally. A more aggressive retrofit program applied to existing residential and commercial buildings could reduce consumption by an estimated 19%. A Community Energy Planning process is being initiated to address issues of energy supply and conservation.

No coal developments, due to the No Staking Reserve, and no oil and gas developments because of the moratorium on exploration, are expected in the Islands within the few years. However, the excellent potential for oil and gas in the Queen Charlotte Basin would almost certainly result in further exploration and development activity, if the offshore moratorium were lifted and environmental and federal-provincial jurisdictional concerns could be resolved. Such developments could generate significant income, employment and government revenue benefits. The extent to which these benefits accrue to the Islands will depend on the nature of agreements allowing development to proceed.

[84] The majority of homes on the Charlottes are heated by stove oil.

5.0 SOME KEY COMMUNITY CONCERNS AND FIRST NATIONS ISSUES

5.1 Key Community Concerns

Some of the key community concerns that have emerged from review of existing studies and interviews to date with local stakeholders and officials are summarized below. It should be noted that a number of these issues can only be indirectly influenced by the LUP process, if at all.

- the exporting of resources from the Islands (e.g. timber and fish) with little processing or spin-off benefits to the local economy
- lack of health, recreation and other social amenities that residents of larger, less remote communities take for granted, which in part may be related to the exporting of resource benefits
- the sustainability of timber harvest levels and their impacts on environmental values, the scenic beauty of the Islands and growth potential in other sectors such as tourism and botanical forest products
- the economic uncertainty and opportunities foregone due to the unresolved issues of Haida title
- the need for strategies that address impediments to economic development such as lack of private land in some communities, energy costs, lack of infrastructure, availability and cost of transportation for goods and people, access to capital, cutbacks in government services and lack of cooperation among communities

5.2 Haida Nation Issues[85]

Many of the issues of concern to non-aboriginal communities are also important to the Haida. The forest and other land and marine resources of the Islands have been, and continue to be essential to the Haida people for food, shelter, medicines and cultural and artistic expression.

The Council of Haida Nations (CHN) has stated that current timber harvest rates and practices (e.g. clear cutting) are impacting fish and wildlife upon which they depend, as well as highly valued cultural sites. In part to protect the supply of resources for future generations, the CHN has requested a moratorium on forest development within 14 areas on Haida Gwaii until treaty negotiations are concluded. While Ministry of Forests has generally been deferring development in these areas out of respect for the CHN declarations, several of these interest areas are under immediate development pressure or have timber harvesting proposals pending. These areas, and most of the other Haida areas of interest, have been referred to the LUP process which the Haida Nation is co-managing.

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[85] This discussion is based on a review of the Haida position as reported in the *TSA Socio-Economic Analysis*, op. cit., and interviews with the President of the CHN and MOF's Aboriginal Forestry Advisor conducted for the original 1997 draft of this report.

The CHN is also concerned about the potential impacts of other resource (e.g. mine) development, over-exploitation of marine resources, and issuance of Crown tenures which further devalue, or alienate Haida from land and coastal resources. The Haida want to secure greater access to, and control over forests and other resources to protect these values and provide sustainable economic benefits for their people. As noted above, the treaty process will be an important vehicle to achieve these goals.

6.0 PROVINCIAL ISSUES

This report focuses mainly on the population and economy of the Queen Charlotte Islands. The main indicators used to describe the economy of the Islands are employment and income, since data on these indicators are generally available for all sectors, thus facilitating comparisons between them. The land use and resource management regime for the Islands also has employment implications for the province as a whole. Industries such as forestry and tourism provide employment opportunities for other residents of BC. They also generate revenues from resource and income taxes which support a range of government services, including health, education and other services on the Islands, although local officials feel that these services are sub-standard.[86] These measures of value to the provincial economy, including a discussion of the net social benefits generated by various resource sectors, are outlined briefly below.

The following discussion is intended to illustrate the nature of economic impacts at the provincial level. A more comprehensive analysis would require data for a number of sectors. Forestry is by far the largest generator of province-wide economic impacts, and it is also the sector for which data are most readily available. The issue of incremental provincial impacts can also be addressed in the assessment of the Land Use Plan, and more detailed impact coefficients can be developed at that time.

6.1 Provincial Employment

The two most important resources affected by land use planning on the Islands, forestry and tourism, generate substantial employment and income for other provincial residents. While this fact is one of the key concerns to residents of the Charlottes, it is also true that land use decisions on the Islands can affect the livelihoods of people elsewhere in BC. For example, netting out local jobs, the average harvest on the Islands over the 1998-2002 period generated roughly 1,200 person-years of employment in timber harvesting and processing, and another 1,800

[86] Dale Lore, Port Clements Mayor, pers. comm. A series of studies undertaken for the Ministry of Sustainable Resource Management by Synergy Management Group Ltd. examines the resource revenue and government spending flows for various regions in BC, including the north coast. MSRM is investigating whether data for HG/QCI can be disaggregated from the north coast study.

indirect and induced jobs) for other BC residents, every year.[87] If all of the AAC on the Islands was being harvested and if the additional harvest was processed to the same degree as at present, this would increase provincial impacts by roughly 34%, or an additional 1,000 person-years of employment.

Data are not readily available to quantify the employment opportunities generated other "land use related" resource sectors on the Islands for other provincial residents. One of the more important sectors is the saltwater sportfishing industry, which provides employment for about 200 full time equivalent jobs other BC (i.e., non-local) residents.

6.2 Provincial Revenue

All of the sectors of the Islands' economy summarized in Table 3 above, generate provincial revenues in the form of income (personal and corporate), sales (including hotel) and other taxes. Primary sectors such as forestry, mining, fisheries and tourism (which are most strongly linked to land use) generate "resource revenues", for example, in the form of stumpage, royalties, license fees, permits and leases.

The Islands' forestry sector is the largest generator of provincial tax revenues, and, by far, the largest generator of resource revenues. Based on data provided as part of the Timber Supply Review (October, 2000) for the Queen Charlottes TSA, and taking into account the estimated under-harvest, the forestry sector on the Islands could generate roughly $45 million per year in personal and corporate income taxes, stumpage and other levies. Stumpage revenue alone would amount to about $21 million per year.[88] If the Islands' AAC was being fully harvested, the total revenue estimates could be increased by about 34%, or another $15 million/yr.

Comparable estimates of provincial tax revenues for other sectors are not readily available. Next to forestry, tourism is the largest industry on HG/QCI, but only a component of tourism has a strong link to land use and related resource management. For example, sport fishing lodges, which are indirectly linked to Crown land use by virtue of foreshore leases, viewscapes and management of freshwater habitat for salmon, may generate in the order of $1 million per year in provincial revenues from income taxes, leases, permits and property taxes.[89]

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[87] Based on a total direct, indirect and induced employment coefficient per '000 m3 of 2.36 (excluding local employment), based on estimates in Table 13 of *TSR Analysis Report*, 2000, op. cit. Note that these coefficients apply to current employment, not necessarily to the incremental impacts of land use changes. For example, see *Central Coast Land and Coastal Resource Management Plan*, op. cit.

[88] Sources: MoF Revenue Branch for stumpage estimates and Table 13 in *TSR Analysis Report*, 2000, op. cit. for other provincial taxes. Estimates for other provincial revenues assume the same revenue per m3 for TFLs as in the TSA. Note that stumpage rates can vary over the wood product market cycle. The move to market-based pricing by the Province could increase cyclical swings in, and average rates of stumpage.

[89] Based on estimates of income and provincial revenues in *Saltwater Fishing Lodges in BC – An Economic Profile*, op. cit.

It is important to note that the above estimates are "gross" estimates that do not take into account costs to government, including the management and administration of the timber and fishery resources upon which these industries depend. The inclusion of personal and corporate income taxes also assumes that the labour and capital employed in these industries would not be otherwise utilized in the provincial economy.

6.3 Net Economic Value

The provincial employment and government revenues estimated above are measures of economic impacts, that do not necessarily represent the net economic value of these resources to society. The perspective of net economic value is analogous to the concept of profitability in the private sector, except that it considers all the benefits and all the costs – those involving private operators as well as costs that are "external" to private operations such as public sector costs and impacts on other resources. Therefore, for commercial resources, such as forestry, tourism and fisheries, net economic value or "resource rents" are estimated as total revenues less all costs - private (e.g., labour and capital) and public / external (e.g., resource management and other resource losses).

The detailed data required for such calculations are not readily available. The provincial guidelines for socio-economic impact assessment of land and resource management plans suggest that resource revenues can be used as a proxy for resource rents, based on the assumption that government captures all resource rents.[90] Therefore, in the case of forestry, resource rents at current harvest levels would be estimated as the stumpage revenue of approximately $21 million per year. As noted above, these estimates do not take into account forestry-related government costs, impacts on other commercial sectors such as tourism and fisheries, or on non-commercial values that may be negatively affected by forestry.[91]

For non-commercial resources, such as environmental, aesthetic and recreation values, there are two types of net economic value – use values and non-use values. Use values such as recreational hunting and fishing, can be measured as the participants' willingness-to-pay for the value of the experience less the costs incurred to have the experience.[92] In the case of non-use values, such as the value of preserving wilderness for future generations, estimates are also

[90] See *Interim Guidelines,* op. cit. Industry could also be capturing some resource rents over and above normal rates of profit. However, historical average rates of return in the forest industry have usually been considered less than adequate to attract investment, i.e., below normal rates of return. See *The Forest Industry in British Columbia,* Price Waterhouse Coopers, Annual Publication.

[91] Another way to place the estimated timber resource value for the Islands in perspective, would be to consider whether BC residents would be willing to pay all or part of the $21million per year in foregone stumpage revenue (representing a lump sum net present value of up to $350 million in 2003 dollars assuming a 6% discount rate or "time value of money"), for example, in order to eliminate or reduce the impacts of the forestry sector on other sectors and environmental values.

[92] For an example of such an approach, see a recent discussion paper regarding development of pre-tenure plans for oil and gas exploration in the Muskwa-Kechika area, Ministry of Sustainable Resource Management, 2003.

developed on the basis of willingness-to-pay surveys.[93] The data requirements to develop estimates for specific land use plans can be onerous, although rough order of magnitude values could be developed on the basis of existing estimates.

Resource rents for non-timber sectors on HG/QCI that are linked directly or indirectly to land use, are likely minor compared to forestry because of the relatively small scale of the activities. Perhaps even to a greater extent than forestry, whether industries such as fisheries and land-based tourism generate resource rents at all (i.e., over and above a normal rate of return on invested capital) is the subject of considerable debate.

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[93] For an example of such an approach to the estimation of wilderness values in BC, see *Wilderness Issues in British Columbia: Results of a 1993 Province-Wide Survey of Households*, Ministry of Forests and Ministry of Environment, Lands and Parks, October, 1995.

APPENDIX A
List of Contacts

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Janet Beil, Planner, Skeena-Queen Charlottes Regional District
Brenda, Clerk, BC Ferry Corporation
Paul Bavis, Western Forest Products
Beth Bornhold, Fisheries and Oceans Canada
David Byng, Western Forest Products
David Cruikshank, Land/Water Planning Specialist, Sustainable Resource Management
John Disney, Economic Development Officer, Old Massett
Brian Eccles, Recreation Specialist, MoF
Jukka Efraimsson, Councillor, Port Clements
Robert Ells, Manager, Sandspit Airport
Victor Fradette, Fisheries and Oceans Canada
Paul Gosh, BC STATS
Bill Heath, Ministry of Agriculture, Food and Fisheries
Dorthe Jakobsen, Ministry of Sustainable Resource Management
Trevor Jarvis, Chief Administration Officer, Village of Masset
Peter Kofoed, Weyerhaeuser Company Ltd.
Gerry Johnson, Deputy Mayor, Port Clements
Carol Kulesha, Electoral Area Director, RDA F
Paula Lawson, Skidegate Economic Development Officer
Art Leeuw, Community Futures
Leah Malkinson, Project Manager, Haida Gwaii / QCI/HG Land Use Plan
Ian McLachlan, Senior Economist, Ministry of Sustainable Resource Management
Al McKean, Queen Charlottes Area Manager, Transportation and Highways
Keith Moore, Process Technical Team
Moresby Island Management Committee, Sandspit
Barry Pages, Mayor, Masset
Larry Proteau, Engineering Assistant, Transportation and Highways
Lizzette Namox, Administrative Support, Water, Land and Air Protection
Rick Marshall, Wildlife Biologist, Water, Land and Air Protection
Jeff Lough, Fisheries Biologist, Water, Land and Air Protection
Edelgard Panzenboeck, BC STATS
Babs Stevens, Skidegate Band Manager
Sinclair Tedder, Economist, Economics and Trade Branch, Ministry of Forests
Mark Williams, Native Issues Biologist, Water, Land and Air Protection

Meetings

Council of Haida Nation (CHN Lands & Water Committee), Skidegate, November 18/03

Harold Yeltatzie
Roy Collison
Clayton Gladstone
Arnie Bellis

Forest Licensees, January 12/04

Land Use Forum meeting, February 7/04