HAIDA GWAI I MARINE MARKET
SECTOR ANALYSIS

Final Report

submitted to:

Haida Oceans Technical Team
Haida Fisheries Program

submitted by:

Gardner Pinfold Consulting

July 2010*
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*Minor revisions to report in April 2011.
EXECUTIVE SUMMARY

At the request of the Haida Oceans Technical Team of the Haida Fisheries Program, this report provides the findings of a study of six marine sectors: Commercial fisheries; Recreational fisheries; Seafood processing; Marine tourism; Shipping and transportation; and Research, monitoring and enforcement. The study focused on social and economic information to assist integrated marine use planning on Haida Gwaii.

The underlying socio-economic data for the study came from standard sources such as Statistics Canada and BC Stats. Fisheries and Oceans Canada data sources provided commercial fishing license, landings and landed value information, some which had been previously assembled by the Haida Fisheries Program, as well as recreational fishing catch and effort information. For the other sectors, the data used came from interviews, review of previously published reports and documents, and research by the consultant.

The marine sectors examined by this study generated a mix of full-time, part-time and seasonal employment for 1,368 persons, as shown in the Table below.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Total</th>
<th>% Haida</th>
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<tbody>
<tr>
<td>Commercial Fisheries other than razor clam</td>
<td>115</td>
<td>75%</td>
</tr>
<tr>
<td>Razor Clam*</td>
<td>108</td>
<td>94%</td>
</tr>
<tr>
<td>Recreational Fisheries</td>
<td>625</td>
<td>##</td>
</tr>
<tr>
<td>Fish Processing</td>
<td>250</td>
<td>90%</td>
</tr>
<tr>
<td>Marine Tourism**</td>
<td>182</td>
<td>45%</td>
</tr>
<tr>
<td>Marine Transportation***</td>
<td>30</td>
<td>43%</td>
</tr>
<tr>
<td>Monitoring, Research and Enforcement^</td>
<td>58</td>
<td>62%</td>
</tr>
<tr>
<td></td>
<td>1,368</td>
<td>##</td>
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Notes:
+ Units are number of positions. Data are not sufficiently accurate to estimate employment in person-years. Most positions are seasonal and part-time.
* Data from 2008 season; razor clam fishery is part-time and seasonal; income averaged $3,100 per person in 2008
** Based on mid-point employment estimate for marine tourism employment, which ranges from 65 to 110, and includes Haida Watchmen employment.
*** Based on 14 full-time and 16 part-time positions
^ Based on 31 full-time and 27 part-time positions; Haida fill all of the part-time positions and 9 of the full-time position.
## The small sample of lodges does not support accurate estimation of Haida employment. Additional research is required in this area.

The study examined Commercial Fishing activity in the waters of traditional Haida territory to generate an indication of their productivity. The average catch and landed value information over a 5 to 11 year period for fishing vessels based in Haida Gwaii and by vessels based in other parts of British Columbia shows that on average the value of landings for sablefish ($27.8 million), halibut ($23.3 million) and crab ($16.4 million) account for 81% of the value of all landings. The major fishery by tonnes landed is groundfish trawl (targeting a mix of species dominated by hake), followed by halibut longline and sablefish trap. For razor clam, a species of particular local interest, the average annual harvest value was $264,000. Based on an average of 2,516 digger days per year, the average value of clams harvested per digger day is $105. Average income in 2008 was $3,100 per person. Except for longline halibut and razor clam, landed value declined over the period examined. Generally, aside from
the razor clam and herring spawn-on-kelp fishery, Haida and local participation in commercial fisheries is low. Communal licences obtained by the Haida through DFO’s Aboriginal Fisheries Strategy and the Allocation Transfer Program dominate Haida participation. Marine fishing could be providing as many as 115 jobs, about 75% of which would be filled by Haida. Since the fishing seasons occur at different times of the year, the same people may fill two or more of these jobs so the total number people employed will likely be less than the estimated 115 jobs. The razor clam communal licence does not limit the number of Haida fishers. The number of registered Haida fishers has ranged from 94 to 279; 108 Haida fished in 2008. In addition six other island residents are licenced by DFO to fish razor clams. There are mixed views on the commercial fishing outlook but a strong underlying belief in a sustainable future with good income earning potential through stronger local role in management by both Haidas and other local people. This could be exercised through the marine use planning initiative, particularly in the fisheries management sector.

Recreational Fishing includes commercial recreational fishing from lodges and charter boat operators as well as by independent fishermen. The 2005 DFO Survey of Recreational Fishing reports about 160,000 angler days of recreational fishing on Haida Gwaii in 2004. The estimated total angler spending for recreational fishing on Haida Gwaii is about $88.2 million, of which lodges account for $63 million\(^1\). Fly-in packages account for about 72% of the spending on recreational fishing packages on Haida Gwaii, compared with 55% for BC overall. Recreational fishing effort on Haida Gwaii has increased over 2000 – 2008, with lodge effort data, for example, showing a 56% increase, although it peaked in 2007. The increase in lodge fishing effort parallels the expansion in the size and number of lodges, which now number 18. Effort fell off in 2008 as a result of the increased value of the Canadian dollar and the economic recession. Historically, about 51% of lodge visitors have come from the United States, 20% from BC, 25% from other parts of Canada and 4% from Overseas. This compares with total anglers in BC comprised of 64% from BC, 15% from other parts of Canada and 21% from outside Canada. We estimate that the fishing lodges employ about 525 people\(^2\), 10% of whom are full-time, although these estimates may be high as they are primarily based on a sample of lodge supplied information. Similarly, lodge numbers suggest that 37% (229) of these employees are Haida Gwaii residents and 63% (386) come from off island. Most Haida employment appears to be concentrated in boat handling (docks) and technical support, lesser amounts in food service and guiding. Non-residents fill the bulk of the guide positions. On the charter side, based on a review of the charter businesses and interviews, we estimate that the 55 companies identified employ about 100 people seasonally. Of these, about 14% are Haida (two of the 14 individuals are off-island residents) and 86% are other island residents. Although there are now more local people involved with sports fishing (i.e. local charter operators, working for lodges and in fish processing plants), recruiting qualified fishing guides locally remains a challenge\(^3\). Sector participants agree that they operate in an amazing part of the world combining a unique marine environment with Haida culture. There is hope that with the continuing availability of fish stocks, recreational fishing can be an important driver of the local economy. Attaining this will require strengthening the linkages to other parts of the Haida Gwaii economy through increased local purchasing and local hires. The long-term health of fish stocks is a concern if recreational

\(^1\) Note that while the fishing takes places on Haida Gwaii, the spending including the purchases of goods and services acquired off island such as air transportation.

\(^2\) Based on an employment ratio of 0.9 persons per bed and 585 beds, as reported in Appendix A. The lodge sample employment ratio ranges from 0.83 to 1.24. We have used 0.9, a value towards the low end of the range as representative of the complete set of lodges operating on Haida Gwaii. Further research to verify this assumption would be prudent.

\(^3\) This may, however, be due to a lack of interest in participating in the commercial sport fishing industry and/or challenges related to getting qualifications locally.
fishing is to be sustainable. (The commercial fishing and fish processing sectors also express the same concern regarding their long-term sustainability.). Some people believe that reducing fishing effort by all sectors (commercial, recreational and traditional Haida fishing) is essential if stocks are to be maintained in future. Others believe that the lodges will have to diversify their product to rely less on fishing and more on products that include a range of other tourist experiences.

The **Seafood Processing** sector consists of four processing plants on Haida Gwaii. Compared with the average wholesale value per processing facility in BC of about $5.2 million, the operations – three with off-island owners and one owned locally - are small in terms of sales volume, ranging from less than $500 thousand to over $1 million (but less than $5 million). The plants handle fresh fish from commercial fishing vessels, Haida traditional fishing vessels and recreational fish catch including crab, clams, troll-caught salmon, rockfish, halibut and sablefish. For two of the plants, custom processing of the commercial recreational catch is a key market segment. Processing, offloading and dock workers account for about 240 jobs in all four processing plants with a further 10 people employed in managerial and administrative work, of which all are Haida Gwaii residents. Haidas fill about 90% of the seafood processing jobs. Processors tend to purchase inputs locally when a local supplier offers reasonable prices and service. Typical local purchases include plant supplies, office supplies, groceries, automotive supplies and repairs, Internet services, electrical and construction contracts, construction supplies, food services, hotel services, fuel, and additional cold storage rental. The largest non-labour expense tends to be packing materials (styrofoam, cardboard, vac pac bags, etc) is purchased off-island. The decline in processing volume from historic levels leaves industry participants guardedly optimistic about the future of fish processing on Haida Gwaii. Product diversification is key to long-term sustainability, assuming that processors can maintain the level of access to fresh fish they currently have, something that is uncertain because of year-to-year changes in landings, policies (such as allocations by sector) or markets. Access to cost effective shipping services and stricter environmental requirements are also seen as important influences.

The **Marine Tourism Sector** consists of tourism operators offering a variety of services, often with an emphasis on ecotourism, cultural tourism or adventure tourism. Many of the tourism operators on Haida Gwaii focus primarily on Gwaii Haanas tours, although some do conduct fishing and eco-tours in others parts of the islands. Charter operators in Gwaii Haanas primarily offer kayak tours, zodiac tours, and cultural and sightseeing tours. Since 1999, the maximum quota of visitors to Gwaii Haanas has been set at 33,000 user days, split equally among independent visitors, ‘commercial Haida’ and ‘commercial general’. Actual use has fallen well short of the total quota. In 2008, Gwaii Haanas had a total of 1,970 visitors creating a little over 8,100 visitor nights and about 2,070 users generating about 11,200 total user nights. There has been a very modest growth trend in Gwaii Haanas visitors with substantial year to year ups and downs over 1996 – 2008. Visitor numbers range from a low of 1,815 in 1999 to a high of 2,155 in 2004. In 2008, 23 companies were registered to provide tourism services in Gwaii Haanas: 14 off-island based operations and nine local operators, one of which was a Haida company offering single-day powerboat trips. The Haida user day quota is largely unused. A relatively stable number of visitors (in the 2,000 range), a shift to shorter trips, more day trips, and visitors seeking a softer passive recreation experience, has resulted in fewer visitor days/nights to Gwaii Haanas overall and less revenue earned. Gwaii Haanas currently has 34 resident employees, 19 of which are Haida (16 fulltime and 3 seasonal). Employment by Gwaii Haanas operators is estimated to be at least 65 persons and at most 110 persons. Resident employment would make up 40-50% of the total employment, and estimated Haida employment runs in the 5% range. The Haida Watchmen Program employs about 60 people seasonally, mainly May through September, all but one of whom is Haida.

Marine tourism activity outside of Gwaii Haanas includes kayaking, surfing, snorkelling, beachcombing at beaches such as North Beach (which is also popular for razor clam digging and crabbing), and visits to cultural sites. Facilities that relate directly to marine tourism
include the Haida Heritage Center in Skidegate, focusing on Haida culture and natural history, and the Dixon Entrance Maritime Museum in Masset that features maritime culture and history. There is also a retail outlet in Masset that sells surfboards, wetsuits, kites and snorkelling equipment. However, in general Haida Gwaii lacks key infrastructure for tourism development such as a range of tourist accommodation or services. The general state of the economy and recovery from the current recession are important factors that may affect the marine tourism sector. Changing demographics are altering the client mix and tourist expectations. Operators will have to adjust to this including an emphasis on shorter tours. With an injection of marketing capital to execute a strategy based on the Haida Heritage Centre and focused on contemporary Haida culture, there is also greater potential in developing interesting day trip opportunities in Skidegate Inlet out of a central location using smaller, fuel-efficient boats. Despite this significant potential for tourism growth, development must occur in a way that is socially and culturally appropriate for Haida Gwaii, consistent with the principles outlined in the Haida Gwaii/Queen Charlotte Islands Heritage Tourism Strategy.

**Marine Transportation** consists of companies providing scheduled water transportation (BC Ferries), water-based air transportation (two companies offering scheduled and charter float plane service) and a variety of unscheduled water transportation activities (two companies providing barging services for freight, fuel, salvaging and environmental clean up). Overall full-time employment in this sector has decreased in the last ten years as a result of BC Ferries cutbacks and increased use of part-time and casual employees. Sales of fuel oil to the commercial fishing fleet have declined while home heating fuel sales have increased. Forestry related flights have fallen while tourism flights have increased. The study estimates employment in this sector at about 30 persons, 14 fulltime employees (six Haida; eight other island residents) and 16 part-time/seasonal employees (seven Haida and nine other island residents). One company, Bridgeview Marine, provides an interesting example of inter-sectoral linkages in the local economy through its supply of goods and boat maintenance services to commercial fishermen, sales and service to recreational fishers (including fishing tackle, boat motors and service), supplies of general goods and services to marine tourism operators, repairs and storage of boats for the winter for all the sectors and vessel maintenance for DFO, RCMP and the Coast Guard. The marine transportation sector continues to suffer from the decline in forestry and fishery activities, and sector participants believe that only a turn-around in the general economy will lift the level of business activity in their key markets and thus generate increased demand for transportation services.

The **Research, Monitoring and Enforcement** sector includes the activities of the Haida Fisheries Program, Fisheries and Oceans Canada, BC Parks, and Canada Coast Guard. The **Haida Fisheries Program** seeks to improve and increase Haida involvement in the management of fisheries and marine resources in Haida traditional territory, thereby achieving greater local benefits from commercial fisheries. Activities include, for example, co-management of the razor clam fishery, stock assessment contracts, Fisheries Guardians that do some joint monitoring and enforcement with DFO Conservation and Protection and integrated marine use planning for Haida Gwaii. The Haida Fisheries Program has considerable capacity to manage fisheries through infrastructure, support vessels, equipment and skills of its key staff. **Fisheries and Oceans Canada** (DFO) is responsible for the management and assessment of stocks on Haida Gwaii in DFO Fishing Area 1 (north and west coasts) and Fishing Area 2 (the remainder of the nearshore waters around Haida Gwaii) from its Masset and Queen Charlotte offices. Their primary focus is on salmon and herring. DFO also monitors the salmon fisheries that target stocks which are passing by but do not spawn in Haida Gwaii such as chinook salmon, which are the primary target species of the recreational fishery and commercial troll fishery. The **Coast Guard** monitors vessel activity around Haida Gwaii including the cruise ships that travel along the west coast and through Hecate Strait, and the ocean freight traffic that passes mainly on the west side of Haida Gwaii. The Coast Guard monitors large groups of fishing vessels but not individual vessels. **BC Parks’**
main focus is monitoring activities in Naikoon Park, including surfing on North Beach and South Beach, recreational crab and clam fisheries, and small boats fishing for halibut from the North Beach/Hiellen access point. The four organizations in this sector employ a total of 31 people full time and 26-31 persons part time. Of the full time employees, 9 are Haida and 22 are other island residents. All of the part time employees are Haida. The Haida Fisheries Program expects to continue to increase the Haida role in local fisheries management and enforcement. DFO expects their Haida Gwaii offices will be there for the long term and will continue to evolve in response to changing circumstances in commercial and recreational fisheries. The four-year-old Coast Guard Station in Sandspit also expects to continue its main function as a search and rescue platform, currently handling about 25-30 incidents per year.

BC Parks will be increasing its local capacity and seeking partnerships related to the newly established terrestrial conservancies that have associated marine protected area boundaries.

We found important social and cultural linkages between local communities and the marine sectors especially for commercial fishing (even with its decline from historical levels), recreational fishing and fish processing because so much of the economy and identity of island residents is based directly or indirectly on the marine environment.

Although commercial fishing has fallen from historic levels, for Haida and other local people it still has an important economic and social role to play. To increase Haida participation, the Secretariat of the Haida Nation or the Band Councils could use the quota that is currently allocated to the Haida under current DFO transfer programs (and acquire more quota as required) to increase opportunities for young people who want to get into the fishery.

Strengthening and broadening the economic linkages from commercial recreational fishing to generate greater local economic benefits would also be a sensible development priority. Partnerships with other organizations were noted as an effective way to attract the required financial resources and capacity to develop and extend projects, and to get involved at the management and decision-making levels. Participating in training courses can also increase employment opportunities and leadership capacity.

Fish processing remains a key part of the current economic base of the islands because it still generates substantial, albeit seasonal, local employment for Haida and other island residents. Product diversification and developing export potential were noted as key development priorities.

Specific solutions that could contribute to the sustainability of commercial and recreational fishing and moderate their impacts on fish stocks in heavily fished locations include:

- Creating a system of marine protected areas across Haida Gwaii
- Establishing a code of conduct for recreational fisheries on the island
- Requiring 100% use of guides on boats (whose training includes historical and cultural knowledge of Haida Gwaii and knowledge of proper catch and release techniques) to achieve better handling of the fish and increase survival rates. One lodge operator estimated that this would help to increase employment on Haida Gwaii by over 300 new jobs.
- Establishing limits on the number of fish caught and released (and enforcement of that limit)
- Requiring that all catches be recorded and reported

Further development of marine tourism, including a mixture of local and off-island owned businesses exporting services based on healthy marine ecosystems and sustainable resource management practices, rates highly as a community economic development priority. Pursuing this would require broadening the development focus beyond Gwaii Haanas to include other parts of the islands.
I. BACKGROUND AND STUDY OBJECTIVE

1.1 BACKGROUND

The Pacific North Coast Integrated Management Area (PNCIMA, the dark area in the (Figure 1-1) is a large ocean management area (LOMA) identified by Fisheries and Oceans Canada as a pilot initiative for integrated marine use planning on Canada’s west coast.

Figure 1-1: The Pacific North Coast Integrated Management Area (PNCIMA)
Compilation of social, economic and ecological information to support marine use planning in the PNCIMA is underway. In particular, some information has been collected and analyzed on human marine use activities and the economic contributions of ocean sectors mainly at the national, provincial or PNCIMA scales.

Currently, the Council of the Haida Nation (SHN) is undertaking integrated marine use planning for the PNCIMA in cooperation with Old Massett Village Council (OMVC) and the Skidegate Band Council (SBC). Central and north coast First Nations through the Coastal First Nations – Turning Point Initiative and the North Coast Skeena First Nations Stewardship Society are collaborating on similar work for the central and north coasts.

To execute effective marine use planning in Haida Gwaii, the CHN requires data compiled and analyzed at the scale of Haida traditional territory. In particular, understanding the economic contributions of key marine sectors on Haida Gwaii is necessary to formulate marine management goals and future economic development objectives.

1.2 STUDY OBJECTIVE

The objective of this project was to compile relevant social and economic information to assist integrated marine use planning on Haida Gwaii. Specifically, the study assembled baseline data and analysis for the six marine sectors outlined in the study terms of reference:

- Commercial fisheries;
- Recreational fisheries;
- Seafood processing;
- Marine tourism;
- Shipping and transportation; and
- Research, monitoring and enforcement.

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4 Gardner Pinfold Consulting, *Economic valuation of marine related activities*, for Fisheries and Oceans Canada, 2008, in progress (This is a Canada wide study.)
II. APPROACH AND METHODS

We conducted the study using the following methods and approaches:

Government agency data from, for example, Statistics Canada and BC Stats (population, population composition by area) and Fisheries and Oceans Canada (commercial fisheries landings and landed value; recreational fisheries catch and effort; recreational fishing spending) provided the basic information for study context and for describing activities in the commercial and recreational fishing sectors. Data for the other sectors (sea food processing, marine tourism, shipping and transportation and research, monitoring and enforcement) is not available from the statistical agencies for study purposes at the Haida Gwaii level. Consequently, the interviews were the most important source of data for these sectors, supplemented by data contained in reports and publications, and in some cases on company or organization websites. Specific data sources and methodologies for each sector are described in the sector summaries found in Section IV of this report.

We conducted the interviews using an interview guide developed for the study. The study interview participants were initially identified based on consultation with the Haida Oceans Technical Team, from vessel license data and industry sources. The initial list was expanded using a snowball interview technique whereby interview subjects recommended other individuals for inclusion in the study. In choosing interviewees, we sought to get a representative mix across the sectors. We conducted 33 in-person (23) and telephone (10) interviews with key marine sector informants between late January and June 2009. The lead consultant and a local Haida community researcher/interviewer trained by the consultant conducted the first six interviews jointly. The researcher completed the other interviews. Interviews ranged from 30 minutes to as long as two hours and covered a range of topics including:

- Current state of the sector and future prospects,
- Employment levels for Haida and other island residents,
- Social and cultural linkages of marine sectors to local communities,
- Trends in sector activity,
- Local community economic development priorities,
- Barriers and opportunities for Haida capacity-building related to existing and emerging marine sectors, and
- Relative sustainability of sectors, including potential impacts on resources and marine ecosystems.

A copy of the interview guide and the interview list is included in Appendix C. Overall, there was very good cooperation from the interviewees.

We obtained supplemental data from additional publications and reports from local, government and academic sources and the Gwaii Haanas National Park Reserve. Some reports were also provided by the Haida Oceans Technical Team.

Where possible, the results for commercial fishing, recreational fishing, marine tourism and seafood processing are reported on a geographically-referenced basis.

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5 This term is used throughout the report to refer to people living on Haida Gwaii who are not of Haida ancestry.
Based on the interview data, the report summarizes labour force participation by sector and type (Haida, other island residents, and off-island residents). Although these data are estimates, they do approximate relative local and Haida participation in specific sectors. Doing so, gives a sense of the size of each sector in terms of employment levels and overall sector value including a qualitative assessment of the economic linkages between the marine sectors and other sectors of the Haida Gwaii economy. For each of the sectors covered, the analysis also attempted to:

- Assess Haida participation and benefits by sector, including trends over time;
- Assess marine sector trends and future growth potential; and
- Identify opportunities and make recommendations regarding improved local sustainable marine-based economic development, including consideration of new and emerging marine sectors.
III. CONTEXT

The total population of Haida Gwaii is about 4,700 people\textsuperscript{6}. From an economic perspective, the population is distributed mainly in four communities: about 1,630 in Masset/Old Massett, about 1,720 in Queen Charlotte City\textsuperscript{7}/Skidegate, and approximately 500 each in Sandspit and Port Clements. The balance resides in other smaller communities or rural areas such as Tlell, Tow Hill, Lawn Hill and Miller Creek. People of the Haida Nation and other aboriginal ancestry account for approximately 39\% of the Haida Gwaii population, of whom about 75\% reside in the communities of Old Massett and Skidegate. Since 1996, the Islands’ population has declined largely because of the closure of Canadian Forces Base (CFB) Masset, and declines in forestry and fisheries employment. Masset (the location of the former armed forces base), forestry-dependent Port Clements, and communities on Moresby Island were hit the hardest. Since 1981, Census data show that Old Massett and Skidegate, on the other hand, have had population increases.

The performance of the marine sectors reported in this study must be considered in the broader context of a generally shrinking Haida Gwaii economy because of changes in primary resource production and related declines in the islands’ population.

\textsuperscript{6} Statistics Canada, Census of Canada, 2006 Census
\textsuperscript{7} Hereafter referred to as Queen Charlotte
IV. THE HAIDA GWAIILI MARINE SECTORS

This section describes the current situation for the six marine sectors covered by this study.

4.1 COMMERCIAL FISHERIES

For reference in the following discussion, the left side part of Figure 4-1 shows the fishery Management Areas around Haida Gwaii as defined by Fisheries and Oceans Canada (DFO) The right side map shows Haida Traditional Territory. All of Fishing Areas 1, 2, 101, 102, 142, and parts of 104, 105,106, 107, 108 and 130 fall within Haida Traditional Territory.

Figure 4-1: DFO Fishing Areas around Haida Gwaii and Haida Traditional Territory

Source: Fisheries and Oceans Canada; Haida Fisheries Program

4.1.1 Fishing History

Fishing has been an integral part of Haida culture through Haida history to present day. As the modern commercial fishery developed, Haida participated as captains and crew of commercial fishing vessels, and the fishery was an important source of income and employment. At the same time, many fishing vessels from other parts of British Columbia fished in Haida traditional territory. Table 4-1 provides a summary of the average catches by fishery over roughly a five to eleven year period, depending on the fishery. The annual value of Haida Gwaii landings over this period (1996-2006) averaged $84 million. During this same period the average value of BC

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8 Geographically referenced fisheries catch data are not uniformly available for all species. Hence it is necessary to work with what is available for differing time periods. The catch estimates for Haida traditional territory are derived from geographically referenced harvest data obtained from DFO. Value estimates were created using four-year weighted average prices adjusted to 2008 values using the BC All Item Consumer Price Index. The prices were
commercial landing was $376 million\textsuperscript{9}. So Haida Gwaii landings accounted for about 22 percent of BC landed value.

Figure 4-2 provides a pictorial representation of the average catch and landed value for species fished in the traditional Haida Gwaii waters surrounding Haida Gwaii. The data cover catches both by fishing vessels based in Haida Gwaii and by vessels based in other parts of British Columbia. Based on the average value of landings, sablefish ($27.8 million), halibut ($23.3 million) and crab ($16.4 million) account for 81\% of the value of landings. The major fishery by tonnes landed is groundfish trawl (targeting a mix of species dominated by hake), followed by halibut longline and sablefish trap\textsuperscript{10}. These figures are indicative of fishing activity within Haida traditional territory based on the available geographically referenced harvest data. Thus, they are meant to provide an indicator of the productivity of the ocean in Haida traditional territory rather than catch by Haida and other resident fishermen based on Haida Gwaii. For reference, the maps in Appendix E show the distribution of the sablefish, crab and geoduck catch in Haida traditional territory.

The razor clam harvest is an important seasonal local employment generator. Figure 4-3 reports the annual harvest in pounds over 1995-2009 (measured on the left vertical axis) and the annual landed value (measured on the right vertical axis). Over the period the average annual harvest value was $264,000, based on an average of 2,516 digger days per year and an average value of clams harvested per digger day of $105. In 2008 there were 114 participants in the fishery of which 108 fished under the Haida communal licence and the remaining 6 held individual licences. Income from fish slips averaged $3,100 and 51 participants made less than $500.

Table 4-2 summarizes the trend in the landings and landed value over the analysis period. Halibut shows the strongest upward trend over the ten-year data period, with landings up by about 133\% and landed value up by 200\%. There are also modest upward trends for pink, chum and chinook salmon caught by gillnet and troll gear. For the rest of the fisheries reporting catches over the analysis period, landings and landed value have shown a downward trend to varying degrees for a variety of reasons. Some stocks have declined over the period including herring and sablefish. Others such as red sea urchin have been affected by an increase in overseas supply and a fall in local prices. Conservation efforts for rockfish have been balanced by increased demand due a switch to an integrated approach in the groundfish fishery that promoted trading of quotas among groundfish sectors to account for bycatch. The large percentage increases in coho landings and value are spurious since catches over the period have been insignificant.

### 4.1.2 Current Participants

Licenses held by Haida and other fishermen based on Haida Gwaii provide an indication of local commercial fishing activities\textsuperscript{11}. Table 4-3 summarizes the fishing license ownership on Haida Gwaii as of early 2008 for those fisheries for which there was an owner connected to Haida Gwaii in one of the following ways:

\textsuperscript{9} Based on landed values reported by DFO at http://www.pac.dfo-mpo.gc.ca/stats/comm/summ-somm/index-eng.htm

\textsuperscript{10} Except salmon where quantity is expressed in ‘pieces.’

\textsuperscript{11} It can only be indicative because, for example, a license may not fished. Also some licenses are held by Haida people residing off island and may or may not be fished by Haida fishermen.
1) License owned by the Secretariat of the Haida Nation (SHN12), or
2) License owned individually by Haida persons who may or may not be Haida Gwaii residents, or
3) License owned by other island residents, or
4) License owned by non-residents and fished by a Haida Gwaii-based vessel.

The data in Table 4-3 are meant to give a snapshot of the commercial fishing situation on Haida Gwaii\textsuperscript{13}. Columns 2 and 3 compare the number licenses in BC and the relevant DFO Fishing Area covering Haida Gwaii. Generally, aside from the razor clam and herring spawn-on-kelp fishery, Haida and local participation in commercial fisheries is low. Haida participation is dominated by communal licences obtained by the Haida through DFO’s Aboriginal Fisheries Strategy and the Allocation Transfer Program.

| Table 4-1: Landings and Value of Catch in Haida Traditional Territory |
|--------------------------|------------------------|------------------------|------------------------|------------------------|
| Species                  | Data Period Years\*    | Total Catch (KG)**     | Average Price per KG \^ | Average Value per Year ($) |
| Sablefish Trap           | 96-04 9               | 31,923,341             | 3,547.0                | 7.85                   | 27,832,001             |
| Halibut Longline         | 96-05 10              | 39,510,000             | 3,951.0                | 5.90                   | 23,310,818             |
| Crab                     | 00-04 5               | 13,427,503             | 2,685.5                | 6.11                   | 16,411,666             |
| Groundfish Trawl         | 96-04 9               | 106,878,918            | 11,875.4               | 0.50                   | 5,439,982              |
| Geoduck                  | 00-05 6               | 1,219,479              | 203.2                  | 22.94                  | 4,462,334              |
| Prawn                    | 01-04 4               | 295,122                | 73.8                   | 15.73                  | 1,160,437              |
| Red Urchin               | 00-05 6               | 3,602,568              | 600.4                  | 1.66                   | 996,824                |
| Zn (Rockfish)            | 93-04 11              | 5,436,098              | 494.2                  | 1.49                   | 737,373                |
| Razor Clam               | 95-09 15              | 1,765,360              | 136.1                  | 2.25                   | 306,225                |
| Herring                  | 96-08 13              | 306,228                | 23.6                   | 1.98                   | 46,617                 |
| Shrimp Trap              | 96-04 9               | 33,292                 | 3.7                    | 2.67                   | 9,888                  |
| Sablefish Longline       | 96-04 9               | 9,504                  | 1.1                    | 8.30                   | 8,769                  |
| Schedule II Species      | 96-04 9               | 550,030                | 61.1                   | NA                     | NA                     |
| Seine                    |                        |                        |                       |                        |                        |
| Coho                     | 01-07 7               | 65                     | 0.01                   | 2.97                   | 28                     |
| Pink                     | 01-07 7               | 97,200                 | 13.9                   | 0.55                   | 7,653                  |
| Chum                     | 01-07 7               | 272,517                | 38.9                   | 1.76                   | 68,662                 |
| Gillnet                  |                        |                        |                       |                        |                        |
| Sockeye                 | 01-07 7               | 1                     | 0.000                  | 3.94                   | 1                     |
| Coho                     | 01-07 7               | 4,629                  | 0.66                   | 2.97                   | 1,965                  |
| Pink                     | 01-07 7               | 1,799                  | 0.26                   | 0.41                   | 105                   |
| Chum                     | 01-07 7               | 120,785                | 17.3                   | 1.68                   | 28,957                 |
| Chinook                  | 01-07 7               | 7                     | 0.001                  | 6.83                   | 7                     |
| Troll                    |                        |                        |                       |                        |                        |
| Sockeye                 | 01-07 7               | 37,468                 | 5.4                    | 6.37                   | 34,079                 |
| Coho                     | 01-07 7               | 1,034,451              | 147.8                  | 5.37                   | 794,292                |
| Pink                     | 01-07 7               | 538,979                | 77.0                   | 1.10                   | 84,383                 |
| Chum                     | 01-07 7               | 6,511                  | 0.9                    | 1.03                   | 956                   |
| Chinook                  | 01-07 7               | 793,207                | 113.3                  | 11.15                  | 1,263,105              |
| Total                    |                        |                        |                       |                       | $ 83,707,127           |

Catch Data Source: DFO grid data (4 by 4 km ’93-’05), except for DFO Sales Slip Data (Halibut) and DFO Pacific Annual Reports Online for Herring (http://www-sci.pac.dfo-mpo.gc.ca/sa/Commercial/Summaries/AnnualReports/ANNUAL08_USER.htm)

Notes: Catch in Haida traditional territory includes the total catch for grids entirely within the Haida boundary, and the proportion of catch according to area for grids that were partially within the Haida boundary. Some species catch data may exclude bycatch from other directed fisheries.

\textsuperscript{12} Note that the SHN is the administrative arm of the Council of the Haida Nation. The SHN owns CHN fishing assets, including fishing licenses and vessels.

\textsuperscript{13} The data represents a minimum estimate of Haida and local participation based on addresses in the DFO database and local knowledge.
* Assumes the period is inclusive of both endpoints.
** Catch for salmon is in "pieces held". Note fish were not necessarily caught in all years over the period of data collection.
*** KG - kilogram; MT - Metric tonne
^ Prices derived from catch and value data on http://www.pac.dfo-mpo.gc.ca/stats/comm/summ-
  somm/index-eng.htm by calculating weighted prices (by tonnage) from 4 years converted to $2008/Kg
  using the BC Consumer Price Index, except for salmon, for which price data were supplied by personal
  communication, K. Binning, DFO Salmon Analyst.
Figure 4-2: Landings and Value of Off-shore Catch in Haida Traditional Territory

Note: Values depicted are rounded values from Table 4-1, excluding razor clam.
Figure 4-3: Haida Gwaii Razor Clams, Landings and Landed Value, 1995 - 2009
Table 4-2: Trends in Landings and Value of Catch in Haida Traditional Territory

<table>
<thead>
<tr>
<th>Species</th>
<th>Data Period</th>
<th>Years*</th>
<th>Landings Trend</th>
<th>$2008 Value Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sablefish Trap</td>
<td>96-04</td>
<td>9</td>
<td>-32.4%</td>
<td>-41.2%</td>
</tr>
<tr>
<td>Halibut Longline</td>
<td>96-05</td>
<td>10</td>
<td>113%</td>
<td>200%</td>
</tr>
<tr>
<td>Crab</td>
<td>00-04</td>
<td>5</td>
<td>-30.5%</td>
<td>-40.8%</td>
</tr>
<tr>
<td>Groundfish Trawl</td>
<td>96-04</td>
<td>9</td>
<td>21.4%</td>
<td>-8.9%</td>
</tr>
<tr>
<td>Geoduck</td>
<td>00-05</td>
<td>6</td>
<td>-19.8%</td>
<td>-34.4%</td>
</tr>
<tr>
<td>Prawn</td>
<td>01-04</td>
<td>4</td>
<td>-52.6%</td>
<td>-38.6%</td>
</tr>
<tr>
<td>Red Urchin</td>
<td>00-05</td>
<td>6</td>
<td>-53.0%</td>
<td>-64.0%</td>
</tr>
<tr>
<td>Zn (Rockfish)</td>
<td>93-04</td>
<td>11</td>
<td>12.3%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Razor Clam</td>
<td>95-09</td>
<td>15</td>
<td>-21.6%</td>
<td>-59.1%</td>
</tr>
<tr>
<td>Herring</td>
<td>96-08</td>
<td>13</td>
<td>-26.1%</td>
<td>-39.2%</td>
</tr>
<tr>
<td>Shrimp Trap</td>
<td>96-04</td>
<td>9</td>
<td>-46.8%</td>
<td>-39.2%</td>
</tr>
<tr>
<td>Sablefish Longline</td>
<td>96-04</td>
<td>9</td>
<td>-15.4%</td>
<td>-14.0%</td>
</tr>
<tr>
<td>Schedule II Species</td>
<td>96-04</td>
<td>9</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Salmon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seine</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coho</td>
<td>01-07</td>
<td>7</td>
<td>1010.9%</td>
<td>1114.3%</td>
</tr>
<tr>
<td>Pink</td>
<td>01-07</td>
<td>7</td>
<td>-26.1%</td>
<td>-25.2%</td>
</tr>
<tr>
<td>Chum</td>
<td>01-07</td>
<td>7</td>
<td>-29.3%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Gillnet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sockeye</td>
<td>01-07</td>
<td>7</td>
<td>-57.3%</td>
<td>-67.7%</td>
</tr>
<tr>
<td>Coho</td>
<td>01-07</td>
<td>7</td>
<td>336.5%</td>
<td>487.5%</td>
</tr>
<tr>
<td>Pink</td>
<td>01-07</td>
<td>7</td>
<td>-35.9%</td>
<td>-34.9%</td>
</tr>
<tr>
<td>Chum</td>
<td>01-07</td>
<td>7</td>
<td>-7.3%</td>
<td>18.1%</td>
</tr>
<tr>
<td>Chinook</td>
<td>01-07</td>
<td>7</td>
<td>12.4%</td>
<td>32.1%</td>
</tr>
<tr>
<td>Troll</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sockeye</td>
<td>01-07</td>
<td>7</td>
<td>-38.2%</td>
<td>-60.0%</td>
</tr>
<tr>
<td>Coho</td>
<td>01-07</td>
<td>7</td>
<td>44.8%</td>
<td>74.1%</td>
</tr>
<tr>
<td>Pink</td>
<td>01-07</td>
<td>7</td>
<td>-64.4%</td>
<td>-63.8%</td>
</tr>
<tr>
<td>Chum</td>
<td>01-07</td>
<td>7</td>
<td>22.0%</td>
<td>72.5%</td>
</tr>
<tr>
<td>Chinook</td>
<td>01-07</td>
<td>7</td>
<td>16.7%</td>
<td>81.9%</td>
</tr>
</tbody>
</table>

Source: Landings and Values Trends are based on BC landings and value by species on http://www-sci.pac.dfo-mpo.gc.ca/sa/Commercial/Summaries/AnnualReports/ANNUAL08_USER.htm. Values are the percentage change from average over the first three years (e.g., '01-'03) to last three years (e.g., '05-'07), or as appropriate for the time span covered.
* Assumes the period is inclusive of both endpoints.

Table 4-3: Summary of Haida Gwaii Commercial Fishing Licenses

<table>
<thead>
<tr>
<th>License Category</th>
<th>Number of BC Licenses</th>
<th>Number of Area Licenses</th>
<th>Number of Haida Gwaii Licenses</th>
<th>Haida Gwaii Ownership Breakdown</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crab</td>
<td>221</td>
<td>55</td>
<td>5</td>
<td>2 - SHN</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 - Other island residents</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 - Owned off-island, locally operated by an island resident</td>
<td></td>
</tr>
<tr>
<td>Intertidal Clam</td>
<td>1102</td>
<td>6 personal, 1 communal license</td>
<td>1 Haida communal license;</td>
<td>Communal razor clam license held by SHN; 108 Haida fished in 2008</td>
<td></td>
</tr>
<tr>
<td>License Category</td>
<td>Number of BC Licenses</td>
<td>Number of Area Licenses</td>
<td>Number of Haida Gwaii Licenses</td>
<td>Haida Gwaii Ownership Breakdown</td>
<td>Comment</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------------------</td>
<td>-------------------------</td>
<td>--------------------------------</td>
<td>----------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>6 individual licenses for razor Clam</td>
<td></td>
<td></td>
<td></td>
<td>Other island residents (5 licenses listed as active)</td>
<td></td>
</tr>
<tr>
<td>Red Sea Urchin</td>
<td>109</td>
<td>66</td>
<td>1</td>
<td>SHN</td>
<td></td>
</tr>
<tr>
<td>Prawn-Shrimp by trap</td>
<td>250</td>
<td>na</td>
<td>2</td>
<td>Other island resident (owns both licenses)</td>
<td></td>
</tr>
<tr>
<td>Roe herring gillnet</td>
<td>1268</td>
<td>na</td>
<td>5</td>
<td>2 - SHN</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 - Haida resident</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 - Haida non-resident</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 - Other island resident</td>
<td></td>
</tr>
<tr>
<td>Roe herring seine</td>
<td>252</td>
<td>na</td>
<td>1</td>
<td>SHN</td>
<td></td>
</tr>
<tr>
<td>Herring, food and bait</td>
<td>14</td>
<td>na</td>
<td>1</td>
<td>Owned and fished by non-resident Haida family</td>
<td>Not fished in Haida waters</td>
</tr>
<tr>
<td>Herring spawn on kelp</td>
<td>39</td>
<td>10</td>
<td>10</td>
<td>6 - Haida resident</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4 - Non-residents</td>
<td>The Haida licenses are inactive and have no quota.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Haida Gwaii fishery has been restricted or closed frequently e.g. In 2010 Area 2 East was closed and only 4 licences operated in Area 2 West.</td>
</tr>
<tr>
<td>Sablefish</td>
<td>48</td>
<td>na</td>
<td>1</td>
<td>Other island resident</td>
<td></td>
</tr>
<tr>
<td>Halibut</td>
<td>429</td>
<td>na</td>
<td>5</td>
<td>2 – SHN</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 – Haida resident</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 - Non-resident license operated by other island resident</td>
<td></td>
</tr>
<tr>
<td>Rockfish</td>
<td>259</td>
<td>189</td>
<td>1</td>
<td>Owned by other</td>
<td></td>
</tr>
<tr>
<td>License Category</td>
<td>Number of BC Licenses</td>
<td>Number of Area Licenses</td>
<td>Number of Haida Gwaii Licenses</td>
<td>Haida Gwaii Ownership Breakdown</td>
<td>Comment</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------</td>
<td>-------------------------</td>
<td>--------------------------------</td>
<td>------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Schedule II Species</td>
<td>504</td>
<td>na</td>
<td>4</td>
<td>1 - Haida resident, 3 - Other island residents</td>
<td></td>
</tr>
<tr>
<td>Salmon gillnet</td>
<td>1359</td>
<td>643</td>
<td>13</td>
<td>7 - SHN, 5 active in 2008, 2 - Haida residents, 2 - Haida non-residents, 1- Other island resident</td>
<td>These licenses are mainly fished in Area A (Skeena River) or on the Central Coast, not in Haida traditional territory waters.</td>
</tr>
<tr>
<td>Salmon seine</td>
<td>260</td>
<td>106</td>
<td>2</td>
<td>1 - SHN, 1 - Non-resident license holder (fished by Haida-owned resident vessel)</td>
<td></td>
</tr>
<tr>
<td>Salmon troll</td>
<td>533</td>
<td>282</td>
<td>14</td>
<td>5 – SHN, 4 active, 9 – Other island residents</td>
<td></td>
</tr>
</tbody>
</table>

Source: DFO Fisheries License Database download, accessed 11 January 2008 (supplied by Haida Fisheries Program); interviews and DFO license database (http://www-ops2.pac.dfo-mpo.gc.ca/Ops/VRNdirectory/LicReportSelect.cfm)

Note: Area refers to the DFO Fishery management area that includes Haida Gwaii for the specific species. The geographic coverage of the areas varies by the species.

The commercial fishing assets held by the Secretariat of the Haida Nation are an important aspect of Haida fishery involvement. These include two vessels and 23 licences (referenced in table 4-3) obtained through the DFO Allocation Transfer Program. Additional licences are expected to be transferred under the DFO Pacific Integrated Commercial Fishery Initiative.

### 4.1.3 Trends

Reflecting the general historical decline in commercial fisheries on the British Columbia coast, commercial fisheries in the waters around Haida Gwaii have diminished in importance in the local economy. Although expressed differently and with different emphasis by different interviewees, one of the commercial fishermen interviewed for this study summed up the trends in the fishery on and around Haida Gwaii very well by comparing the historical situation with the current situation:
“A guy just has to look at the history and you can see the changes. When I first started fishing, there was a big troll fleet and things were booming on this island. Logging was a big part of that too. You would see 40 trollers tied to the wharf in Queen Charlotte at different times. There were probably 25 – 26 local (QCC and Skidegate), at one time. There had to be as many in Masset. Trollers have been around here for many years, probably since the early 1920s. My wife’s grandfather was telling her about how they used to row out to the fishing grounds and they pulled all their lines by hand. A lot of boats used to come here when we had a big fleet, they knew lots of people here and became friends and they’d come back every year. They contributed to the local economy through spin offs, fuel groceries, bars, restaurants etc. Most of the fish was off-loaded here too.”

-Commercial Fisherman

Other specific points worth noting include:

- Over time there has been a reallocation of fish away from the commercial fishing sector to the commercial sports sector, including both salmon and halibut. In the 1990s the recreational salmon fishery was given priority over the commercial fishery for chinook and coho. The recreational halibut catch was capped at 12% of commercial and recreational allowable catch. The recreational fishery can purchase additional quota from the commercial fishery.

- The introduction of quota fisheries has shifted the industry structure. The trend towards very low quotas available under the salmon troll Individual Transferable Quota (ITQ) system are making it necessary for fishermen to lease additional quota to achieve a high enough catch volume to make it worthwhile to fish. This has resulted in a concentration of licenses in individual or company hands and an increased number of ‘armchair fishermen’ who own and lease out rather than fish their licenses. With halibut, as much as 55-60% of the fish value goes to quota lease payments. The main issue is the impact of non-active license holders; with some of the revenue channeled into returns to the leaseholder, it is very difficult for fishermen to earn a decent income. In some cases a processing plant will also lease quota and hire fishermen to fish it as a way ensuring a steadier product flow at their plant.

- License buy backs have generally decreased the number of locally-based fishermen, although the SHN has been acquiring licenses through government programs.

- The economic linkages to local suppliers of fishing gear have shrunk. One local supplier indicates that commercial fishing items now account for one to two percent of his inventory when it used to be a major part of his turnover.

4.1.4 Employment and Wages

Overall, one recent estimate indicates that commercial fishing/processing accounts for about 7% of employment and 4% of income on Haida Gwaii\textsuperscript{14}. Much of this is attributed to processing employment (see Section 4.3.3). Geographically, the processing industry is concentrated in

\textsuperscript{14} As described in Gary Holman, \textit{Haida Gwaii - Queen Charlotte Islands, Land Use Plan: Socio-Economic Base Case}, Final Draft, 2004.
Masset and Queen Charlotte. Processing is significant source of employment for Old Masset, accounting for as much as 20% of the experienced labour in 2006\textsuperscript{15}.

There has been a substantial decline in salmon fisheries employment since the mid-90s because of fleet buyback, area licensing and fisheries management and allocation policies. Fleet size fell from about 4,500 vessels in 1990 to about 2,100 currently\textsuperscript{16}. There has been a shift in harvesting from salmon to non-salmon species, but harvest levels for non-salmon species are also constrained by conservation concerns.

Looking specifically at commercial fishing employment, the employment situation varies across fisheries in relation to the type of fishing and length of the season. For example, a halibut boat typically runs for a March – November season whereas a salmon troller generally starts fishing about June 20th for a nominal three months. In recent years, because of conservation concerns, the length of the troll season has been determined by limits on the number of West Coast Vancouver Island chinook caught by the troll fleet. Once the maximum WCWI component is reached, the fishery might be shut down as early as one month after it opens. The crew complement on the vessels would typically include a captain and one crew member, a minority of whom are Haida according to interview sources. For locally owned and operated halibut vessels, which tend to be larger than the trollers, a typical crew complement is four (captain, mate and two crew), most of which are Haida since four of the five licenses are Haida owned. Based on the license information in Table 4-1 and assumptions about employment per licensed vessel (excluding employment in the clam fishery), marine fishing could be providing as many as 115 jobs, about 75% of which would be filled by Haida\textsuperscript{17}. Note however that fishing jobs last only as long as the length of the season for each species. Further, since the seasons occur at different times of the year, the same people may fill two or more of these jobs so the total number people employed will likely be less than the estimated 115 jobs. The razor clam communal licence does not limit the number of Haida fishers. The number of fishers has ranged from 94 to 279 since 1994. In addition six other island residents are licenced by DFO to fish razor clams.

In the fishing industry, the standard pay arrangement is typically some sort of share arrangement based on the net value of the catch (after vessel operating expenses), or a set rate per pound, rather than an hourly wage rate. For example, under the share arrangement, an inexperienced crew member would start at a 10% share and work up to 15%, while a good, experienced worker might get a 20-25% share. Under the per pound arrangement, a hired captain (other than the vessel owner) could receive 35 cents per pound, while the mate and the deckhands would be in the 10-30 cents pound range.

For employment on fishing vessels, the situation varies from boat to boat. A typical scenario would see a novice fisherman start at 10 cents per pound and moved up on the next trip to 12 cents if s/he is good. As fishermen prove themselves over time, they will slowly increase their pay rate per pound.

\textsuperscript{15} Based on an experienced labour force of 355, of whom 70 reported attachment to manufacturing of which fish processing the major component, Statistics Canada, Census of Canada, 2006.


\textsuperscript{17} The employment estimates were developed for licensed vessels using crew information obtained from interviews and other sources regarding vessel crew size in the literature.
4.1.5 **Skills and Training**

Skills and training in the fishing fleet vary from professional qualifications to on-the-job training. Vessel captains tend to be qualified with some type of captains papers (e.g., 100 ton Fishing Masters although some have attained that position through long years of experience rather than attaining ‘captain’s papers’). Other types of training for captains and crew include First Aid, and oil spill response training with Burrard Clean Operations Fishermen’s Oil Spill Emergency Response Team (FOSET). (BCO is a Canada Coast Guard certified marine response organization on the Pacific Coast.). Vessel crews are qualified mainly by on-the-job training but they now must also have Marine Emergency Duties training as specified by Transport Canada.

4.1.6 **Sector Linkages**

The general response among the commercial fishing sector participants was that they try to purchase their inputs locally whenever possible. Locally-based vessels appear to purchase most of their food and fuel locally in Skidegate, Masset and Queen Charlotte. Some purchases are also made in Prince Rupert and Terrace. Local gear purchases range from very little to as much as 50%. Main gear and engine parts tend to come from Vancouver. Respondents point out that historically when the fishery was much larger, it was possible to acquire a larger proportion of gear and other replacement parts locally because the suppliers were able to carry a higher inventory.

4.1.7 **Sector Outlook**

Views on the outlook for the commercial fishing sector are mixed. Some active commercial fishermen appear to be pessimistic about the future of the commercial fishery under the current management structure. Some believe that the commercial recreational fishery has better income earning potential, although it will be subject to the same stock fluctuations and conservation concerns as the commercial fishery. Still, there is an underlying belief that the industry has a sustainable future with improved management based on a stronger local role in management by both Haidas and other local people, particularly in stock assessment and salmon enhancement projects. There is hope that the marine use planning initiative will be an opportunity through which Haida and local leadership could exercise the planning and leadership to move towards a more sustainable future.

In the view of participants in the sector and resource managers, the long-term sustainability of commercial fishing varies by species. For example, based on recent experience among wild caught species, salmon and herring are much less promising than groundfish and shellfish. Weak stocks and conservation concerns are a major factor affecting management of some fisheries. Even though it was noted that fishermen are becoming more environmentally conscious and that items such as oil and garbage that were once thrown overboard are now retained for proper disposal, broader factors such as global warming and the El Nino effect may be overwhelming. Specifically, interviewees expressed a variety of specific concerns about the future of the commercial fishery, such as:

- Poor transportation infrastructure to/from the islands (e.g., number of ferry trips, downsizing of flight service) hampers the export potential of fish products; and high fuel costs increase the cost of fishing.

- Barriers beyond local control include, for example, the impact of climate change on fish stocks and the global economic situation limiting the demand for fish products.
The unknown impacts associated with potential offshore oil and gas exploration, increased tanker traffic and the associated increased risk of spills.

Participants also cited a number of barriers specific to the future development of the commercial salmon fishery on Haida Gwaii including:

- The impact of DFO salmon management rules: these are implemented to resolve conservation concerns and make the fishery sustainable in the long run, but they can have the short run effect of limiting access to fish to such an extent that it is hardly worth fishing.
- Inadequate attention to (and resources for) salmon enhancement projects.
- The impacts of salmon farming on wild stocks: this is a complex issue involving separate concerns such as the role of existing salmon farms in spreading sea lice to wild stocks, and salmon farms as a possible source of diseases such as Infectious Salmon Anaemia. Although there are no salmon farms on Haida Gwaii, there are concerns regarding regional impacts of salmon farming and the potential expansion of salmon aquaculture to Haida Gwaii.
- Some participants believe that the mortality effects of catch and release in recreational fishing, particularly for coho, are much greater than is generally thought.
- Some people are also concerned about the long-term implications of introducing other species for grow-out in the ocean.
- The impact of forestry practices on fish-bearing streams was cited as a threat to sustainability.

Other participants felt that the management efforts of the International Pacific Halibut Commission appear to be improving the long-term sustainability of halibut populations, although the long term effects of global warming introduce some uncertainty.

From the perspective of what can be done on-island to promote fisheries development and build local fisheries management capacity, lack of funding and political will within the Canadian Government to work with the Haida on a true collaborative approach was identified as the single biggest issue. The annual funding ($1 million) provided to Haida Fisheries through the AFS is sufficient to get things started but not enough to provide quality work. As a general observation, interviewees noted that the long timeframes for capacity building can be frustrating.

Some interviewees believe that recreational fishing may provide more benefit to the local economy, particularly due to the signing of protocol agreements between the CHN and lodge operators. However, since the recreational fishery is dependent on the same stocks as the commercial fishery, there are also concerns about how long it can sustain itself. This leads others to believe that ecotourism and cultural tours, with proper management, offer more promise. Still it is necessary to recognize the two are fundamentally different markets that require different marketing strategies and management skill sets. As one observer put it:

“You get more repeat business from fishing charters than cultural tours. I think it is because people want to see the old village sites say, at least once in a lifetime, but are happy to catch a fish again and again.”

- Marine Tourism Operator

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18 Catch and release is a recreational fishing practice where the intention is to unhook fish after capture and return them to the water before they experience serious exhaustion or injury. Although widely used, it should be noted that many Haidas and local residents have concerns about the impacts of catch and release on fish populations because exhausted fish are more likely to be caught by predators.
4.2 RECREATIONAL FISHERIES

The term recreational fishing covers a variety of activities including commercial recreational fishing conducted from fishing lodges, fishing trips conducted by charter fishing companies and self-directed (independent) recreational fishing where the fishermen use their own equipment. This section focuses primarily on commercial recreational fishing including fishing lodges and fishing charters.

To put the sector in perspective, the 2005 DFO Survey of Recreational Fishing reports about 160,000 angler days of recreational fishing on Haida Gwaii (figures applies to the year 2004). The estimated total angler spending for recreational fishing on Haida Gwaii is about $88.2 million, of which lodges account for $63 million\(^{19}\). Based on the Recreational Fishing Survey, Figure 4-4 indicates that fly-in packages account for about 72% spending on recreational fishing packages on Haida Gwaii, compared with 55% for BC overall. Seven-day lodge-based guided fishing packages typically run from $3,700 per person to as high as $7,000, including air fare, depending on the lodge chosen and options taken, excluding tips.

**Figure 4-4: Spending by Recreational Fishermen on Fishing Packages, Haida Gwaii and BC**

![Graph showing spending by recreational fishermen on fishing packages, Haida Gwaii and BC.]

Source: Gardner Pinfold, based on DFO Survey of Recreational Fishing, 2005
Note: The Recreational Fishing Survey offers respondents the opportunity to self-classify the type of package they purchased including fly-in packages where flight costs are included in the package price and lodge packages where anglers book flight arrangements independently.

Lacking a central registry for fishing lodges, it is challenging to develop an up-to-date accurate inventory of lodges currently operating on Haida Gwaii. Figure 4-5 depicts our best estimate of the number, type and location of recreational fishing lodges operating on Haida Gwaii based on available information from web sites, published documents and interviews with lodge operators.

\(^{19}\) Note that while the fishing takes place on Haida Gwaii, the spending includes the purchases of goods and services acquired off island such as air transportation.
The figure shows a total of 17 lodges offering a recreational fishing experience with a total of 537 client beds, of which 315 or 59% are based on floating facilities (see Appendix A for details).

**Figure 4-5: Recreational Fishing Lodges on Haida Gwaii**

**4.2.1 Trends**

Figure 4-6 provides a summary of recreational fishing catch in the waters near Haida Gwaii, specifically DFO Areas 1 and 2, from 2002 to 2008 (for reference to Area 1 and 2 see Figure 4-1).

In general, land-based lodges have both upland and foreshore tenures. A few floating lodges in the vicinity of Langara Island and Naden Harbour have foreshore tenures. The foreshore is the area of a shore that lies between the average high tide mark and the average low tide mark.
above.) The figure shows coho and chinook catches (the main salmon species targeted by the recreational fishery) and halibut, the targeted groundfish species. Catches have declined since peaking over the 2004 to 2006 period. Fishing by recreational fishermen based at sport fishing lodges accounts for 70-75% of the catches reported.

**Figure 4-6: Haida Gwaii Recreational Fishing Catch, Chinook, Coho and Halibut, 2002-2008**

Source: DFO, Queen Charlotte Islands Annual Recreational Fishing Report, 2002-2008, which reports a combination of DFO Lodge log book data and HFP Creel Survey data.

Note: The recreational catch for sockeye, chum and pinks is generally less than 2,000 pieces each and is not reported here. Lingcod and rockfish are also caught in annual amounts generally between 5,000 and 10,000 pieces each.

In terms of economic impact, fishing effort provides a better indicator of the trend in fishing tourists and associated spending for recreational fishing activities. Recreational fishing effort is measured in two ways on Haida Gwaii. The HFP Creel Survey uses boat days, which counts the number boats fishing for all or part of each day in the fishing season. The DFO logs data measures effort in term of angler days, which counts the number of anglers fishing for all or part of day. A comparison of the data streams indicates that a conversion factor of two applies, that is, one boat day equals two angler days.

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21 A creel survey refers to the collection of data on recreational fishing effort, catch and release by interviewing fishers and surveying their catch. The Haida Fisheries Program conducts the survey on Haida Gwaii.
Figure 4-7 shows the trend in fishing effort on a ratio scale as indicated by both HFP Creel data and DFO Lodge log book data over 1996 - 2008. The main point of interest is the evident upward trend. The lodge data, for example, indicate a 56% increase in effort over the 2000 to 2008 period, with peak effort occurring in 2007. This is consistent with interview findings that indicated the 2008 recession led to a decline in lodge clients.

**Figure 4-7: Recreational Fishing Effort, 2002 - 2008**

Source:  HFP Creel Survey and DFO Lodge Log Book data
Note: Creel Survey effort data is recorded in boat days. DFO Lodge Book data is recorded in angler days. The chart compares the trend in the two measures on a ratio scale where the first year is 100 and subsequent years are reported as a percentage of year one.

Over the past 20 years, there have been substantial changes in the commercial recreational fishing sector. These include:

- The upward trend in fishing effort shown in Figure 4-7 is the result of a large increase in the number of lodges, fishing charters, and the number of people sport fishing, particularly from 2000 to 2007. In 2008, this trend was interrupted because of the depressed world economy and fewer fish. The extent to which the trend resumes will depend on the strength of the economy and how this translates into fishing clients.

- According to lodge operators, their number of US visitors is down due to the dollar and state of the economy. Available information indicates that about 51% of lodge visitors come from the United States, 20% from BC, 25% from other parts of Canada and 4% from Overseas. This compares with total anglers in BC comprised of 64% from BC, 15% from other parts of Canada and 21% from outside Canada.22

- Some interviewees believe there has been a decline in the number of big fish caught (over 40 lbs) and attribute it to increased pressure by sports fishing and commercial fishing.

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There are now more local people involved with sports fishing (i.e. local charter operators, working for lodges and in fishing processing plants). However, recruiting qualified fishing guides is a challenge that inspired West Coast Fishing Lodges to team up with North West Community College to offer a five-day guiding course, which was attended by 12 local residents. There is a waiting list for the next course and plans to conduct a third course in the near future. It should noted that the skills shortage extends beyond fishing guides to electricians, marine mechanics, heavy duty mechanics, and ticketed carpenters. For example, there is only one part-time plumber on the north end of the island. Training does not always solve the problem because many people receive their training but then leave the island because there is limited work and others get their training off-island but do not return because of the lack of local job opportunities.

Fishing charters based in communities (Massett and Sandspit in particular) have increased significantly since 2001. As local entrepreneurs with fishing and boating skills enter the industry, they generate tourism expenditures for food and accommodation in local communities. On the other hand, the addition of recreational fishing effort by charters can contribute to crowding on local fishing grounds. One operator observed that in the last six years the number of boats fishing has increased sharply, going from, for example, a dozen boats at Skidegate Point to thirty to forty boats daily during the height of the season. The expansion of charter fishing also strains available food service and accommodation infrastructure. This may create a type of ‘crowding out effect’ where the demands from charter clients uses up capacity that other marine tourism and land-based tourism might have used, and thus has no incremental economic impact in the local communities.

4.2.2 Employment and Wages

Based on employment information provided by interviewees and filling in data gaps using the ratio of employees per bed capacity, we estimate that the fishing lodges employ about 525 people, 10% of which are full-time. Lodge data also suggest that about 37% (229) of these employees are Haida Gwaii residents and 63% (386) come from off-island. (These numbers appear to be high in relation to local knowledge of the industry. Additional research covering this area would be appropriate.) Most Haida employment is concentrated in boat handling (docks) and technical support, lesser amounts in food service and guiding. Non-residents fill the bulk of the guide positions. On the charter side, based on a review of the charter businesses and interviews, we estimate that the 55 companies identified employ about 100 people seasonally. Of these, about 14% are Haida (two of the 14 individuals are off-island residents) and 86% are other island residents.

Wages at fishing lodges are set in different ways such as hourly rates, daily rates, or monthly rates depending on the position. Typical rates of pay include:

- Manager - $7,500 per month, no tips

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23 While this skill shortage is noted in connection with commercial recreational fishing, it affects other sectors as well.

24 This is based on an average employees per bed ratio of about 0.90 developed from interview data. The lodge sample employment ratio ranges from 0.83 to 1.24. We have used 0.9, a value towards the low end of the range as representative of the complete set of lodges operating on Haida Gwaii. Further research to verify this assumption would be prudent.

25 This estimate is based on interview information and a careful review of web sites listing fishing charters currently offered on Haida Gwaii. Note that its accuracy is limited by the ease with which companies can enter and leave this sector, and the extent to which web sites are maintained.
Hourly wage rates range from about $12 per hour for dockworkers; to $16-30 per hour for guides plus tips up to $100 per day; to $18-22 per hour for cooks and chefs, plus room and board in all cases.

According to one lodge operator, a typical season’s income would be a gross wage of $10,000 plus $10,000 in gratuities.

Full time staff would have a benefit package.

Some lodges offer a variety of bonuses tied to retail sales, guest comments and re-booking rates that could typically add $400-$1000 to an employees pay at the end of the season.

Wages do vary by experience. For example, in one case, somebody starting at $12 per hour could move up to $14 after two or three seasons. In another case, wages vary by a variety of criteria such as increasing by $5 per day for each year of service for hotel staff and fishing guides. A guide’s wages also increase by the size of the boat and the number of guests handled (e.g., an increment of $15 per day per guest for more than two guests).

4.2.3 Skills and Training

The skills and training required for employment and the training opportunities offered vary considerably across the lodges. We can give a flavour of the situation by describing examples from different lodges, recognizing that the situation at each lodge is different. Examples of the types of training opportunities include:

- Weeklong orientation program for all staff before the season opens, including a dry run before guests arrive. All new staff receives formal training in the performance of their duties.
- Guides receive radio boat handling courses.
- Lodges provide support for employees who want to take courses related to commercial recreational fishing (e.g., hotel management, food and wine courses, trade skills, first aid, etc.) by paying up to 75% of their tuition.

Other common training courses include:

- BC Superhost
- Food safe Level 2
- Serving it Right
- Kitchen Red Seal (apprentice program)
- First Aid certification— wage increment of $5.00 – $15.00 per day for any employee depending on level of certification.

Losing trained employees is a concern for the recreational fishing lodges and some of them offer a variety of bonuses to retain staff, such as a signing bonus of $100.00 per year of service up to $500.00. An end of season bonus (up to $500.00 in one case) is also used to help ensure that staff members stay until the end of the season.

4.2.4 Sectoral Linkages

This section discusses the nature and extent of linkages between the recreational fishing sector and other local sectors that supply it with goods and services. Sector participants profess to purchase as much of their supplies from local suppliers as they can, even to the extent of having a “buy local first” policy. In practice, it appears that the lodges will purchase locally if they can acquire the quantity and quality they want at competitive prices. However, this is often not the
case because of transportation costs and low prices available in Vancouver. For example, lodges can often bring up better quality products at lower costs on their own-chartered planes. Directly imported inputs include:

- Food and dairy products are largely imported directly from Vancouver (transported on the same planes that bring the lodges’ guests)
- Fuel is barged up from Vancouver; and
- Most floating lodges tow their lodges to Prince Rupert or Vancouver for off-season repairs and maintenance.

There are also local purchases of a variety of goods and services, all of which create seasonal employment increases. One lodge operation provided a list of 72 separate local suppliers. Examples include:

- Motors and boats are purchased from Bridgeview Marine
- Wood for dock construction from Tanu Wood in Skidegate
- First Nations art is purchased from Haida Gwaii
- Purchases of fresh food produced on-island (e.g., tomatoes, cucumbers, eggs, vegetables, mushrooms, crab, fish, prawns, and scallops from local suppliers)
- In one case, local staff manage green houses on North Beach and grow the majority of the herbs and berries for one lodge company
- Some lodges use local trades people (e.g., electricians, carpenters, welders, refrigeration technicians, automotive mechanics)
- Some land-based lodges have a crew staying in their lodges to look after maintenance and repairs during the off-season and these individuals purchase staples and fresh produce from the local Co-op all year long
- In previous years, one lodge purchased spring salmon from a local commercial fisherman and processed it locally to give to their guests who had signed up for catch and release
- Fish caught at the lodges are often processed at one of the fish processors operating on Haida Gwaii (this is also noted in Section 4.3)
- Guests staying at the lodges fly in through Sandspit or Masset. Since 1997, the marine sector has grown to be a major user of the Masset airport. This has led to the construction of a 28,000 sq. ft. hangar for local repairs and maintenance, which operates on a year-round basis. Use of the Masset airport also generates additional impacts in the local economy through landing fees and fuel purchases by all users (estimated by one lodge operator at more than 100 million litres annually). Guests are transported to the lodges from the airport primarily by helicopter.

4.2.5 Sector Outlook

Sector participants agree that they operate in an amazing part of the world combining a unique marine environment with Haida culture. This combination attracts many tourists although more than half of the visitors come to fish. They believe that recreational fishing is an important driver of the local economy, but there is concern over the future of the fish stocks, consistent with concerns also expressed by the commercial fishing and fish processing sectors. On the one hand, some people believe that reducing fishing effort by all sectors (commercial, recreational and traditional Haida fishing) is essential if stocks are to be maintained in future. On the other hand, others believe that the lodges will have to diversify their product to rely less on fishing and more on products that include a range of other experiences. This point of view is nicely summarized by the following comment:

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26 As noted previously, there is considerable scepticism among Haida and other local people regarding the effectiveness of catch and release.
I believe that if the lodges in Haida Gwaii continue to emphasize the fishery as the reason to come to Haida Gwaii that there will be problems. If you sell a trip based on fish the basis of success becomes the extraction of fish. If you sell a trip on the natural wonder of Haida Gwaii then the customer cannot be disappointed.

- Lodge Operator

Switching the emphasis away from fishing towards an ecotourism-cultural experience will not be easy. Participants involved in the recreational fishing sector recognize that maximizing cultural tourism experiences will require coordination with the Council of the Haida Nation, Skidegate Band Council and Old Massett Village Council.

Although some participants are cautiously optimistic, the commercial recreational fishing sector may attract fewer clients due to the current state of the world economy. This may involve scaling back the size of some operations to balance lower demand and higher fuel costs, resulting in lower employment levels. Furthermore, the area will face stiffer competition from Alaska as Americans opt to go there because the current exchange rate no longer gives Canadian operations a built-in price advantage. (Indeed some operations incurred substantial foreign exchange losses because of the appreciation of the value of the Canadian dollar.)

Other barriers identified by interviewees included:

- Uncertainty about future expectations of, and requirements for, lodge operators on Haida Gwaii. One operator noted, however, that concluding a protocol agreement with the CHN provided increased clarity with respect to Haida values and traditions, acceptable types and levels of economic activity, and Haida employment expectations.

- Uncertainty about the transportation links and regular airline service. The ferry system is often not friendly to tourism because commercial vehicles are given priority over individual reservations.

- Some existing lodge operators are concerned that increasing competition from new local operators may lead to a smaller slice of the pie for all concerned.

- There is concern about the sustainability of local and migratory salmon stocks. However, since the recreational fishery has priority in allocation for chinook and coho, some believe that there should be an increased transfer from the commercial fishery to resolve stock issues for the recreational fishery. The overall health of salmon stocks will depend on management, natural productivity and hatchery production in river systems south of Haida Gwaii on the mainland, Vancouver Island, and the USA West Coast, governed in part by the international management of chinook salmon fisheries. The renewed Pacific Salmon Treaty provides an abundance-based chinook allocation for northern BC for the period 2008 to 2018 with similar arrangements for south-east Alaska and the west coast of Vancouver Island. Some of those interviewed expressed concerns about the trend towards a system based on terminal rather than interception fisheries.

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27 Fuel costs have fallen substantially from their extreme high in 2008 but are still high by historical standards and appear to creeping up again.
4.3 **FISH PROCESSING**

4.3.1 **Sector Summary**

There are four fish processing plants on Haida Gwaii, three in Masset and one in Queen Charlotte. (See Figure 4-8). Large fish processing companies headquartered off-island own three of the plants; one in Masset is locally owned. The plants on Haida Gwaii are small in terms of sales volume, ranging from less than $500 thousand to the $1-5 million range, compared with an average wholesale value per processing facility in BC of about $5.2 million.²⁸

![Figure 4-8: Fish Processing Plants on Haida Gwaii](image)

The plants process a variety of species – razor clams; halibut; groundfish (cod, ling cod; etc); salmon; crab – most of which are harvested in Area 1, 2, 101 and 102 (see Figure 4-1) by both local and off-island vessels.

Each processing company offers a unique product mix. Among the products and services identified in the interviews are:

- Offloading of commercial vessels

²⁸ British Columbia Seafood Industry Year In Review 2008, Ministry of Environment, Oceans and Marine Fisheries Branch, March 2010
- Offloading of Haida traditional fishing vessels
- Processing of traditional fishing and recreational fish; for two of the plants, custom processing of the commercial recreational catch is a key market segment
- Clams – mainly for bait (more than 60% in some cases); roughly 30% is processed as a food grade product
- Salmon (troll) – washed, crated and iced for fresh market; 10% head off and frozen; fresh salmon processed into filets, steaks, etc for the retail market where there are higher margins; small amount of smoked salmon
- Other finfish (e.g., halibut, rockfish, sablefish) - head off and icing for fresh market; no value added products
- Crab: 80% chilled to fresh market; 20% frozen whole cooked.

### 4.3.2 Trends

Fisheries harvest levels have dropped and rebounded over the past couple of decades but seem to be diminishing over the long term. Generally the processors have seen a decline in both commercial and recreational fisheries in recent years, although they note that fisheries are cyclic and harvest levels historically fluctuate. Some of the specific points noted include:

- Reductions in the Total Allowable Catch (TAC) due to conservation concerns have reduced fishery access and therefore limited processing opportunities and processing volumes.
- There are some advantages to landing salmon on Haida Gwaii because it can be cheaper than travelling to Prince Rupert, although this is influenced by the cost of fuel and economic arrangements between fishermen and mainland processors who may be able to offer better prices.
- Providing the processing service for salmon and halibut caught by recreational fishermen has led to the development of a market for other fish products (e.g., crabs, smoked salmon) among the sports fishing clients.
- New fisheries such as dogfish or turbot have not been maintained because of uncertain markets, low prices and in the case of turbot, limited entry into the fishery.

### 4.3.3 Employment and Wages

For most processing workers, the plants provide seasonal employment ranging from three to six months depending on the company. Managerial and administrative staff (about two per plant) are typically full time. Processing, offloading and dock workers account for about 240 jobs in all four processing plants with a further 10 people employed in managerial and administrative work, all Haida Gwaii residents. Haidas are estimated to fill about 90% of the jobs.

Wages range from a low of $11.50 per hour to a high of $19 per hour; plant managers are paid more and filleters can earn as much as $23 per hour. Generally there are no additional benefits paid, although one plant did indicate some in-kind benefits such as take-home processed product. There does not appear to be a systematic increase of wages related to experience, although year over increases or increases according to union scale were cited. The use of year bonuses was not mentioned. In one case, the example given was of an employee starting at $14 per hour for first season and increasing to $15 per hour for following season. The filleting positions are an exception because they are based on cutting speed and recovery rates, which generally increase with experience.

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29 This is referred to by DFO as Food, Social and Ceremonial (FSC).
4.3.4 Skills and Training

The approach to training varies by company but regular and informal on-the-job training appears to be standard. As one plant put it, cross job switching and flexibility are key features; people have to be able to perform different tasks as required. Other specific training programs cited include:

- Food Safe for the main processing crew
- Some training for fish grading and for fork lift drivers
- Quality Assurance Control - Quality Management Program
- In one case, “Hazard Analysis Critical Control Point” is offered to all employees if they choose to take it
- One company has access to a range of 300 training and development courses available to employees who wish to upgrade their skills. Some of these courses are available on-line for employees who wish to use them.

The overall result is a substantial accumulation of knowledge and experience within the industry. Examples include: extensive knowledge of seafood products (fresh, frozen, value-added, and dry); extensive knowledge of all aspects of sales, purchasing, processing; Hazard Analysis and Critical Control Points (HACCP); Shellfish Sanitation Program; Workplace Hazardous Materials Information System (WHMIS); Canadian Food Inspection Agency regulations; Labor standards, and fisheries regulations as well as knowledge of processing machinery, forklifts, computer skills, and customer service skills when dealing with clients.

4.3.5 Sectoral Linkages

Processors will purchase inputs locally (technically referred to as backward linkages) when a local supplier can offer reasonable prices and service. Typical local purchases by processing plants include plant supplies, office supplies, groceries, automotive supplies and repairs, internet services, electrical and construction contracts, construction supplies, food services, hotel services, fuel, and additional cold storage rental. However, the largest non-labour expense tends to be packing materials (styrofoam, cardboard, vac pac bags, etc). These are unavailable in bulk from any on-island supplier. Cleaning supplies also come from off-island. One plant estimates that it splits its non-labour input purchases 50/50 between local and off-island suppliers.

Interestingly, there are some forward linkages where the output of a processing plant is used as an input by a local business. For example, one plant sells about seven percent of its halibut volume to another local processor that markets to local restaurants.

4.3.6 Sector Outlook

Industry participants are guardedly optimistic about the future of fish processing on Haida Gwaii. Given the decline in processing volume from historic levels, diversification is key to long-term sustainability, assuming that processors can maintain the level of access they currently have. This, however, is uncertain because of year-to-year changes in fisheries management policies. The outlook for the sector is determined by access to fish but also by shipping, and stricter environmental requirements. Some of the specific positive factors include:

30 Hazard Analysis Critical Control Point (HACCP) is a systematic preventive approach to food safety that addresses physical, chemical, and biological hazards as a means of prevention rather than finished product inspection.

Proximity to the fishing grounds is a real advantage for Haida Gwaii processors because it gives fishermen the potential to avoid extra travel costs, boat wear and tear, and weather issues by landing their catch on Haida Gwaii. This is especially true for salmon and halibut where moving fresh product to market quickly is key to getting higher prices for processors, some of which can then pass on to fishermen.

If and when the container port in Prince Rupert starts shipping frozen fish, some local plants may be able to process and ship hake, pollock, turbot and other groundfish species directly to Asia, Japan and Europe, although this may be more beneficial for Prince Rupert processors.

Interviewees also raised a variety of concerns about barriers to future development including:

- Cost competitiveness factors, the most important being freight costs (both in-coming and out-going) and associated fuel costs.
- The impact of increased conservation efforts on fisheries access,
- Global warming,
- Off shore oil and gas (if the provincial and federal moratoria are lifted),
- The impact of the proposed windfarm on the crab fishery,
- Allocation changes between the commercial and recreational fisheries,
- Fish farming impacts on wild fish,
- The uncertain impact of catch and release on wild fish mortality,
- More timely DNA testing related to identifying West Coast Vancouver Islands chinook stocks to reduce or eliminate closures of the Area F chinook fishery, and
- Installation of infrastructure capacity to deal with the disposal of fish plant waste.

Overall, interviewees noted that a united approach by all processors to address these issues would increase the likelihood of successful outcomes. Interestingly, although the need for a shared cold storage facility has been frequently noted in the past, it did not come up in the interviews.

Interviewees also noted the value of a range of broader programs such as public education with respect to conservation, comprehensive/mandatory fisheries data collection, and education relating to fisheries’ sustainability. Available public funding limits the extent to these issues can and will be addressed.

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32 This is actually a commercial fishery issue but of concern to processors since closures will disrupt their flow of raw fish product.
4.4 MARINE TOURISM

4.4.1 Sector Summary

Aside from the fishing lodges and fishing charters (discussed in Section 4.2), the marine tourism sector consists of tourism operators, often with an emphasis on ecotourism, cultural tourism or adventure tourism. Many of the tourism operators on Haida Gwaii focus primarily on Gwaii Haanas tours, although some do conduct fishing and eco-tours in others parts of the islands. For study purposes, we are including the Haida Gwaii Watchmen Program in this sector. The Haida Gwaii Watchmen Program started in 1981 when the Skidegate Band Council and Haida Nation responded to the growing concerns about potential vandalism and other damage to the old village sites in Gwaii Haanas. The Watchmen are meant to protect the villages and often educate visitors on Haida history and culture.

Charter operators in Gwaii Haanas primarily offer kayak tours, zodiac tours, and cultural and sightseeing tours. In some cases, they may also offer tours in other parts of Haida Gwaii. A few operate from large motherships where clients travel from location to location and take kayak trips during the day. Most operators visit Haida Gwaii Watchmen sites and offer cultural interpretation for guests. One charter company operates from a small floating lodge on the edge of Gwaii Haanas in Crescent Inlet from which it launches single and multi-days trips. Another operates a 36-foot charter boat for servicing tourists and locals for both trips to Gwaii Haanas and reasonable-priced fishing trips. Some operators cater to education and youth groups, and are trying to build that market.

Marine tourism activity outside of Gwaii Haanas includes kayaking, surfing, beachcombing at beaches such as North Beach (which is also popular for razor clam digging and crabbing), and visits to cultural sites. Facilities that support or relate to marine tourism include the Haida Heritage Center in Skidegate, focusing on Haida culture and natural history, and the Dixon Entrance Maritime Museum in Masset that features maritime culture and history

Surfing and snorkeling are another small but growing aspect of marine tourism on Haida Gwaii. This has led to the establishment of a retail outlet that sells surfboards, wetsuits, kites and snorkeling equipment. The same company rents equipment and offers private and group lessons, as well as guided activities.

Gwaii Haanas Tourism

Since 1999, the maximum quota of visitors to Gwaii Haanas has been set at 33,000 user days. The allocation of the quota is currently as follows:

- 11,000 independent visitors,
- 11,000 commercial Haida (51% Haida owned),

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33 Considering that monitoring and enforcement of usage levels in Gwaii Haanas is an important aspect of Watchmen Program activities, it could also be included in the Research, Monitoring and Enforcement sector.

34 Destination Haida Gwaii, Upperfield Management Consulting, March 31, 2006 and Haida Nation Tourism Business Opportunities Plan, Meadfield Consulting, 2004, deal with marketing and market development for these marine tourism and other activities.

35 See Anna Gajda, Backcountry Management Approach In Gwaii Haanas National Park Reserve And Haida Heritage Site, Gwaii Haanas National Park Reserve and Haida Heritage Site, Queen Charlotte, BC, for further details on visitor limitations.
11,000 commercial general. (Note that the cumulative general commercial allocation currently allotted is 11,591 user days/night)

To date actual use has fallen well short of the total quota. In 2008, Gwaii Haanas had a total of 1,970 visitors creating a little over 8,100-visitor nights and about 2,070 users generating about 11,200 total user nights. It was also the first year since the 1990s that some new businesses have been added to the approved list of operators eligible for quota allocation. Figure 4-9 shows a very modest growth trend in Gwaii Haanas visitors with substantial year-to-year ups and downs over 1996 – 2008. Visitors range from a low 1,815 in 1999 to a high of 2,155 in 2004. (See Appendix B for more detailed data.)

![Figure 4-9: Visitor Use in Gwaii Haanas from 1996 to 2008](chart.png)

In 2008, 23 companies were registered to provide tourism services in Gwaii Haanas: 14 off-island based operations and nine local operators, one of which was a Haida company offering single-day powerboat trips. Two of these companies also offer fishing charters in other parts of Haida Gwaii. Table 4-4 shows the number of operators offering the listed services.

Other notable features about the Gwaii Haanas operator quota system include:

- Holders of a quota not using at least 50% in three out of five years lose 50% of their allocation.
- There is a fairly low turnover of allocation holders: that is, most repeat from year to year.
- The Gwaii Haanas operators are largely or wholly geared to operate only in Gwaii Haanas.

36 The total general allocation is the sum of all the allocations of businesses that are not Haida-owned.
37 Users’ includes ‘visitors’ as well as the staff of the tour operators, researchers and Watchmen. See Anna Gajda, Gwaii Haanas User Statistics, 2008 (Draft, December 19, 2009) Resource Conservation, Gwaii Haanas National Park Reserve and Haida Heritage Site, Queen Charlotte, BC, for details.
Commercial operators are not using the maximum quota of 200 persons per day (including guides). This is because most operators are small and can handle only small number of clients per day.

Most of the Haida quota has not been applied for and is therefore not allocated and not used.

Allocations are not tradable; they must be returned to the Archipelago Management Board for reallocation.

### Table 4-4: Gwaii Haanas Tour Operators

<table>
<thead>
<tr>
<th>Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Charters</td>
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</tr>
<tr>
<td>Diving Tours</td>
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</tr>
<tr>
<td>Kayak Mothershipping</td>
<td>8</td>
</tr>
<tr>
<td>Kayak Rentals</td>
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</tr>
<tr>
<td>Kayak Tours</td>
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</tr>
<tr>
<td>Overnight Hiking</td>
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</tr>
<tr>
<td>Powerboat Tours</td>
<td>8</td>
</tr>
<tr>
<td>Sailboat Tours</td>
<td>6</td>
</tr>
<tr>
<td>Transportation Services</td>
<td>8</td>
</tr>
</tbody>
</table>

### 4.4.2 Trends

There are a number of interesting trends to note about marine tourism operations in Gwaii Haanas:

- Gwaii Haanas visitation has been relatively stable at about 2,000 visitors per year. 38
- There has been an increase in shorter trips and day trips, and a decrease in longer trips since the early 1990s. The average number of visitor days/nights has fallen from 7.5 in 1996 to 4.4 in 2008.
- Mothership kayaking is growing in popularity but overall individual and group kayak trips are dropping off (in 1997 47% of visitors were kayakers; in 2007 only 26% of visitors were kayakers).
- The use of powerboats has increased, which is related to a greater frequency of day trips, or growing interest in 2-3 day trips rather than 7 day trips.
- These changes are likely related to a demographic shift: the aging population wants a softer passive recreation experience; there is lower demand by a younger generation less interested in active outdoor experiences.

From the Watchmen Program perspective, the number of visitors has declined from the levels experienced early in the Program.

From the Parks Canada perspective, the overall effect of these trends is fewer visitor days/nights to Gwaii Haanas resulting in less revenue earned. This makes it harder to attract the budget necessary to support the maintenance of infrastructure. Parks Canada’s current priority is to provide a quality experience for visitors. According to the Backcountry Manager, Gwaii Haanas will be more focused on targeted tourism marketing and addressing the needs of specific market segments in the future. There is also the concern that day trips put more pressure on sites and an overall desire to promote more leisurely visits that fit better with ambience of the area.

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38 Interestingly, although National Geographic Traveller had an article in 2005 listing Gwaii Haanas as the top national park destination in Canada and the US, there has not been a corresponding visitor increase to the park. See [http://news.nationalgeographic.com/news/2005/06/0627_050627_bestparks.html](http://news.nationalgeographic.com/news/2005/06/0627_050627_bestparks.html).
Outside of Gwaii Haanas operator-observed trends include:

- One operator noted that clients are getting older, and are close to retirement or are newly retired. The average age is approximately 50 years old. The operator stated that, “It used to be a few backpackers, fit people who went out on longer trips. Now younger people go out kayaking without a guide, they tend to have a lower budget and with advances in equipment it doesn’t seem as risky.”
- In the short run, according to local informants, there has been a sharp increase in the number of surfers on the islands, which is attributed to the increased awareness of Haida Gwaii surfing from stories in Surfer Magazine and the Canadian national surfer magazine, SBC Surf.39

### 4.4.3 Employment and Wages

Gwaii Haanas currently has 34 resident employees, 19 of which are Haida (16 fulltime and 3 seasonal). It is Gwaii Haanas policy to hire Haida people if possible and to provide training and support for them to grow into managerial positions.

Most of the 23 operations registered to provide tourism services in Gwaii Haanas are small owner-operated companies. (An exact count of the employment in these companies is not available). Based on information collected in the study interviews, we estimate seasonal (typically May through September) employment by Gwaii Haanas operators is at least 65 persons and could be as much as 110 persons. Based on the local versus off-island company split and available information on resident versus non-resident employment patterns, resident employment would make up 40-50% of the total employment. Estimated Haida employment runs in the 5% range. The Watchmen Program employs about 60 seasonal employees. The General Manager works from May through October, while the Senior and Assistant Watchmen, and the boatman and deckhand work from May through September. All of the Program employees are Haida except for one non-Haida spouse but this can change from year to year depending on who applies.

### Wages

Information on owner-operator incomes is not available. Wages for hired staff are a mix of hourly and daily rates, monthly salaries and barter-for-services arrangements (e.g., trading bookkeeping and accounting services for fishing trips). Examples include:

- **Day rates:**
  - Boat captains $200+ per day for small operators
  - Head kayak guide $180 per day (kayak guides will often have their own kayak, radio, PFD, First Aid kit, ropes and safety gear.)
  - Assistant kayak guide $150 per day
  - Day tours boat assistant $140 per day

- **Monthly salaries:**
  - Office staff - start at $2,200 per month (long term experienced office employee could reach $3,800 per month.)
  - Boat drivers -$2000 per month average up to $2,550 in the second year

39 See http://www.sbcsurf.com/
➢ Other employees: ordering food, cooking, cleaning etc. - $2,000 per month; 1st year guide up to $7,000 for the entire season ($1,500/June, 2,000/July and 2,500 August, increasing in the second year to $2,500/month).

In most cases, the operator provides room and board to all employees. Employees also make tips. One operator offers employees the opportunity to stay on-island during the off-season to work 16 to 20 hours per week in exchange for room and board.

In the Watchmen Program, weekly wages range from $735 for Senior Watchmen to $595 for Assistant Watchmen. Student employees receive $448 per week. Staff wages include room and board.

4.4.4 Skills and Training

For the marine tourist operators, most of the training and skills required are obtained through purpose specific short courses and on-the-job training rather than long-term formal education. First Aid is a common requirement. Examples of training include:

- Wilderness First Aid training (an 80 hour course).
- “Small Vessel Operator Proficiency” certification that qualifies a person to operate a maximum 12 passenger vessel under 5 tons.
- Considerable on-the-job training to learn the history and cultural history of Gwaii Haanas from pre-contact to present.
- For those engaged in cooking, a Foodsafe certificate.
- Large vessel operators have a ticket such as Master Small Craft 60-ton ticket for passenger vessels; crewmembers are often required to have completed a basic safety Med 1 A course.

Kayak guides may also have certification through the Sea Kayak Guides Alliance of BC. This certification includes courses on:

- Wilderness First Aid (noted above)
- Radio Operator Certificate
- Medical Evacuation
- Coastal Navigation
- Assistant/Boat Captain
- Limited Masters Ticket
- Marine First Aid

Over time the Watchmen Program has grown from a volunteer activity to a professional activity where all of the applicants need to have certification in a number of skills noted below. Most employee training is paid for by the Watchmen Program. The general manager requires people management, office management and computer skills. Watchmen must have certification in:

- Wilderness First Aid, Radio Operators
- Small Craft Operators
- Marine emergency Duties A3

Other training courses considered an asset include:

- Chainsaw Operation Training
- Coastal Navigation
- Cultural Interpretation
- Food Safe
- Super Host
4.4.5 Sector Linkages

As with the other sectors, marine tourism businesses prefer to buy locally when possible. Fuel, groceries and other supplies are purchased locally although some stated that they purchase canned goods from larger off-island retailers such as Costco. Repairs, maintenance and boat motors are purchased both locally and from off-island. Kayaks and kayak safety gear are purchased mainly off-island. Surfing and snorkeling equipment primarily comes from the US.

One operator noted a different type of linkage: they introduce visitors to the Haida culture and encourage people to spend extra time on Haida Gwaii exploring. Among the activities they recommend include visiting a Haida home-based business for authentic Haida cuisine and visiting the Haida Heritage Centre in Skidegate. Other local purchases have included commissioned totem poles by Haida carvers and jewelry from other Haida artists.

4.4.6 Sector Outlook

As noted for the recreational fishing sector, the general state of the economy and recovery from the current recession are important factors that may affect the marine tourism sector. Changing demographics are altering the client mix and tourist expectations. Operators will have to adjust to this including an emphasis on shorter tours.

There are diverse opinions about proposed small or pocket cruise ships visits40 to Haida Gwaii. Even those in favour seem to agree that managing the possible impacts is a priority. The main benefit is the potential for increased visitation at the Haida Heritage Center at Kaay Llnagaay. These visits could possibly be combined with day trips in Skidegate Inlet.

In regard to the last point, some observers believe that there is great potential in developing interesting day trip opportunities in Skidegate Inlet out of a central location using smaller, fuel-efficient boats. It would require an injection of marketing capital to execute a strategy based on the Haida Heritage Centre and focused on contemporary Haida culture. This could include features that differentiate Gwaii Haanas and Haida Gwaii from other places (e.g., sharing Haida history and contemporary information about the people and place, possibly through the Watchmen Program).

The surfer niche market also has the potential to increase in the next few years (particularly in the North Beach area) and draw more people into participating in surfing and kite surfing41 as a whole, both of which are eco-tourism activities that place minimal pressure on environmental resources. Overall, it is evident that future tourism development must occur in a way that is socially and culturally appropriate for Haida Gwaii, as outlined by the principles laid out in the Haida Gwaii/Queen Charlotte Islands Heritage Tourism Strategy.

Participants consistently cited Haida Gwaii’s remote location, cost of travel, and limited air and water transportation schedules as main barriers to further development of the marine tourism market. However, previous studies42 have noted limited accommodation and food service capacity as a notable constraint. Respondents also cited a variety of other factors:

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40 This refers to ships with a capacity in the low hundreds or smaller. Discussions with industry officials indicates that the companies operating large cruise ships carrying 1-2,000+ passengers are not likely to be interested because of water depth issues and insufficient capacity to handle the large volume of cruise ship passengers.

41 Kitesurfing or kiteboarding is a surface water sport that uses the wind to pull a rider through the water on a small surfboard or a kiteboard (similar to a wakeboard).

For Gwaii Haanas marine tourism operators, financial feasibility will be constrained by the limits on visitation to Gwaii Haanas including the new daily limit of 22 people per operator and inter-operator competition to serve a relatively stable market.

Facilities to serve marine tourists and others outside Gwaii Haanas are constrained by regulations that make it very costly to install adequate waste disposal capacity for large numbers of guests.

Some industry participants believe that balancing tourism focus across the old village sites, Haida Gwaii’s natural beauty, the abundant marine mammals and contemporary Haida culture could help to extend the tourist seasons to support the local businesses, hotels, restaurants and car rentals.
4.5 MARINE TRANSPORTATION

4.5.1 Sector Summary

For study purposes, this sector is defined to include scheduled water transportation, water-based air transportation and a variety of unscheduled water transportation activities. Historically this would have included RivTow, which operated a barging service out of Masset. RivTow ceased operations in Masset six years ago. Now known as SMIT Marine INC. they operate out of Prince Rupert. Their last Haida Gwaii based work was for BC ferries a few years ago.

BC Ferries provides ferry services on two runs:
- Prince Rupert - Skidegate
  - Sailings – six days per week during the summer; 3 days per week during fall, winter and spring
- The Kwuna is used by BC Ferries between Skidegate and Alliford Bay.
  - About 8,400 sailings per year (12 times per day in each direction, excluding Dangerous Cargo Sailings)
  - Current maximum carrying capacity: up to 150 passengers and 26 vehicles with crew of four

North Pacific Seaplanes provides air links to Prince Rupert from Masset, Queen Charlotte and Sandspit.

Inland Air (formerly South Moresby Air Charters Ltd.) is a charter operation headquartered in Prince Rupert that operates a summer base in Haida Gwaii. The company offers a number of special-interest tourism products that include flightseeing excursions, destination charter tours, crew and guest changeovers, and paddler pick-ups and drop-offs, including service into Gwaii Haanas.

North Arm Transportation, the Masset-based branch of the Vancouver-based company, supplies fuel to commercial fish boats as well as all northern fuel resellers (gas stations), heating oil sales, diesel for furnaces, kerosene-type jet fuel (jet A) for laser stoves and lubricants. North Arm also provides a variety of barges services including:
- Delivering freight for fish lodges and logging companies
- Handling freight for BC Ferries as necessary (e.g., when the Queen of Prince Rupert or Northern Adventure cannot operate)
- Hauling industrial freight, vehicles and large freight from the mainland (on demand)

D&E Salvage owns and operates a 26 foot tug boat and three barges that provide a mix of services including:
- Moving equipment, booming and towing logs, building booming grounds, pile driving, and dock repairs.
- Building bridges (e.g., steel bridge on Tow Hill Road).
- Salvaging beached and sunken boats

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43 We do not include Vancouver Island Helicopters since they are land based, although they do provide transportation services to the recreational fishing sector.
Oil spill cleanup
- Harbour services (e.g., small oil spills, fixing the floats etc.)
- Maintaining mooring buoys and other marine work for Gwaii Haanas (e.g., barging supplies)

4.5.2 Trends

Given the mix of businesses in this sector, no one trend item is dominant. There are a variety of issues worth noting however:

- For airline services, flights have decreased substantially because of the decline in the forest industry but tourism flights, although variable, have increased overall. The increasing cost of fuel also makes air cargo shipping more expensive and presents competitive challenges as users look more favourably on water transportation.
- Since arriving on the islands in the 1980s, BC Ferries has become the main transportation link to the mainland and between Graham and Moresby Islands. Over the last ten years BC Ferries employment has declined from a peak of 24 to 13 with increased use of casual employees. However, casual employees are expected to wait by the telephone when they are on call and therefore it can be difficult to find workers on short notice.
- Over its 15 years of operation on Haida Gwaii, North Arm Transportation has seen commercial fishery fuel sales fall while home heating fuel sales have increased. The company’s truck fleet has grown from one small truck to two large ones. It is currently in discussions with the CHN to establish land-based fuel storage to replace its current water-based system located at the Village of Masset wharf.

4.5.3 Employment and Wages

We estimate employment in this sector at about 30 persons, 14 full-time employees (six Haida; eight other island residents) and 16 part-time/seasonal employees (seven Haida and nine other island residents).

As might be expected, there is no consistent pattern in terms of wages in the marine transportation sector. Examples of wages paid include:

- Office manager in the $20-23/hour range with assistants at about 80% of this rate
- Truck drivers in the $24-25/hour range
- Pilots in the $26-28/hour range and dispatchers in the $12-14/hour range, which could increase by 30-40% with appropriate experience
- Labourers in barging and related work start at about $15 per hour, which could increase up to $25/hour with experience (wages for trades people such as welding are higher)
- BC ferries pay an average of $23 - 24 per hour (7.5 hours constitutes a full day shift). Personnel are hired at a base rate, which is lower for a terminal attendant than a ticket agent; seasonal workers are hired on a contract to be available for work from June through August; there is a $500 bonus for fulfilling the contract plus personal ferry passes

4.5.4 Skills and Training

The mix of skills and training in the marine transportation sector varies considerably. Pilots, of course, have substantial training. Other positions require on-the-job or training courses provided by the employer to acquire job related skills. Examples include:

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Note that the BC ferries employment estimates include land-based employment only and not ferry crews.
Oil Spill Response Training provided by Vancouver-based Burrard Clean and the Canadian Coastguard

Workplace Hazardous Materials Information System (WHMIS)

First Aid ticket

Computer skills

Training on dock and loading planes

BC Ferries terminal attendants require Grade 12 and a valid BC Driver’s License. BC Ferries offers training to complete job requirements such as First Aid, Traffic Control, Radio Operators Certificate, and Fork Lift Training. Ticket agents must take Superhost\textsuperscript{45}, cash handling, basic computer skills, and training in reservations.

Fuel truck drivers are trained in fuel delivery guidelines to be compliant with Transport Canada dangerous goods handling regulations.

4.5.5 Sectoral Linkages

As with other sectors, marine transportation businesses try to acquire their goods and service inputs locally but specialized items such as fuel, treated lumber, construction materials, office furniture and equipment often come directly from off-island. Examples of contributions to the local economy include using a Haida contractor for office renovation, equipment purchases for boat maintenance and property maintenance, propane, gasoline, office supplies and Haida art.

Bridgeview Marine provides an interesting example of the types of inter-sectoral linkages between the marine sectors and businesses supplying inputs to those sectors. Although the core of Bridgeview Marine’s business depends on commercial recreation (lodges), it also has connections to four of the marine sectors covered in this study:

- Supplies goods and boat maintenance to commercial fishermen.
- Supplies recreational fishers with sales and service, fishing tackle, boat motors and service.
- Supplies businesses involved in marine tourism with services and sales.
- Fixes and stores boats for the winter for all the sectors.
- Vessel maintenance for DFO, RCMP and Coastguard.

In addition, Bridgeview operates its own freight trucks and trailers, although Clearbrook Trucking transports outboard engines shipped from Mercury Marine once they reach the islands.

In its Sandspit operation, Clearbrook employs 11 people, nine of whom moved to the area when Clearbrook established its local operation four years ago; two were local hires and none are Haida. Some positions are paid hourly and others are on salary, averaging about $25 per hour.

4.5.6 Sector Outlook

Sector participants generally expressed a pessimistic view for marine transportation related to the decline of forestry and fishery activities and to the current state of the global economy. They believe that only a turn-around in the general economy will lift the level of business activity in their key markets and thus generate increased demand for transportation services. Other specific concerns bearing on the future outlook included their difficulty of obtaining workers and fewer remote camps requiring services (down from nine in 1986 to one part-time camp on the islands). Interviewees also expressed a belief that better management of natural resources could help rejuvenate forest ecosystems and ultimately support a revival in forestry with an associated commercial

\textsuperscript{45} This training program is now called WorldHost® Foundations of Service Excellence.
increase in demand for transportation services. They also identified the growth or decline of fishing as an important determinant of the demand for transportation services.

More stringent marine regulations could constrain the supply of marine transportation services. One air transportation company believes that a shift in their marketing to advertise tours and charters would be an effective way to expand their business and hire more people.

Given the mixed nature of this sector, it is not surprising that the interviewees did not identify broad sector-wide barriers, aside from concerns about increased costs of doing business. A specific concern for BC Ferries is infrastructure, specifically inadequate parking areas and terminal buildings. Improvements to these facilities would improve safety and provide a safer place for walk-on passengers to leave their vehicles. Increasing ferry rates are also a concern as the ferry is considered a part of the highway system for island residents. For the fuel oil business, the current state of the logging and the commercial and recreational fishing industries present a barrier to future growth. They are looking at other ways to expand or provide services.
4.6 RESEARCH, MONITORING AND ENFORCEMENT

4.6.1 Sector Summary

This section addresses the research, monitoring and enforcement activities of the Haida Fisheries Program, Fisheries and Oceans Canada, BC Parks, and Canada Coast Guard. While it is not strictly a marine-focused organization, the Gwaii Trust is noted because of its support for a number of marine sector related projects, some of which were implemented by the Haida Fisheries Program.

The Haida Fisheries Program seeks to improve the benefits available from the fishery for Haida Gwaii. The main objective of Haida Fisheries Program is to increase Haida involvement in the management of fisheries and marine resources on Haida Gwaii. A partial list of activities carried out by HFP includes:

- Co-management of Haida Gwaii razor clam fishery
- Biological research projects and stock assessment for salmon, herring, and shellfish
- Fisheries Guardians that do some joint enforcement activities with DFO Conservation & Protection
- Creel monitoring
- Watershed restoration activities
- Dive surveys such as herring spawn, abalone, red sea urchin, and geoduck clam assessments
- Input into fisheries policy and management through the Joint Haida/DFO Technical Committees including a Cooperative Management Group
- Lead partner in the Haida Gwaii Abalone Stewards
- Haida Gwaii integrated marine use planning
- Salmon enhancement at Pallant Creek Hatchery

Funding for these activities comes through a co-management agreement with DFO under the Aboriginal Fisheries Strategy and the Aboriginal Aquatic Resource and Oceans Management (AAROM) and Environment Canada Habitat Stewardship (related to abalone) programs.

At the same time as local participation in traditional commercial fisheries has declined, the Haida Fisheries Program has expanded its capacity to manage fisheries in the form of improved infrastructure, support vessels, better communications and safety equipment and the capacity of its key staff. Several key field staff has now moved into managerial positions. The HFP has also used core AFS funding to leverage funding to do contract work on watershed restoration and the Pallant Creek Hatchery, general fisheries consulting, commercial diving and environmental monitoring. More recently, the HFP have engaged in collaborative management in specific fisheries and more generally in marine use planning.

Fisheries and Oceans Canada (DFO) conducts resource monitoring and is responsible for the management and assessment of stocks. DFO has two offices on Haida Gwaii, in Masset and Queen Charlotte, focused on DFO Fishing Areas 1 and 2E/W (Figure 4-1 shows Areas 1 and 2). Their primary focus is on salmon and herring. Shellfish are managed out of the North Coast area.

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46 It could be argued that Gwaii Trust does not fit into research, monitoring and enforcement. However, since a number of the marine sector related projects it has supported have a research aspect, we have chosen to include them in this section.

47 Note that the role of Fisheries and Oceans Canada is addressed in the Monitoring section below.
office in Prince Rupert and groundfish are managed out of the regional office in Vancouver. Some of the assessment objectives are contracted out to organizations such as the Haida Fisheries Program (e.g., the herring spawn survey). Contractors are hired for the assessment of terminal salmon stocks on Haida Gwaii (salmon that originate from Haida Gwaii and return to spawn and die). The Coast Guard vessel Arrow Post assists local staff to assess the rest of the streams. DFO also monitors salmon interception fisheries (fisheries that target stocks which are passing by but do not spawn in Haida Gwaii); this includes, for example, chinook salmon, which are the primary target species for the recreational fishery and the commercial troll fishery.

The Coast Guard monitors ocean going vessel activity around Haida Gwaii. This consists of the cruise ships that travel along the west coast and Hecate Strait, the ocean freight traffic that passes mainly on the west side of Haida Gwaii (although the upgrade of cruise ship and cargo facilities in Prince Rupert is also resulting in increased vessel traffic in Hecate Strait). Marine Traffic and Communications Services in Prince Rupert keeps records of commercial traffic (e.g., freighters, cruise, ships, tug boats, etc) but not pleasure craft. The Coast Guard resource centre will also be aware of large commercial fishing vessel concentrations (these are less frequent today because of changes in how and when fisheries are opened and managed) but they do not track individual fishing vessels. The PNCIMA marine use analysis provides information of the volume of vessel traffic passing near Haida Gwaii.48

BC Parks’ main focus is on monitoring activities at Naikoon Park. The local office also deals with surfing on North Beach and South Beach, recreational crab and clam fisheries, and small boats fishing for halibut from the North Beach/Hiflen access point. It also engages in some partnerships and relationships with other ministries and private agencies, although this limited by their relatively small number of local staff.

The Gwaii Trust assists in promoting the cultural and economic health of Haida Gwaii by grant funding to a broad spectrum of recipients throughout the Islands, totaling in excess of $35 million dollars since the inception of the Trust. Some of the funded projects related to the marine environment and infrastructure include:

- Marine Fisheries Forum, December, 2008 – $19,000
- Old Massett Village Council – Sea Cucumber Project, November, 2008 – $80,000
- Village of Masset – Delkatla Crossing, October 2007 – $480,000
- Haida Fisheries Program Watchmen Vessel Upgrade, November, 2006 – $49,000
- Haida Marine Traditional Knowledge, October, 2006 – $45,000
- Skideigate Band Council Haida Canoe Project, February, 2006 – $157,000

4.6.2 Trends

Two agencies described trends in their area of interest:

- BC Parks: in term of allocating its budget and personnel, BC Parks has had to respond to a slight increase in enquiries regarding marine use and an overall increase in interest in marine activities (i.e. kayaking, canoeing); a moderate to high increase in beach use (i.e. surfing on

48 S. MacConnachie, J. Hillier, and S. Butterfield, Marine Use Analysis of the Pacific North Coast Integrated Management Area, Oceans, Habitat and Enhancement Branch, Fisheries and Oceans Canada, 2007
North Beach and South Beach, recreational crab and clam fisheries and small boats fishing for halibut from the North Beach/Hiellen access point).

- DFO: there are number of trends that have affected the significance of fishery activities in the Haida Gwaii economy, and hence reducing the need for local monitoring and enforcement services:
  - The biggest change is the substantial decline in fishing fleets operating from Haida Gwaii. For example, there was once a large local seine fleet in both Queen Charlotte and Masset that no longer exists.
  - The gillnet fleet has experienced a similar decline such that only a few locals own and operate gillnet licenses now.
  - Multiple gear options for salmon license holders no longer exist locally.
  - The growth in the recreational sector, which has priority access on chinook, has a limiting effect on the salmon troll fishery.
  - There has been a large decline in salmon returns to local creeks (especially chums).
  - The large fisheries for sockeye migrating toward the Skeena and the Fraser off Langara Island and Rennell Sound do not exist anymore owing to changes in management philosophy shifting away from interception fisheries.

### 4.6.3 Employment and Wages

The four organizations in this sector employ a total of 31 people full time and 26-31 persons part time. Of the full time employees, 9 are Haida and 22 are other island residents. All of the part time employees are Haida. Table 4-5 shows employment by organization.

#### Table 4-5: Employment by Research, Monitoring and Enforcement Organizations

<table>
<thead>
<tr>
<th>Organization</th>
<th>Haida</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC Parks</td>
<td>1 (pt)</td>
<td>1</td>
</tr>
<tr>
<td>Coast Guard</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Fisheries and Oceans Canada</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Haida Fisheries Program</td>
<td>7, 25-30 (pt)</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>9, 26-31 (pt)</td>
<td>22</td>
</tr>
</tbody>
</table>

Note: pt = Part Time; we have excluded the Gwai Trust employment (3 persons: 2 Haida person, 1 other) since it is the supported projects that of interest and they comprise a small part of the Trust’s overall activities.

Source: Estimated by Gardner Pinfold from interview data

The hourly starting wage rate at BC Parks ranges from $28 per hour (Area Supervisor) to $20 per hour (Ranger). These rates increase incrementally by years of experience according to the BC Government Employees Union agreement. DFO and Coast Guard employees belong to the Public Service Alliance and are paid hourly by different classifications. They also receive isolated post benefits as well as medical and travel. At the Gwaii Trust, entry-level jobs begin at $12 per hour and rates are typically increased depending on range of responsibilities, tenure, and education.

In the HFP, the biologist pay scale starts at $55,000. Other staff position wages range from Assistant manager-$27S per hour; Field supervisor-$23S per hour; Receptionist-$14S per hour and Field Staff $14 – $19 per hour for seasonal field staff during the May to September busy time.

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49 Gwaii Trust was excluded from these calculations because, although their financial contributions to the marine sector are worth noting, Gwaii Trust employment is not considered to fall within the marine sector.
HFP professional staff salaries are based on industry standard, subject to the Secretariat of the Haida Nation wage classification that includes a yearly increase for first three years and a cost of living allowance thereafter.

4.6.4 **Skills and Training**

Skills, training and education vary according to the requirements of the specific agencies:

- **Coast Guard**: *Officer in Charge* – Masters Certificate; *Leading seaman*: first aid; rigid hull boat operation; radio operator certificate, emergency duties and bridge watchmen certificate; *Engineer*: engineers certificate
- **BC Parks**: *Supervisor*: post secondary education; *Ranger* - Grade 12 and varied technical skills essential for the job, small vessel operators’ course, assorted management training is offered, technical skills training, masters training for marine vessel operation.
- **DFO**: a new hire must have completed a two-year, post-secondary education program and have demonstrated experience in renewable and natural resources, law enforcement or the fishing industry. Non-enforcement jobs require a degree or significant experience. Once hired every recruit gets intensive training through the 36-month Fishery Officer Career Progression Program.
- **HFP**: education, skills and experience vary greatly across the staff. The HFP has some core field staff who are trained to deliver stock assessment projects. Haida staff are gaining valuable administrative experience and further progress can be expected assuming a willingness to accept the associated responsibilities that go with senior administrative positions.

4.6.5 **Sectoral Linkages**

Generally, the aforementioned agencies will acquire goods and services locally if possible. For example, BC Parks primarily use local suppliers and contractors but will go off-island occasionally if specific goods/services are not locally available. BC Parks is also required to follow fair contracting procedures and anything over a certain amount must be advertised throughout BC. DFO has a similar contracting policy and purchases whatever they can locally (e.g., floater suits and boots). Items not available locally are purchased from off-island suppliers. The Haida Fisheries Program estimates that they purchase eighty percent of their goods and services inputs on-island. This reflects an implicit policy to buy things locally, assuming good service or fair pricing. Large boat repairs are often done in Prince Rupert, and more recently at Bridgeview in Sandpit. Repairs on the smaller boats are done at Bridgeview and Rocky’s Equipment in the Village of Queen Charlotte. Specialized items such as fish food for Pallant Creek Hatchery are purchased from off-island because they are not available locally.

4.6.6 **Sector Outlook**

BC Parks expects to increase its local capacity and seek partnerships for more marine involvement. The newly established terrestrial conservancies are expected to have associated marine protected area boundaries and BC Parks will be directly involved in the management for those areas.

The Coast Guard Station in Sandspit is four years old. The main purpose of the station is to function as a search and rescue platform and they handle about 27 incidents per year (although some are minor, for example, false alarms, breakdowns, fire). There are already as many as 10 cruise ships per day passing by Haida Gwaii during the May through October season, and the Coast Guard station has the capacity to handle additional incidents if necessary (e.g., the addition...
of pocket cruise ships). The Rescue Centre in Victoria also provides any additional resources they require. Rescue helicopters come from Comox and Health Services can dispatch a medical helicopter from Prince Rupert or planes from Prince George or Vancouver.

DFO expects the Haida Gwaii office will be there for the long term and will continue to evolve in response to changing circumstances in commercial and recreational fisheries. Current personnel would like to see a mentoring program that encourages local interest in fisheries resource management and enforcement. The goal is to increase the eligibility of Haida Gwaii students for future job opportunities.

Haida Fisheries expects to continue to increase the role of Haida in local fisheries management and enforcement. Employment is currently limited by the amount of funding available through the Aboriginal Fisheries Strategy (AFS) and Aboriginal Aquatic Resource and Oceans Management (AAROM) program.

The Gwaii Trust activities are driven by applications from local parties to address local concerns and interests. Applications for marine sector-related projects have been cyclical in the past but are expected to continue at the historical pace or better.

There will however be a number of challenges to be overcome. For the local BC Parks office, activities are limited by the lack of budget and staff capacity. They expect to acquire additional resources in the future for a new vessel for marine patrols to monitor activities in Naikoon Park and along North Beach and South Beach. In the meantime, BC Parks plans to continue working with other provincial and federal agencies on monitoring and enforcement.

For DFO, lack of funding is also a major barrier. Over the past ten years the charter patrol program budget has shrunk from $200,000 to $50,000, which has led to a decrease in stock assessment work. Other activities such as stream and trail maintenance, maintaining boundary signs, and enumerating returning salmon have all been reduced due to limited funding. Three local fisheries patrol vessels have been replaced with one Coast Guard vessel, which is sometimes used off-island and not available for local duty. The Haida Fisheries Program, which is partly funded by DFO on contract, contributes some capacity, although their work is very limited since the budget has not changed since 1993 and has been eroded by inflation.
4.7 CROSS SECTORAL ISSUES

4.7.1 Social and Cultural Linkages

The primary focus of this study is to describe the economic aspects of the marine sectors currently operating in Haida Gwaii. However, it is also necessary to acknowledge the important social and cultural linkages between local communities and the marine sectors. In terms of the breakdown of economic sectors, the interviews revealed that these linkages are strongest for the commercial fishing, recreational fishing and fish processing sectors. The historical roots of these linkages lie in the fact that the marine environment has been a vital source of food with nutritional, social and cultural aspects for the Haida. As one interviewee put it, “The Haida have lived off the oceans resources for a very long time and the connection is stronger than anything I could describe. The result is that socially so much of what we do is tied to the ocean. Traditionally much of the economy has come from marine activities.” In this context, historically the Haida were managers of the resource and there is obviously an interest in an increased management role today.

Today, in the view of sector participants, local communities remain connected to the oceans because, even with the decline of commercial fishing from its historical levels, so much of the economy is based on the marine environment. As one person stated, “Everybody who fishes, we are all linked together no matter who we are.”

With specific reference to the recreational fishery, interviewees referred to important social and cultural linkages (in their view) between local communities and recreational fisheries, particularly for island residents who are not Haida. For Haidas, however, there are cultural concerns around sport fishing practices such as catch and release because it is seen to be inconsistent with treating marine resources with respect. This concern is also shared by some island residents.

For the processing sector, the social linkages are primarily based on the extensive employment opportunities offered by the sector for both Haida and other island residents. To a lesser extent, some interviewees point out that some processing plants play a role in landing and processing fish caught for food by Haidas and other island residents and this has a valued social dimension.

To the extent that there are social and cultural linkages for the marine tourism and transportation they appear to mainly a reflection of the current economic activities. Marine tourism operators, for example, appear to interpret the social and cultural linkages in terms of their interaction with and dependence on the marine environment. Typical observations include:

“Socially and culturally my business depends on the marine sector. The marine component is like our highway to get to the mainland. We buy all our fish through the fish plants.”

- Marine Tourism Operator

“I don’t think there is anyone on the island that doesn’t deal in some way with the ocean, Haida and other island residents alike. Who doesn’t go out for scallops when they come up on North Beach? … The ocean provides locals with food.”

- Marine Tourism Operator

“I don’t think you could be more connected to the ocean than we are on this island.

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50 It must be noted that the contemporary distinction between commercial and recreational sectors has little historical or cultural meaning for the Haida for whom the marine sector was a unified resource.
because it is in all parts of our lives. How we travel, where our food comes from, our work for a lot of us, and where we go for recreation. It’s the thing that makes it my home!"

- Marine Tourism Operator

“Most clients [who come ostensibly for kayaking or other marine experiences] are urban so they discover the social culture of small communities. They have a chance to sit and visit with locals at places like Purple Onion and Queen Bee’s. It is a unique experience that they really enjoy, it is often the highlight of their trip to meet and visit the locals.”

- Marine Tourism Operator

The strong cultural and social linkages to the marine environment influence the way other marine sectors conduct their activities. For example, BC Parks tries to capture this by acknowledging the Haida cultural connection to the marine environment and giving priority to local input and consultation in marine planning. The Gwaii Trust focuses on supporting all economic drivers on the Islands and notes that because the ocean affects all aspects of the lives of Haida and other islanders alike, it always plays a significant part in the Trust’s decisions on which projects it will support financially.

There is another aspect of the social and cultural linkages that needs to be acknowledged. Historically, the Haida were managers of marine resources, and in that sense were engaged in research, monitoring and enforcement, albeit in a different way. Reconnecting with and increasing that management role is a current Haida interest as a way to expand their research, monitoring and enforcement activities.

4.7.2 Local Community Economic Development Priorities

To put the development priorities in perspective, it is useful to consider the marine sectors in terms of whether they have export potential or are primarily a support or service sector. Four sectors have a demonstrated export orientation and the potential for greater contributions to the local economy: commercial fishing, recreational fishing, fish processing and marine tourism.

**Commercial Fishing**

There is still an intense interest in the commercial fishery. As one interviewee put it,

“Haidas have always been fisherman and young folks still want to fish. Part of my operation is teaching young people how to fish.”

– Commercial Fisherman

So, even though commercial fishing has fallen from historic levels, for Haida and other local people it still has an important economic and social role to play. Even at a reduced scale, commercial fishing still contributes to the local economy through the employment of local people on locally owned boats and through hires on off-island boats. All of these boats purchase food, fuel and other supplies and services locally. In addition, although many local and off-island fishing boats deliver their catch to fish plants in Prince Rupert, local landings support the four island-based processing plants.
To capitalize on export potential would require sustainable marine resource management, adequate local resource access, and appropriate locally based harvest capacity. The latter will require augmenting the number of locally owned and fished licenses, particularly for those species where there have been substantial historical commercial harvest volumes in Haida Gwaii waters such as halibut, crab and sablefish.

More broadly, the management of commercial fisheries are still seen as vitally important from a marine stewardship perspective. The Council of the Haida Nation is already involved in co-managing the commercial razor clam fishery and intends to increase their role in the management of marine resources within their traditional territory. Local people are seen as marine stewards who must assume the responsibility for maintaining the marine environment that has supported human life on Haida Gwaii over time and attracts new people to visit and explore what the islands offer. In this sense, it is essential that the Haida and other island residents manage and protect the marine environment to the best of their ability and ensure that local community economic development priorities reflect these values.

**Recreational Fishing**

In our view, some of the interviewees’ responses can be interpreted as expressing a belief that recreational fishing has played a significant role in shaping the structure of the local economy. The analysis of the sector indicated there are linkages from the recreational fishing sector to other sectors in the local economy and it can be concluded that strengthening and broadening these linkages to generate greater local economic impact would be a sensible development priority. Increasing local hires and purchases of goods and services from local suppliers would be a strategy worth exploring. In the short run, the mechanism to achieve this could be establishing protocols with the lodge operators that include local preference purchasing policies. In the longer term, greater local involvement in policy and the management and operation of the lodges could be achieved through increased local lodge ownership or entering into joint ventures. Another possibility would be to provide support for expanding local charter operations, the effect of which would be to create more competition for the lodges.

However, from an economic development perspective, some people believe that there are limits on the potential for further expansion recreational fishing tourism related to lack of client growth, increased competition from other jurisdictions, concerns about the health of fish populations, and access to these stocks. Some operators believe the key priority should be diversifying the product mix of the current fishing lodges and charter operators to offer clients a wider range of non-fishing activities on their visit to Haida Gwaii. This will not be easy. Some lodges have tried to get their guests to come earlier and stay later, but they encounter the challenge of widening the perspective of “fishing” guests who are essentially not interested in other activities. This will require a combination of identifying different opportunities throughout the season; for example, offering eco-adventure activities (e.g., helicopter and boat rides) from mid-May to the beginning of July, focusing on fishing from early July to late summer, and then shifting back to the eco-adventure focus in the fall. Among those advocating developing these activities, there is a recognition that they should be delivered in a way that involves local participation and benefit.

**Fish Processing**

Fish processing is seen as a key part of the current economic base of the islands because it still generates substantial, albeit seasonal, local employment for Haida and other island residents. As one interviewee put it, “There isn’t much of another resource in Massett. The marine sector is pretty much the ‘food’ for Massett and New Town and the same in Queen Charlotte.” Processing depends on the commercial and recreational fishing sectors for its raw material supply. This
sectoral linkage is both a strength for the local economy and a potential threat since weak fish stocks mean lower catch levels and reduced throughput at the plants. For the most part, the interviewees appeared to view the sector as stable with possibly some export potential related to frozen products shipped out of the expanded container port in Prince Rupert. Even so, marine tourism including sports fishing was viewed as having superior development potential.

**Marine Tourism**

Marine tourism is a mixture of local and off-island owned businesses exporting services that require healthy marine ecosystems and sustainable management of related on-shore areas. As a community economic development priority, focusing on Gwaii Haanas is not sufficient due to two factors: the capacity limits on visitor levels and day/night visits which limit growth and development possibilities; and the high proportion of non-local operators in Gwaii Haanas who tend to import their supplies and thus reduce their on-island economic impact. The alternative suggested by interviewees is to focus future marine tourism development on the waters outside of Gwaii Haanas, notably Skidegate Inlet, which, it is felt, offers better opportunities for current local businesses to expand their operations or for new operators to develop a market. Refocusing marine tourism development in this way may also help other tourism on-island by, for example, encouraging client to make a day trip to North Beach or hike a trail in Tlell. From a Haida perspective, however, making better use of the unused part of the Haida quota for day-trips in Gwaii Haanas offers opportunities for further development.

**Other Sectors**

As for Marine Transportation services, they are not a final product and the demand for them is derived from the requirements of other sectors – shipping finished products to market, bringing in required inputs, transporting tourists and so on. If, for example, the local fisheries can be rejuvenated and sustained, these could lead to an increased demand for marine transportation services. Similarly, opportunities exist for the forest products industry to produce value-added products that could be transported to the Vancouver market on the backhauls of the fuel barges. Ultimately, stimulating the development of fisheries, forestry and tourism must go hand in hand with attention to the quantity and quality transportation services. Inadequate or limited transportation services can act as barrier to development as noted in the discussion of commercial and recreational fishing, and marine tourism in Sections 4.1, 4.2 and 4.4.

Research, Monitoring and Enforcement is also a supporting sector and not a priority development sector itself. The sector’s role is to restore and maintain the ocean environment so it can support Haida and local communities, sustainable fisheries and eco-tourism opportunities. If these sectors were to grow, however, the need for increased research, monitoring and enforcement capacity would also contribute to local economic development.
4.7.3 Haida Capacity—Building – Barriers and Opportunities

With regard to the commercial fishery, interviewees identified two different types of barriers, one related to future participation in the fishery itself, the other related to Haida capacity in marine resource management.

The barriers to future participation included privately owned quota (a financial barrier) and the loss of connection to fisheries through the diminished link between old time fishermen and the youth. Neither was viewed as impossible to overcome. Indeed, the suggested solution appears to address both barriers: the Secretariat of the Haida Nation or the Band Councils could use the quota that is currently Haida owned (and acquire more quota as required) to develop a program to assist young people who want to get into the fishery.

There are currently two DFO programs that support further First Nations participation in the commercial fisheries: the Allocation Transfer Program and the Pacific Integrated Commercial Fisheries Initiative (PICFI). Either or both could play a role in helping the Haida Nation build additional capacity in the commercial fisheries beyond the existing 22 commercial licenses. This could, in turn, be the basis for gradually increasing local benefits from commercial fishing, given that PICFI has a modest goal to transfer just 5% of commercial licences/quota to all First Nations over 5 years.

The ATP is a relatively small program with a $6 million annual budget in the Pacific Region. Through the voluntary retirement of commercial licences and the re-issuance of the equivalent commercial fishing capacity as communal commercial licences to the SHN, there is some potential for an expanded Haida participation in the commercial fisheries. The ATP may support the transfer of equipment and vessels to assist in the start-up and management of their operations.

PICFI is an initiative with a five-year $175 million budget. It is aimed at achieving environmentally sustainable and economically viable commercial fisheries and provides support First Nations’ aspirations to be more involved in the commercial fisheries. Since having access to commercial fisheries does not guarantee long-term economic success, PICFI includes a capacity building element to provide eligible First Nations with the tools necessary to support successful and sustainable community owned and operated commercial fisheries enterprises. The two key programs are:

- **Commercial Fisheries Enterprise Management**, which is directed at providing First Nations with support to establish business management structures and practices to make effective business decisions, and
- **Fisheries Training**, which provides assistance to eligible First Nations members to obtain the skills necessary to fish safely and effectively in various fisheries, including supporting the skills needed for vessel maintenance.

On the processing side, which is a substantial source of employment for Haida people, the work season has shrunk from eight or nine months down to as little as two months in some cases. Interviewees made the important point that long-term sustained work leads to better morale and sense of dignity. The challenge is how to achieve a longer fish-processing season in a commercial fishery that is broadly scaled down from its historical levels. An initial step would be to shift the industry structure to generate a larger volume of landings on Haida Gwaii, which may be facilitated by greater locally based license ownership and fishing capacity as discussed above.
For the recreational fishing sector, interview respondents generally agreed that the Haida have excellent potential to expand their participation but, in their view, to capitalize on this will require a coordinated approach to establishing priorities across the islands. It is useful to consider Haida participation in terms of the two broad sector commercial components, lodges and smaller charter operators.

Setting up a recreational fishing lodge requires a substantial capital investment, something that is beyond the available financial resources of most individuals. Partnerships with other organizations were noted as an effective way to attract the required financial and non-financial resources to develop and extend projects, and to get involved at the management and decision making levels. As for employment, participating in training courses can increase employment opportunities and leadership capacity. The following courses were noted by interviewees: the fishing guide training course offered at Northwest Community College (which we understand will be offered again in the future) and for those who have gained lodge employment, some lodges provide tuition support for employees to take hotel management, food and wine courses, trade skills, first aid, and so on. Revenue-sharing with existing lodges is also a possible source of income.

For Haida with an entrepreneurial bent, the charter business may offer a more promising entry to the sector with its lower initial investment requirements, the potential to take advantage of already acquired boat handling skills, knowledge of Haida Gwaii and its fishing grounds, and linkages to existing services such as accommodation and food services. This is not to say that owning or acquiring a boat leads automatically to a successful entry to the sector. Excellent customer service is another necessary requirement for long term success because it builds a solid customer base and increases the likelihood of repeat clients. Training in customer service is offered by WorldHost® Training Services supported by Tourism BC.

For marine tourism, in Skidegate the key element around which it makes sense to build Haida capacity is the Kaay Llnagaay development. Interviewees suggested that partnering with experienced tourism professionals to develop programs and train Haida staff for long-term control and maintenance of tourism ventures. In particular, training the next generation was identified as critical and is mentioned in relation to most of the key marine sectors addressed in this document.

Three factors that help to create opportunities in marine tourism are the quota available to Haidas in Gwaii Haanas, the interest in Haida culture by tourists, and the funding available to First Nations for training. Those in the business believe that there needs to be more local educational programs, possibly supported by the Gwaii Trust, to teach young people how to perform in marine tourism. This would include organized training as ecotourism guides as well as less formal on-the-job training on how to conduct a tour and talk to visitors, possibly conducted in the off-season by established local operators. This type of course could also be made available to young people conducting creel surveys since they also interact regularly with tourists on the islands.

Barriers identified included:

- Some people perceive that (potential) Haida operators have to deal with more political bodies than other island resident operators in terms of gaining permission to start up and/or operate.
- Financing to start up a business and buy a large boat is expensive. There is funding for First Nation business ventures but acquiring the necessary business skills and other qualifications does take time. Also access to commercial loans is a barrier for Haida living on reserve land because they are not able to use their property and homes as collateral.
Marine tourism operators noted that, compared with older generations, the younger Haida generation does not seem to have the same connection with Gwaii Haanas. We interpret this to mean that operators believe that the lack of connection inhibits interest in overcoming the other barriers to successful participation in marine tourism. They do note that a reconnection is starting with school age kids and this may be a reason for greater optimism for increased Haida participation in the sector in the long run.

For those seeking to enter the marine tourism business, it is important to understand that being a tour operator is a lifestyle choice. It provides a decent income but is not typically as lucrative as participation in the fishing and forestry sectors once was.

Overall, interview respondents believe there is a lot of opportunity for Haida capacity building through employment opportunities and partnerships in the marine sectors. In the future, opportunities may also be generated through collaboration with the provincial government on the management of the terrestrial and marine protected areas. In terms of barriers, sustained long-term funding and the lack of educational programs to support and create interest in the marine sectors are continuing issues. However, respondents believe there are definitely more opportunities than barriers.

For developing Haida capacity in marine management, the biggest challenge is the recruitment of young Haida people into resource management and retaining them in employment on-island. It is a long term challenge that will likely require changes in the formal school curricula as well as instruction in traditional values and practices with the aim of developing interest in the natural environment and resource management career pursuits. Such changes will be needed to help develop an appreciation of the contributions of both science and traditional knowledge to resource management and how resource managers can combine the two to achieve more effective marine resource management.

### 4.7.4 Long-term Sustainability

Marine sectors are dependent on healthy ecosystems capable of supporting an on-going level of economic activity on Haida Gwaii. A main focus for interviewee comments on sustainability was the need for different approaches to commercial and recreational fisheries management. Some interviewees suggested the following changes to promote sustainability for the sport fishing sector: use of gear without bait to inflict less injury to the fish, adoption of single barbless hooks, and promotion of release practices (e.g., release of large healthy breeding fish to protect the gene pool, non-retention of rockfish). The proposal for catch-and-release, however, is not supported by many Haidas who do not believe it to be ethical or an effective conservation strategy. There are also other solutions that could contribute to sustainability and moderate the impact on fish stocks in heavily fished locations, such as:

- Creating a system of marine protected areas across Haida Gwaii
- Establishing a code of conduct for recreational fisheries on the island
- Requiring 100% use of guides on boats (whose training includes historical and cultural knowledge of Haida Gwaii and knowledge of proper catch and release techniques) to achieve better handling of the fish and increase survival rates. One lodge operator estimated that this would help to increase employment on Haida Gwaii by over 300 new jobs.
- Establishing limits on the number of fish caught and released (and enforcement of that limit)
- Requiring that all catches be recorded and reported

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51 This list is derived from interviews and comments made by Leandre Vigneault at the Haida Fisheries Forum, January 23, 2009.
Introducing a day quota system for fishing guides which a local entity would hold and issue quota (unused quota would be returned to the issuing agency)

Promoting and investigating additional funding for salmon enhancement

In addressing sustainability issues in the recreational fishery, an alternative approach would be to promote a wilderness fishing experience that includes fishing and touring other cultural and geographical aspects of Haida Gwaii rather than focusing solely on increasing the number of fishers. This could potentially moderate the impacts of recreational fishing on targeted stocks and still maintain visitor days on Haida Gwaii. For the existing lodge enterprises, one interviewee also noted that the management of effluent discharged from both the land-based and the floating lodges is a key sustainability concern.

Many participants argue that the marine tourism industry is sustainable because its clients only observe what is to be seen and enjoyed on Haida Gwaii and therefore have limited impacts. Still there is some concern that to keep the ‘pristine’ environment (in Gwaii Haanas specifically), it will be necessary to move away from the land-based experience, rotate campsites, and clean up beaches. It may also be necessary to shift the focus of ecotourism operations beyond old village sites to minimize visitor impacts.

Overall, cautious hopefulness would be the best way to describe the participants’ view of the sustainable future of the marine sectors. Although global warming will likely effect marine ecosystems and associated economies, there is optimism that a long term sustainable future for marine sector fisheries and ecosystems is possible provided that it is based on local management in all aspects of marine education, resource extraction, protection and product sector marketing.
# APPENDIX A: RECREATIONAL FISHING LODGES

## Table A-1: Haida Gwaii Fishing Lodge Operations

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Lodge Type</th>
<th>Client Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Charlotte Queen Adventures</td>
<td>Hippa Island</td>
<td>Floating</td>
<td>12</td>
</tr>
<tr>
<td>2. Langara Fishing Adventures</td>
<td>Langara Fishing Lodge, Langara Island</td>
<td>Floating</td>
<td>75</td>
</tr>
<tr>
<td>3. Naden Lodge</td>
<td>Langara Island Lodge, Langara Island Land-based</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>4. Oak Bay Marine Group</td>
<td>Masset, Langara Island</td>
<td>Land-based</td>
<td>10</td>
</tr>
<tr>
<td>5. Marabel*</td>
<td>Langara Island</td>
<td>Floating</td>
<td>26</td>
</tr>
<tr>
<td>6. Salmon Seeker</td>
<td>Kano Inlet, Naden Harbour</td>
<td>Floating</td>
<td>28</td>
</tr>
<tr>
<td>7. Peregrine Lodge</td>
<td>Naden Harbour, Naden Harbour Land-based**</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>8. Queen Charlotte Lodge</td>
<td>Sandspit Land-based</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>9. Queen Charlotte Safaris***</td>
<td>Naden Harbour</td>
<td>Floating</td>
<td>20</td>
</tr>
<tr>
<td>10. West Coast Fishing Club</td>
<td>North Island Lodge, Langara Island</td>
<td>Floating</td>
<td>24</td>
</tr>
<tr>
<td>11. The Clubhouse</td>
<td>Langara Island</td>
<td>Land-based</td>
<td>52</td>
</tr>
<tr>
<td>12. The Outpost</td>
<td>Graham Island, Englefield Bay</td>
<td>Land-based</td>
<td>18</td>
</tr>
<tr>
<td>13. West Coast Resorts</td>
<td>Englefield Bay, Lodge at Hippa Island</td>
<td>Floating</td>
<td>44</td>
</tr>
<tr>
<td>14. Westwind Tugboat Adventures*</td>
<td>Langara Island</td>
<td>Floating</td>
<td>20</td>
</tr>
<tr>
<td>15. Sandspit Adventures****</td>
<td>Sandspit Land-based</td>
<td>48</td>
<td></td>
</tr>
</tbody>
</table>

Total: 585


Notes:
- * Only operate part of the season in the Haida Gwaii area.
- ** 14 of the 66 beds are on a charter boat associated with the lodge.
- *** Operates with variable group sizes; largest group has been 28
- **** Consists of a charter business that is a division of Sandspit Harbour Inn, Inc, which also operates Sandspit Harbour Inn; included here because recreational fishers are the main client base during the fishing season.
## APPENDIX B: VISITOR USE IN GWAII HAANAS, 1996-2008

Table A-2: Visitor Use in Gwaii Haanas from 1996 to 2008

<table>
<thead>
<tr>
<th>Year</th>
<th>Independents</th>
<th>Day-Tour Visitors</th>
<th>Multi-Day Tour Visitors**</th>
<th>All Visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># Visitors</td>
<td># Nights (estimate)</td>
<td># Visitors</td>
<td># Days</td>
</tr>
<tr>
<td>1996</td>
<td>984</td>
<td>10,266</td>
<td>188</td>
<td>188</td>
</tr>
<tr>
<td>1997</td>
<td>619</td>
<td>4,769</td>
<td>218</td>
<td>218</td>
</tr>
<tr>
<td>1998</td>
<td>631</td>
<td>5,462</td>
<td>466</td>
<td>466</td>
</tr>
<tr>
<td>1999</td>
<td>539</td>
<td>3,795</td>
<td>361</td>
<td>361</td>
</tr>
<tr>
<td>2000</td>
<td>521</td>
<td>4,208</td>
<td>382</td>
<td>382</td>
</tr>
<tr>
<td>2001</td>
<td>508</td>
<td>4,095</td>
<td>395</td>
<td>395</td>
</tr>
<tr>
<td>2002</td>
<td>500</td>
<td>3,299</td>
<td>*543</td>
<td>*558</td>
</tr>
<tr>
<td>2003</td>
<td>558</td>
<td>4,674</td>
<td>537</td>
<td>599</td>
</tr>
<tr>
<td>2004</td>
<td>590</td>
<td>4,148</td>
<td>*747</td>
<td>*969</td>
</tr>
<tr>
<td>2005</td>
<td>527</td>
<td>3,983</td>
<td>623</td>
<td>699</td>
</tr>
<tr>
<td>2006</td>
<td>nd</td>
<td>nd</td>
<td>nd</td>
<td>nd</td>
</tr>
<tr>
<td>2007</td>
<td>466</td>
<td>3,568</td>
<td>568</td>
<td>741</td>
</tr>
<tr>
<td>2008</td>
<td>478</td>
<td>3,622</td>
<td>459</td>
<td>603</td>
</tr>
</tbody>
</table>

Note: * Educational groups were added to the totals.  
nd = no data

Source: Gwaii Haanas User Statistics, 2008 (Draft, December 19, 2009)
APPENDIX C: INTERVIEW GUIDE AND CONTACT LIST

HAIDA GWAI MARINE MARKET SECTOR ANALYSIS

Interview Guide

Background

For the purposes of Haida Gwaii marine use planning, the Council of Haida Nation requires data compiled and analyzed at the scale of Haida traditional territory. In particular, the economic contributions of key marine sectors on Haida Gwaii will inform marine management goals and future economic development objectives. This interview is part of the process to compile relevant social and economic information, providing baseline data for integrated marine use planning.

Project Scope

The study covers six marine sectors in the context of Haida Gwaii:
  • commercial fisheries;
  • recreational fisheries;
  • seafood processing;
  • marine tourism;
  • shipping and transportation; and
  • research, monitoring and enforcement.

Interviewees contact information (can use business card, if available)

Interviewee: ____________________________
Organization: ____________________________
Location of business: ______________________
Location of operations on Haida Gwai: ________________
Telephone: ______________________________
E-mail: ________________________________
FISHERIES-RELATED OTHER MARINE INDUSTRIES

COMMERCIAL FISHERIES (for active license holders or people that lease quota on Haida Gwaii)

1. Could you start by giving a brief overview of your fishing operations?
2. What have been the trends over time that you have experienced in your business?
3. How many people do you employ? (Full time, part time, seasonal – length of season)

<table>
<thead>
<tr>
<th>Job Category</th>
<th>(Full time, part time, seasonal – length of season)</th>
<th>Resident on Haida Gwai yes/No</th>
<th>Haida or non-Haida?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Captain</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deckhands</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. What wages do you pay? Hourly rate, or share arrangement

Captain ________________________________
Mate _________________________________
Deckhands ___________________________

5. How do these wages vary by level of experience?

6. What skills and training do you and the crew have? Education? Training programs?

7. Where do you acquire your goods and services inputs? From a local supplier/ Directly from off-island? (Ask for description)

8. What is your view of the outlook for this sector?

9. What are the main barriers to future development in your view?

Additional questions if relevant:

10. Could you discuss the social and cultural linkages of marine sectors to local communities?

11. How do the marine sectors relate to local community economic development priorities?

12. In your view, what are the barriers and opportunities for Haida capacity-building related to existing and emerging marine sectors?

13. In your view, how secure is the long term sustainability of sectors, including potential impacts on resources and marine ecosystems?
**MARINE TOURISM**

1. Could you provide a brief summary of existing businesses (eg, fish guiding, kayaking, touring/cultural education)
2. What have been the trends over time that you have experienced in your business?
3. How many people do you employ? (Full time, part time, seasonal – length of season)

<table>
<thead>
<tr>
<th>Job Category</th>
<th>(Full time, part time, seasonal – length of season)</th>
<th>Resident on Haida Gwaii yes/No</th>
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</tbody>
</table>

4. What average hour wages do you pay? (by job type)
5. How do these wages vary by level of experience?
6. What skills and training do you and the crew have? Education? Training programs?
7. Where do you acquire your goods and services inputs? From a local supplier/ Directly from off-island? (Ask for description)
8. What is your view of the outlook for this sector? (emerging activities – eg, cruise ships)
9. What are the main barriers to future development in your view?

Additional questions if relevant:

10. Could you discuss the social and cultural linkages of marine sectors to local communities?
11. How do the marine sectors relate to local community economic development priorities?
12. In your view, what are the barriers and opportunities for Haida capacity-building related to existing and emerging marine sectors?
13. In your view, how secure is the long term sustainability of sectors, including potential impacts on resources and marine ecosystems?
**RECREATIONAL FISHERIES**

We need to cover both Lodge operators (employment by lodge, revenue/profit) and Charter operators (employment, revenue).

1. Could you provide a brief summary of existing businesses (eg, fishing lodge; charter operator)
2. What have been the trends over time that you have experienced in your business?
3. How many people do you employ? (Full time, part time, seasonal – length of season)

<table>
<thead>
<tr>
<th>Job Category</th>
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</table>

4. What average hour wages do you pay? (by job type)
5. How do these wages vary by level of experience?
6. What skills and training do you and your employees have? Education? Training programs?
7. Where do you acquire your goods and services inputs? From a local supplier/ Directly from off-island? (Ask for description)
8. What is your view of the outlook for this sector?
9. What are the main barriers to future development in your view?

**Additional questions if relevant:**

10. Could you discuss the social and cultural linkages of marine sectors to local communities?
11. How do the marine sectors relate to local community economic development priorities?
12. In your view, what are the barriers and opportunities for Haida capacity-building related to existing and emerging marine sectors?
13. In your view, how secure is the long term sustainability of sectors, including potential impacts on resources and marine ecosystems?
SHIPPING AND TRANSPORTATION

1. Could you provide a brief summary of existing businesses (e.g., barges, towing, BC Ferries)
2. What have been the trends over time that you have experienced in your business?
3. How many people do you employ? (Full time, part time, seasonal – length of season)

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<thead>
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<th>Job Category</th>
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</table>

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7. Where do you acquire your goods and services inputs? From a local supplier/ Directly from off-island? (Ask for description)
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9. What are the main barriers to future development in your view?

Additional questions if relevant:

10. Could you discuss the social and cultural linkages of marine sectors to local communities?
11. How do the marine sectors relate to local community economic development priorities?
12. In your view, what are the barriers and opportunities for Haida capacity-building related to existing and emerging marine sectors?
13. In your view, how secure is the long term sustainability of sectors, including potential impacts on resources and marine ecosystems?
FISH PROCESSING

1. Could you provide a brief summary of existing businesses (e.g., plant location, products produced, year round/seasonal – get brochure if they have one; description of plant)
2. What have been the trends over time that you have experienced in your business?
3. How many people do you employ? (Full time, part time, seasonal – length of season)

<table>
<thead>
<tr>
<th>Job Category</th>
<th>(Full time, part time, seasonal – length of season)</th>
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<tbody>
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</tbody>
</table>

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5. How do these wages vary by level of experience?
6. What skills and training do you and your employees have? Education? Training programs?
7. Where do you acquire your goods and services inputs? From a local supplier/ Directly from off-island? (Ask for description)
8. What is your view of the outlook for this sector?
9. What are the main barriers to future development in your view?

Additional questions if relevant:

10. Could you discuss the social and cultural linkages of marine sectors to local communities?
11. How do the marine sectors relate to local community economic development priorities?
12. In your view, what are the barriers and opportunities for Haida capacity-building related to existing and emerging marine sectors?
13. In your view, how secure is the long term sustainability of sectors, including potential impacts on resources and marine ecosystems?
RESEARCH, MONITORING AND ENFORCEMENT

The question of research capacity should cover federal, provincial and Haida governments.

1. Could you provide a brief summary of your research capacity (also cover monitoring and enforcement)
2. What have been the trends over time that you have experienced in your business?
3. How many people do you employ? (Full time, part time, seasonal – length of season)

<table>
<thead>
<tr>
<th>Job Category</th>
<th>(Full time, part time, seasonal – length of season)</th>
<th>Resident on Haida Gwai</th>
<th>Yes/No</th>
<th>Haida or non-Haida?</th>
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</tbody>
</table>

4. What average hour wages do you pay? (by job type)

5. How do these wages vary by level of experience?

6. What skills and training do you and your employees have? Education? Training programs?

7. Where do you acquire your goods and services inputs? From a local supplier/ Directly from off-island? (Ask for description)

8. What is your view of the outlook for this sector?

9. What are the main barriers to future development in your view?

Additional questions if relevant:

10. Could you discuss the social and cultural linkages of marine sectors to local communities?

11. How do the marine sectors relate to local community economic development priorities?

12. In your view, what are the barriers and opportunities for Haida capacity- building related to existing and emerging marine sectors?

13. In your view, how secure is the long term sustainability of sectors, including potential impacts on resources and marine ecosystems?
## Interview List

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barb</td>
<td>Rowsell</td>
<td>Owner/operator</td>
</tr>
<tr>
<td>Matt</td>
<td>Jantzen</td>
<td>Base Commander</td>
</tr>
<tr>
<td>Debbie</td>
<td>Beemer</td>
<td>Owners/operators</td>
</tr>
<tr>
<td>Ray</td>
<td>Stephens</td>
<td></td>
</tr>
<tr>
<td>Wilson</td>
<td>Brown</td>
<td>Commercial Fisherman</td>
</tr>
<tr>
<td>Marvin</td>
<td>Boyd</td>
<td>Former owner</td>
</tr>
<tr>
<td>Brian</td>
<td>Clive</td>
<td>President</td>
</tr>
<tr>
<td>Colin</td>
<td>Davies</td>
<td>Commercial Fisherman</td>
</tr>
<tr>
<td>Lindsey</td>
<td>Doerksen</td>
<td>Commercial Fisherman</td>
</tr>
<tr>
<td>Pat</td>
<td>Fairweather</td>
<td>Manager</td>
</tr>
<tr>
<td>Victor</td>
<td>Fradette</td>
<td>Area Manager</td>
</tr>
<tr>
<td>Alan</td>
<td>Frick</td>
<td>General Manager</td>
</tr>
<tr>
<td>Rick</td>
<td>Grange</td>
<td>Owner/operator</td>
</tr>
<tr>
<td>Anna Maria</td>
<td>Husband</td>
<td>Gwaii Hannas</td>
</tr>
<tr>
<td>Natanis</td>
<td>Hageman</td>
<td>Office manager</td>
</tr>
<tr>
<td>Terry</td>
<td>Jehnn</td>
<td>Owner/operator</td>
</tr>
<tr>
<td>Mary</td>
<td>Kellie</td>
<td>Owner/operator</td>
</tr>
<tr>
<td>Art</td>
<td>Lew</td>
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</tr>
<tr>
<td>Maxine</td>
<td>Ljungh</td>
<td>Office Manager</td>
</tr>
<tr>
<td>Colleen</td>
<td>Marks</td>
<td>Operations manager</td>
</tr>
<tr>
<td>Gail</td>
<td>McDonald</td>
<td>Terminal Operations Supervisor</td>
</tr>
<tr>
<td>Don</td>
<td>McNeice</td>
<td>Owner/operator</td>
</tr>
<tr>
<td>Michael</td>
<td>McQuade</td>
<td>Owner/operator</td>
</tr>
<tr>
<td>Mike</td>
<td>Meegan</td>
<td>Owner/operator</td>
</tr>
<tr>
<td>Anita</td>
<td>Moody</td>
<td>Administrator</td>
</tr>
<tr>
<td>Patricia</td>
<td>Moore</td>
<td>Economic Development Planner</td>
</tr>
<tr>
<td>Laura</td>
<td>Pattison</td>
<td>Owners/operators</td>
</tr>
<tr>
<td>Heron</td>
<td>Weir</td>
<td></td>
</tr>
<tr>
<td>Rob</td>
<td>St Louis</td>
<td>Owner/operator</td>
</tr>
<tr>
<td>Lucy</td>
<td>Stefanyk</td>
<td>Area Supervisor</td>
</tr>
<tr>
<td>Monte</td>
<td>Stewart-Burton</td>
<td>Commercial Fisherman</td>
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<tr>
<td>Dave</td>
<td>Unsworth</td>
<td>Owner/operator</td>
</tr>
<tr>
<td>Leandre</td>
<td>Vigneault</td>
<td>Owner/operator</td>
</tr>
<tr>
<td>Errol</td>
<td>Winter</td>
<td>Executive Director</td>
</tr>
<tr>
<td>Anonymous</td>
<td></td>
<td>Anonymous</td>
</tr>
</tbody>
</table>

APPENDIX D: GEOGRAPHIC DISTRIBUTION OF SABLEFISH, CRAB AND GEODUCK CATCH IN HAIDA TRADITIONAL TERRITORY