

The Small Craft Harbours of BC

Significant Economic & Community Benefits

Prepared for:

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Summary

Background

- The Small Craft Harbour (SCH) program consists of 97 fishing harbours along coastal BC
 - 79 core harbours managed by 55 Harbour Authorities (HAs), and
 - 18 additional harbours under the responsibility of DFO
- The SCH program plays an important role in the economies and social fabric of coastal communities

Study Objectives and Approach

- Objectives
 - to assess the province-wide economic impacts of the SCH network of fishing harbours,
 - to describe the community benefits inc. benefits to First Nations that the network of facilities provides, and
 - to develop & pilot a methodology for assessing regional economic impacts of a single harbour
- Approach
 - interview program - Harbour Authorities (Managers & Board Members), DFO SCH staff & First Nations
 - analysis of boat counts, financial statements & other SCH information, review of existing reports
 - 3 case studies (two community & one economic)

Economic Impacts

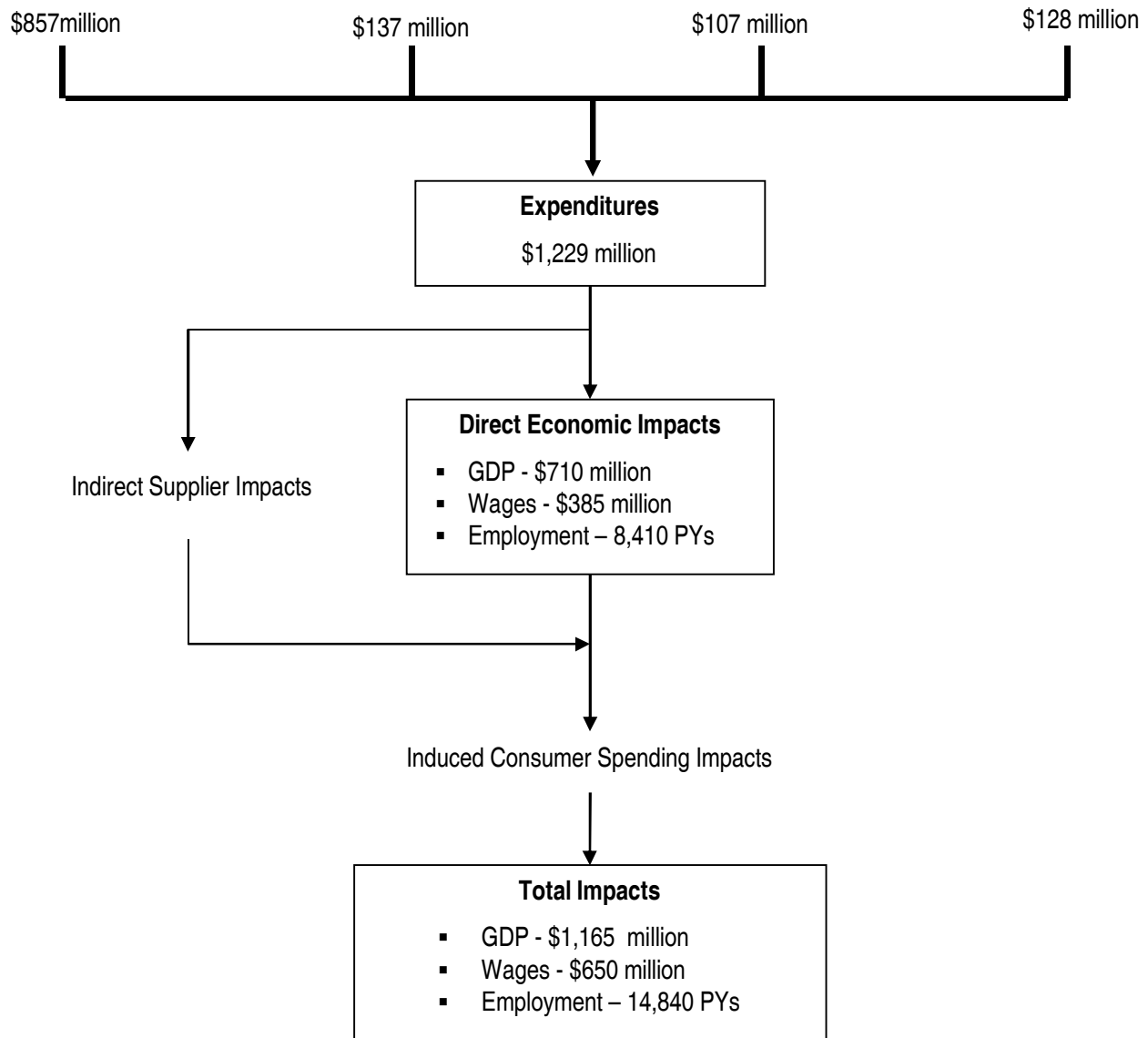
- \$1,229 million expenditures associated with the 97 SCH fishing harbours for 2014 - Commercial (Wild seafood) \$857 million, Aquaculture \$107 million, Recreational Boating \$137 million, and Other \$128 million.
- SCH harbour facility income of \$24 million - \$11 million operations plus \$13 million DFO & Other
- Every \$1 of income to SCH harbour facilities is associated with an additional \$52 in industry sales
- Total impacts including direct, indirect supplier, and induced consumer spending impacts from economic activities tied to SCH facilities are (see Exhibit next page):
 - \$1,165 million in Gross Domestic Product (GDP),
 - \$650 million in wages and benefits, and
 - 14,840 person-years of employment
- The majority of economic impacts flow from commercial fishing, processing & retailing whereas the majority of HA revenues come from recreational boaters

Community and Social Benefits

- SCH harbours provide a focal point for community events and activities
- SCH harbours allow residents of outlying aboriginal and non-aboriginal communities to travel to central communities to visit friends & families, obtain services & supplies, seek medical attention, attend events etc.
- SCH harbours benefit from substantial volunteerism, e.g., HA Boards of Directors, committees, projects
- Community self-reliance is enhanced and community partnerships are promoted
- Marine safety and convenience is fostered, emergency response capability provided
- SCH harbours are part of the identity of coastal communities and contribute to the quality of life
- Significant benefits flow to First Nations - business income, wages, jobs and FSC harvesting opportunities

Exhibit: Economic Impacts Associated with British Columbia SCH Harbours 2014

CFV Boats	Recreational Boats*	Aquaculture Boats	Other Boats**
<ul style="list-style-type: none"> ▪ Commercial fishing ▪ Value-added processing ▪ Unloading/ transport ▪ Retail/ distribution 	<ul style="list-style-type: none"> ▪ Fishing inc. charters/lodges ▪ Power ▪ Sail ▪ Other 	<ul style="list-style-type: none"> ▪ Supply deliveries ▪ Crew boats ▪ Product deliveries 	<ul style="list-style-type: none"> ▪ Log salvage ▪ Community resupply ▪ Water taxis ▪ Ecotourism boats ▪ RCMP, CCG, etc.



* Commercial Recreational Charter/Lodge boat impacts included under Pleasure.

** sum of First Nations FSC and a wide variety of Other vessels.

Preface

Fisheries and Oceans Canada retained GSGilson & Associates Ltd. to assess the economic and community benefits of the network of SCH fishing harbours in the British Columbia.

The consultants have benefited from discussions with Harbour Authorities, government, and others. Notwithstanding this assistance, the authors have final responsibility for the analyses and conclusions of the study.

Acronyms

AFS	-	Aboriginal Fisheries Strategy
ATP	-	Allocation Transfer Program
BC	-	British Columbia
CCG	-	Canadian Coast Guard
CFE	-	Commercial Fisheries Enterprise
CFV	-	Commercial Fishing Vessel
DFO	-	Fisheries and Oceans Canada
FN	-	First Nation
FRC	-	Fisher Registration Card
FSC	-	Food, Social and Ceremonial
GDP	-	Gross Domestic Product
HA	-	Harbour Authority
HAABC	-	Harbour Authority Association of British Columbia
LTS	-	Long Term Sustainability Strategy
m	-	metre
PICFI	-	Pacific Integrated Commercial Fisheries Initiative
PRHAAC	-	Pacific Region Harbour Authority Advisory Committee
PY	-	person year (employment)
RCMP	-	Royal Canadian Mounted Police
SAR	-	Search and Rescue
SCH	-	Small Craft Harbours
VRN	-	Vessel Registration Number
WCVI	-	West Coast Vancouver Island

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1.0 Introduction

The ocean environment of British Columbia includes some 27,000 km of coastline, 6,500 islands, and 450,000 sq km of internal and offshore waters (see map). Three quarters of British Columbia's population lives within 200 km of the coast. The ocean is integral not just to the economy of the province, but also to the culture, way of life, and collective identity of provincial residents. A network of harbours is necessary to access economic and community benefits arising from proximity to the ocean.

Within the Department of Fisheries and Oceans (DFO), Small Craft Harbours (SCH) operates and maintains a national system of harbours in support of the commercial fishing industry. SCH operates under the authority of the *Fishing and Recreational Harbours Act and Regulations* and the *Federal Real Property and Immovables Act*.

SCH Harbours are often the only federal presence in small coastal communities, and provide the most direct and visible link between the communities and the federal government. More importantly, the network of SCH facilities provides a gateway, host or springboard for a vast array of ocean-based business and community endeavours.

The SCH program of DFO is vital to the economies and prosperity of the coastal communities of BC. The SCH system in BC consisting of 97 fishing harbours enables a variety of fishing, aquaculture, recreation, tourism, shipping and other marine activities to occur.

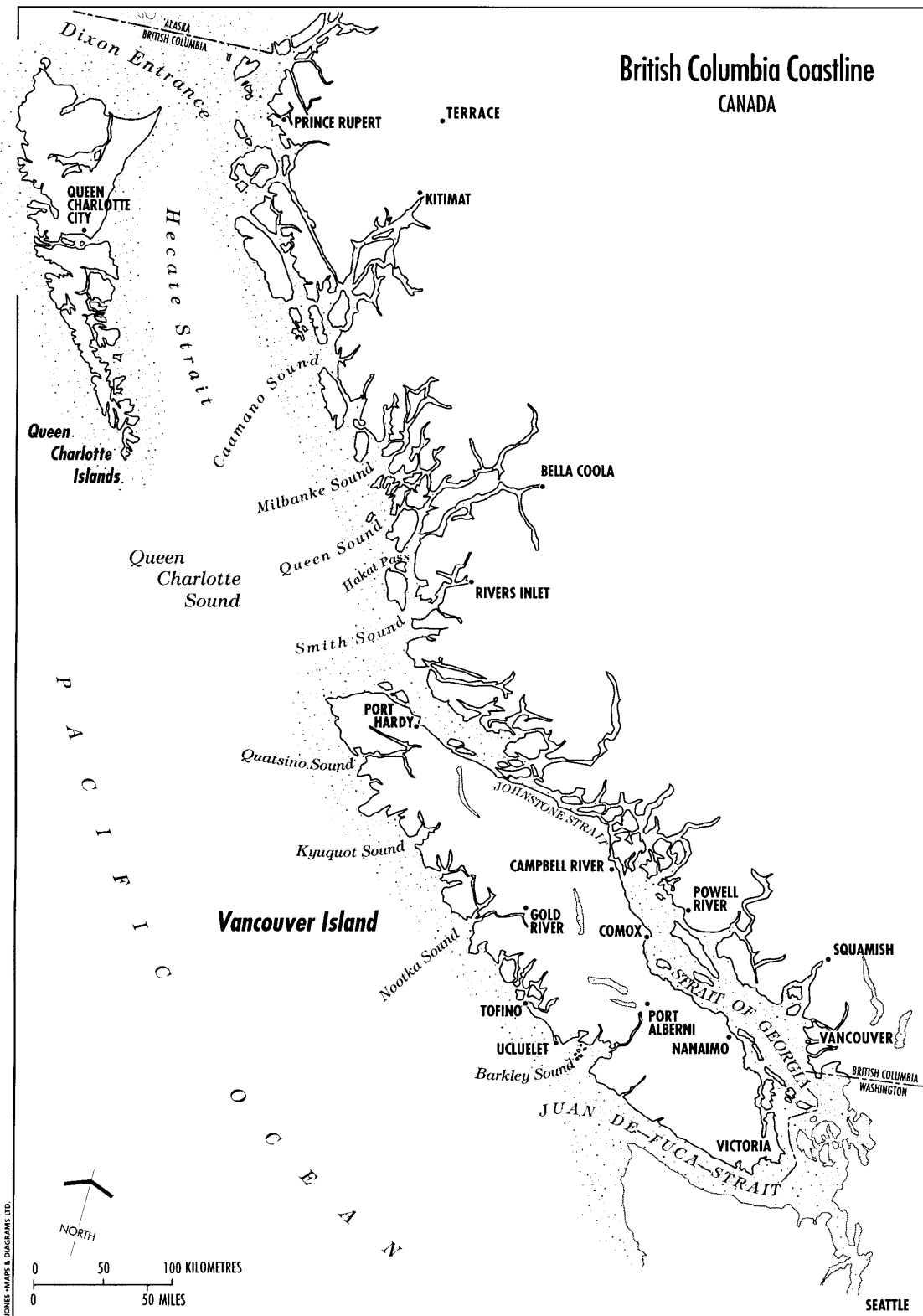
As well, the SCH network creates economic opportunities for shore-based businesses, such as fishing supply stores, boat repair shops, fuel docks, hotels and restaurants in these communities - many recreation activities on the water and on shore inject foreign exchange from tourists into the economy. And in many cases, the facilities provide the only public access to waterways in coastal communities.

Many of these communities are small, isolated some with a high proportion of First Nations residents and have a large part of their local economy tied to the ocean environment. The SCH program provides needed infrastructure to access and develop ocean-based opportunities.

An initial step in assessing and communicating this important role was the 2003 GSGislason & Associates Ltd. ("GSG") study "The SCH Harbours of BC: A Major Economic and Community Asset". The study addressed coastwide benefits and laid the groundwork for more detailed analysis of a particular BC region. DFO has sponsored several regional studies for the Prince Rupert area, Vancouver Island, the Sunshine Coast and Greater Vancouver. GSG also updated the initial 2003 study in the 2008 report "The Small Craft Harbours in BC: A Gateway for Ocean-Based Economic & Community Development".

This current study is an update and extension of the two province-wide studies by GSGislason. There have been several changes to DFO mandate and programs in Pacific Region since 2008 including: 1) the launch of the Pacific Integrated Commercial Fisheries Initiative (PICFI) to increase First Nations' participation in the commercial fishery, 2) the transfer of regulatory authority for aquaculture from the Province of British Columbia to DFO in December 2010, and 3) the DFO SCH data collection exercise in 2012 in support of a Long Term Sustainability Strategy (LTS).

MAP of BC Coastline



I.1 Report Objectives

This report has three objectives:

- to estimate the provincial economic impacts from the network of SCH facilities
- to assess the community benefits including benefits to First Nations from the network of Small Craft Harbours in BC
- to develop and pilot a methodology for estimating economic impacts from an individual harbour

The study is restricted to SCH facilities and excludes other government-operated harbours in the communities, such as Transport Canada docks.

I.2 Approach and Methodology

The study involved three main information collection activities:

- an interview program with more than 40 individuals such as Harbour Authorities, DFO, and First Nations
- an analysis of boat counts/traffic, financial statements and other information provided by the Harbour Managers and DFO Small Craft Harbours (including data from the LTS)
- a review of existing reports on Small Craft Harbours, on the BC fishing industry, and on ocean-based recreation and other activities

DFO identified two communities - Tofino on Vancouver Island and MacMillan Island in the Fraser River - for community case study analysis and identified Steveston in Greater Vancouver for the individual harbour economic case study.

This study draws on the key results from the previous GSG reports and synthesizes those results with this current research.

I.3 Report Outline

The next section presents an overview of SCH harbour facilities and services in British Columbia and comprises the first of the remaining six (6) sections of the report.

Section	Subject
2	Overview of SCH Harbour Facilities
3	Boat Usage of SCH Facilities
4	Economic Impacts
5	Community Impacts
6	Other Considerations
7	Conclusions

Several appendices provide supplemental material (the two community case studies are presented in Appendix C, the individual harbour economic study is presented in Appendix D).

2.0 Overview of SCH Harbour Facilities

The network of SCH harbours is diverse in terms of management structure, size, location, mix of users, and services offered. Exhibit I provides an operating and financial profile for all facilities in total.

2.1 Harbour Operations and their Organization

There are 97 harbours in the SCH network in DFO Pacific Region. The fifty-five (55) Harbour Authorities or HAs operate seventy-nine (79) core harbours. The remaining eighteen (18) harbours are operated by DFO Small Craft Harbours. These latter fishing harbours are generally smaller and located in isolated and/or aboriginal communities, e.g., Hartley Bay, Bella Bella, etc.

Most of the 55 Harbour Authorities operate as federally-registered not-for-profit organizations. Other HAs are operated by community organizations, by organizations wholly-owned by the local or municipal government, or by Band Councils.

Each not-for-profit Harbour Authority has a volunteer Board of Directors. A Harbour Authority is a non-profit, locally controlled organization that exists solely for the management and maintenance of the harbour facility. The term harbour, as it is used here, refers only to property and water lots, under the jurisdiction of the Department of Fisheries and Oceans. The Small Craft Harbour facilities remain public.

The Harbour Authority is responsible for the day-to-day operation and management of the harbour. DFO, as landlords of the property, remains responsible for most major repairs.

Most of the Harbour Authority and municipally/locally-managed sites in this study belong to the Harbour Authority Association of BC (HAABC) which was incorporated in 1998 under the Societies Act of British Columbia. The mandate of the HAABC is:

To establish effective communications between Harbour Authorities, foster a good working relationship, exchange information and network.

The HAABC organization facilitates communication, cooperation, and networking among the harbour community.

2.2 Services Offered

The main service offered by SCH harbours is light industrial moorage for commercial fishing, recreational, aquaculture and other vessels e.g., government patrol boats, log salvage vessels.

However, in addition to this primary service, the SCH fishing harbours offer a variety of additional services and facilities which may include: product offloading, breakwaters, boat launches, derricks, float plane areas, hydro, fresh water, garbage disposal, lights, security, parking, pay phones, washrooms & showers, laundry facilities, storage, pump outs, and net service areas.

Exhibit 1: Operating and Financial Profile of the SCH Harbours in BC

Operations			2012 Financials \$000**	
Number of Harbours	97			
Total Float Length (m)*	26,450		Revenues Operating	
Harbours by Region			Moorage	6,350
			Licences & Leases	1,300
			Other	<u>2,950</u>
				10,600
			Revenues Other	
Queen Charlotte Islands	4	1,018	DFO***	8,700
North Coast	12	3,923	Other	<u>4,350</u>
Central Coast	4	1,340	Subtotal	13,050
Vancouver Island - North	8	2,563	Total Revenues 23,650	
- Mid	16	4,421	Less: Wages & Salaries	4,000
- South	14	1,537	Other Expenses	18,450
- West Coast	13	3,465	Net Revenues 1,200	
- Victoria	2	737		
Sunshine Coast	13	2,294	Employment (person-years)	
Lower Mainland	<u>11</u>	<u>5,152</u>	Full Time	80
	97	26,450	Part Time	<u>40</u>
				120

* Float lengths from Exhibit A.1 Appendix A.

** The year 2012 is the most recent year for which DFO Small Craft Harbours has synthesized financial results.

*** Maintenance, repairs & capital programs contributions by DFO.

Note: Three HAs - Steveston, False Creek, Port Edward - managing seven harbours have revenues over \$1 million each.

Source: GS Gislason & Associates Ltd. estimates derived from DFO Pacific Region, Small Craft Harbours administrative databases on facility float length - see Exhibit A.1, Appendix A - and HA financial statements.

Many Harbour Authorities have been actively trying to diversify their revenue base to sustain their harbour operations through, for example, attracting more recreational vessels by upgrading and expanding their facilities. Recreational vessels and tourists are more inclined to demand showers, washrooms, fresh water, hydro, and boat launch service on a cost recovery basis. Harbours in more isolated communities tend to be smaller and to offer fewer services beyond floats for moorage.

2.3 A Wide Range in Size of Harbours

There is a wide range in size of SCH harbours along the coast. The concept of “size” has many attributes and is open to debate, but one measure is float length. The largest harbour in terms of float length is the Paramount harbour in Steveston at 1,937 metres; three small harbours in the Southern Gulf Islands have float lengths under 15 metres each. The 97 SCH fishing harbours have a total float length of 26,450 metres, or an average of 273 metres each.

One-half of the total float capacity is concentrated in three regions - the Lower Mainland (19%), Mid Vancouver Island (17%), and the North Coast (15%), primarily Prince Rupert and Port Edward. These are the areas where the majority of commercial fish harvesters live.

Exhibit I presents total float length of SCH harbours for ten (10) broad coastal regions as well as revenues and expenses for all 55 HAs in total (see Exhibit A.I Appendix A for float lengths of individual harbours).

2.4 Users of the SCH Network

Four main groups of users of the SCH network of harbours exist:

- commercial fisheries,
- aquaculture sector,
- recreational sector, and
- others

First Nations (FN) vessels that participate in the commercial fishery, aquaculture operations, recreational fishing including charter operations, ecotourism activities, log salvage operations, tug boat activities etc. are not identified separately in the DFO Small Craft Harbour data collection system. Therefore, the extent and dependence of FNs on DFO harbours can not be identified.

Commercial Fisheries

The mandate of the Small Craft Harbours program and of the Harbour Authorities is tied to serving the moorage and related needs of the commercial fishing industry. (The HAs often refer to this sector as the commercial fishing vessel or CFV sector). Only a handful of Harbour Authorities such as Steveston and French Creek have upland land that they are able to lease to net lofts, boat repair, and other commercial fishing and marine-related businesses to generate revenue.

Local Harbour Authorities establish moorage and other rates for the harbours they manage. Commercial fishing vessels are typically charged lower moorage rates than recreational vessels and other commercial vessels. At many harbours the recreational moorage income helps to keep commercial fishing rates low.

Aquaculture Users

The aquaculture industry uses SCH harbour facilities to transport supplies and crews to remote shellfish growout sites and to transport end product to southern markets. Boat travel often is the only travel mode available between the farm site and the farm supply centre.

Recreational Users

A variety of marine recreationalists and businesses also use SCH harbour facilities. (The HAs often refer to this sector as “pleasure”). Individual recreationalists, tourists, and families use moorage facilities for their boats, sailboats, and yachts. Many vessels cruise the Inside Passage during the summer months and stop at SCH harbours during their trip.

Other Users

First Nations may use SCH sites as access or launch points to undertake traditional harvesting of fish, plants and animals. Some First Nation groups use SCH facilities to access ancestral lands and cemeteries. Some sites - such as Hartley Bay, Kitamaat Village, Marktosis, Opitsaht, Cape Mudge, Bella Bella, Klemtu, Discovery, Port Simpson, Kitkatla and Gilford Island - front First Nation reserves.

Recreational businesses that use the harbours include sportfishing charters and lodges.

The SCH network also supports a variety of other marine businesses and activities including log salvage, tugs, water taxis and government patrol vessels (Coast Guard, DFO, RCMP). In addition, marine ecotourism businesses use SCH facilities (sightseeing, whale watching, scuba diving, sea kayakers, etc.).

3.0 Boat Usage and Usage Trends

Harbour Authorities remit monthly boat counts by type of user to DFO Pacific Region Small Craft Harbours. The boat counts represent:

- vessels who stayed overnight only
- peak counts during each month

The latest year for which DFO has collated the boat count data is the year 2012 - see Exhibit 2.

3.1 Current Usage

Total monthly boat usage across all SCH harbours today is approximately 5,200 of which close to half are recreational (pleasure) vessels. Commercial CFV vessels comprise 36% of the total.

Average Monthly Boat Counts at DFO SCH Facilities		
	2006*	2012**
Commercial Fishery (CFV)	2,750	1,865
Aquaculture	100	91
Recreational/Pleasure	2,100	2,485
FSC***	•	115
Commercial Recreational	650****	121
Other	•	524
Total	5,600	5,201

* estimates to nearest 50 (GSGislason & Associates Ltd. "The Small Craft Harbours of BC: A Gateway for Ocean-Based Economic & Community Development", 2008).

** Exhibit 2 (this study).

*** First Nations Food, Social & Ceremonial (FSC) vessels that do not also participate in the commercial fishery (the many FSC vessels that also participate in the commercial fishery are not identified separately in DFO boat count data).

**** The 650 boat count in 2006 is the sum of FSC (not fishing commercially), commercial recreational and other. The sum of boat counts for these three categories in 2012 is 760.

Given that recreational/pleasure vessel owners pay much higher moorage rates than equivalent sized CFV vessels, the recreational/pleasure class contributes well over half of total harbour operating revenues coastwide.

The current CFV usage of harbour facilities represents a decline from 2006 and a significant decline from 25 years ago when three quarters or more of traffic volume would be commercial fishing. Recreational boat traffic has more than doubled over the same time frame (GSGislason 2008).

There is a pronounced seasonal peak in summer due to an influx of transient recreational vessels from the US and from private marinas in British Columbia. Essentially all SCH facilities coastwide are full in summer. Many more vessels could be accommodated if the moorage capacity was greater (vessels are rafted several deep and many potential customers are refused service in summer). The November to February period has the lowest boat volumes.

Exhibit 2: SCH Boat Counts 2012

Region	Average Monthly Boat Counts						
	CFV	Aqua-culture	Rec/Pleasure	FSC	Comm Rec	Other	All
Queen Charlotte Islands	38	1	91	-	15	22	167
North Coast	292	-	241	36	35	58	662
Central Coast	75	-	78	11	4	46	214
Vancouver Island - North	158	5	168	19	7	32	389
- Mid	324	58	635	3	14	104	1,138
- South	94	2	280	2	4	85	467
- West Coast	174	8	226	34	24	36	502
- Victoria	76	-	73	-	-	11	160
Sunshine Coast	80	17	357	-	5	43	502
Lower Mainland	<u>554</u>	<u>-</u>	<u>336</u>	<u>10</u>	<u>13</u>	<u>87</u>	<u>1,000</u>
Total	1,865	91	2,485	115	121	524	5,201

- Note:
1. Vessel counts refer to peak day counts for each month and only include vessels that stayed overnight.
 2. Boat counts for aquaculture vessels may underestimate usage as many of these vessels may only appear at a harbour for a few hours to offload product, pickup supplies or workers etc. (and therefore do not appear in overnight boat count statistics).
 3. FSC FN vessels are those that belong to First Nations (FNs) and used for Food, Social & Ceremonial (FSC) purposes only - FN vessels that fish in the Commercial (Comm) Fishery and for FSC purposes are included under the 1st category, CFV (Commercial Fishing Vessel). FN vessels that only appear at a harbour for a short period of time to offload FSC fish are not included.
 4. Commercial Recreational (Comm Rec) includes vessels for Sports Charter operators and Sport Fishing Lodges.
 5. Other includes government vessels, tugboats, whale watching boats etc.

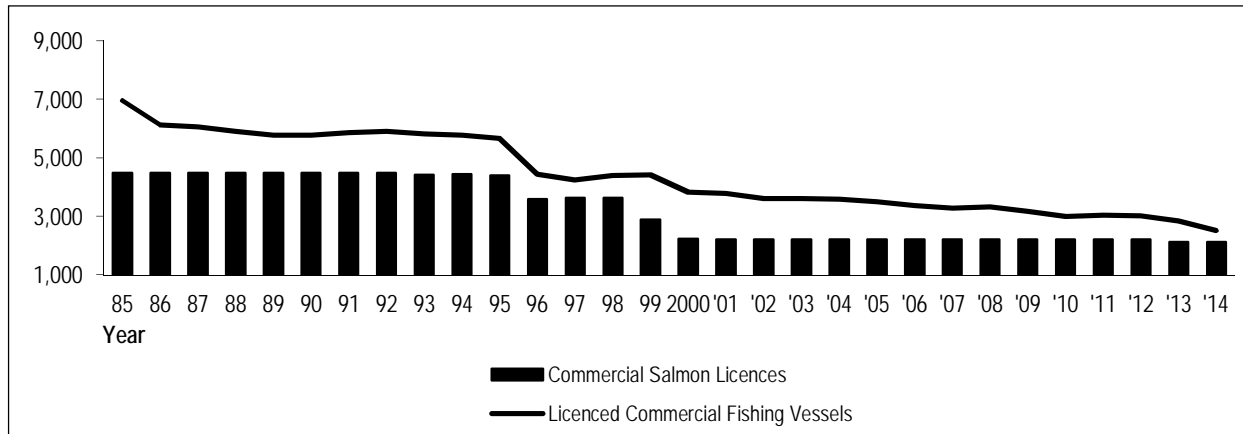
Source: DFO Small Craft Harbours LTS Database.

3.2 Trends in Usage

There have been significant trends in boat usage of SCH facilities over the past 25 years, specifically a decline in the usage by the commercial CFV fleet and an increase in usage by non-CFV fleet segments.

Commercial Fisheries Users

The Pacific commercial fleet today of 2,514 vessels is less than 40% of the commercial vessels of 1985. A major reason has been a decline in commercial salmon licences by over a half during the same period.



Source: GSGislason 2013 and DFO “Commercial Licence Status Report - Pacific Region” Annual.

The decline in licenced vessels has reflected: 1) the two salmon Licence Buyback programs of the late 1990s, 2) the introduction of individual quota, area licencing, and pool fisheries management in some fisheries, and 3) a general consolidation of operations over time that is common to other resource-based industries such as agriculture and forestry.

However, today’s commercial fishing vessels are much larger on average than the fleet of 25 years ago. In 1985 48% of the commercial fleet was under 10.7m (35’) in length and 14% was over 19.8m (65’) in length whereas the corresponding percentages in 2013 were 40% and 20% respectively.

DFO has enhanced First Nations participation in the commercial fishery through access granted under the PICFI program (the FN reduced fee and commercial fishing licence share of commercial licences has increased from 15% of total in 2006 to 24% of total in 2014 - see DFO “Commercial Licence Status Report” Annual). As a result, there is greater First Nations use of SCH facilities today.

We note that several processing plants have closed in recent years with the result that commercial fishermen that used to rely on particular companies for supplies, such as ice, have had to find new suppliers.

The federal government through Canada’s Economic Action Plan program provided funding in 2014 for wharf repairs at Steveston Fish Auction and for a breakwater at Kitimaat Village HA. One initiative planned at the Steveston HA is a new ice-making building (see Steveston case study in Appendix D).

Aquaculture Users

The aquaculture industry in British Columbia has grown significantly in British Columbia since the mid 1980s.

Finfish aquaculture of salmon is not a heavy user of SCH harbour facilities. Only a few large vessels are needed to transport farmed salmon from the growout site to the processing plant. Some of these larger packer or transport vessels do use SCH facilities such as Port Hardy SCH. However, workers and equipment & supplies generally go by water taxi and barge and do not use SCH facilities.

Shellfish aquaculture in contrast is much more dependent on SCH harbour facilities to ferry supplies and workers to farm sites and to ferry product back to land close to processing plants and truck transport access. The shellfish aquaculture industry generally sells live oysters, clams, mussels etc. to market and the live movement of product requires timely unloading and transport logistics. SCH facilities at Fanny Bay, Deep Bay, Okeover and Heriot Bay have significant aquaculture use (there are over 20 SCH harbours with some aquaculture use).

Since DFO assumed responsibility for aquaculture regulations from the Province in December 2010, DFO has made significant investments in SCH facilities that have benefited the shellfish aquaculture sector in facilities such as Fanny Bay and Heriot Bay e.g., replacing wooden floats with drive on cement floats in some cases, new cranes/unloading equipment etc.

Recreational Users

The recreational component of the total business at SCH harbours has been growing, in terms of both absolute numbers and the share of boat traffic, over the past several years. Overall it appears that recreational/pleasure boat traffic at SCH facilities coastwide has been increasing at 5-10% p.a. in recent years.

Although moorage rates for recreational users at SCH facilities are significantly higher than for commercial fishing (CFV) users, they typically are still lower than at private marinas.

First Nations Food, Social & Ceremonial (FSC) Users

The PICFI program has provided First Nations access through commercial fishing licences and quota and through commercial fishing boats for a wide range of finfish and shellfish species (through March 2014 PICFI acquired 551 commercial fishing licences for FN interests) . Some First Nations are using PICFI vessels to FSC fish to a much greater extent than in the past.

The result has been an increase in FSC vessels using SCH facilities (but there is little concrete data as DFO has only recently asked the HAs to report FSC vessel use of facilities).

Commercial Recreational Users

SCH facilities are used by commercial sport fishing charters and sport fishing lodges. Charters take clients out from SCH facilities. Several floating lodges moor their lodge at an SCH facility, such as one in Port Edward, during the off-season winter months.

It appears that SCH usage by this commercial recreational group has been more or less constant for several years.

Other Users

Other users such as whale watching boats, tugboats, water taxis, government vessels, liveaboard etc. have seen a slight increase in recent years.

4.0 Economic Impacts

The SCH network of harbours confers economic benefits through the income and employment generated from commercial fishing, recreational, and other activity by users of the SCH harbours.

4.1 Coastwide SCH Harbour-Related Expenditures

The activities of the SCH program and the SCH network of fishing harbours permit or facilitate related commercial fishing, marine-based recreation, and other activities to occur. Our estimates of related economic activity, revenues, or expenditures under four activities categories tied to the existence and operations of the SCH network of 97 harbours in 2014 are (there is not the data to analyze economic activity for the 6 vessel categories that DFO developed for 2012):

<u>Type of Activity</u>	<u>Amount (\$ millions)</u>
Commercial Fishing	857
Aquaculture	107
Recreational Boating*	137
Other Activity	<u>128</u>
	1,229

* includes recreational fishing by individual anglers and by commercial recreational charters.

The \$1,229 million in SCH-linked revenues/sales for 2014 is greater than the \$1,121 million estimated in the 2008 GSG study for 2006.

For every dollar that flows directly through harbour operations, another \$52 flows through the provincial economy from expenditures/sales by the commercial fishery, aquaculturalists, recreational boaters and other harbour users (\$1,229 million divided by \$23.65 million SCH revenues - Exhibit 1, Section 2).

Commercial Fishing

According to DFO licensing records, there were 2,514 licensed commercial fishing vessels and over 6,500 commercial fishing licences in 2014.

The landed value of the 167,200 tonnes of catch associated with the commercial fishing licences is estimated as \$414 million:

Salmon	\$125 million
Herring	16 million
Groundfish & Finfish	131 million
Shellfish	141 million
Other	<u>1 million</u>
	\$414 million

The wholesale or processed value of commercially caught fish in BC was an estimated \$901 million in 2014 (BC Agriculture, “British Columbia Seafood Industry Year in Review”) - but some of this represents the processing of raw fish imported into BC e.g., halibut from Alaska. The wholesale value of fish caught and processed in BC is about double the landed value or \$828 million. Finally, we need to add a distribution margin, estimated as \$124 million or 15% of processed value, to arrive at a BC seafood revenue figure of \$952 million for wild fish harvested in BC (approximately 15% of BC seafood is distributed in BC and the retail value of fish is approximately double the processed value).

Our interviews with HAs suggest that 90% of commercial fishing vessel owners use SCH facilities. The only situations in which SCH facilities would not be used are: 1) processing companies may provide moorage for some of their fleet, 2) the odd individual may moor their vessel at their waterfront home e.g., on the Fraser River, on the Sunshine Coast, and 3) the odd individual may trailer their boat when not fishing, and 4) non-SCH facilities including Transport Canada ports in Victoria and Nanaimo may provide moorage.

The capture seafood revenues or value associated with SCH facilities alone then is \$857 million (90% of \$952 million).

	<u>2014</u>
Fish Harvesting Value	\$373 million
Processing Margin	372 million
Retail/Distribution Margin	<u>112 million</u>
	<u>\$857 million</u>

Aquaculture

In 2014 provincial aquaculture production had a landed or farmgate value of \$402 million - \$380 million farmed salmon and \$22 million farmed shellfish - and a processed value of \$499 million - \$443 million farmed salmon and \$56 million farmed shellfish (BC Agriculture “2014 British Columbia Seafood Industry Year in Review”).

SCH facilities are the primary dock or wharf facilities used by shellfish farmers. A variety of SCH harbours in Cortes Island, the Powell River region, the Denman Island region, Tofino and other areas of coastal BC are used by farmers to access their farm tenures and to unload product for processing and sale.

SCH facilities are used to a much lesser extent for product shipments of farmed salmon but the Kitsoo Band does use the Bella Coola SCH in the Central Coast region to transport farmed salmon destined for the Lower Mainland. Salmon farmers also use boats moored at SCH facilities to transport crew and supplies to remote farm sites. And some farmed salmon transport vessels moor at SCH facilities (the fish would be directly offloaded at the processing plant).

We estimate that 90% of farmed shellfish production and 10% of farmed salmon production is tied to SCH facilities. The cultured (farmed) seafood revenue or value figures tied to SCH facilities then is:

Farm Gate Value	\$58 million
Processing Margin	35 million
Retail/Distribution Margin	<u>14 million</u>
	<u>\$107 million</u>

Recreational

There is little information on the economic dimensions of recreational boating at the provincial level and even less at the regional level in British Columbia. However, there is some information available for the recreational fishing component - see the provincial SWOT Study (GSGislason 2003), the DFO Survey of Recreational Fishing 2010, and 2008 SCH Study by GSGislason. These studies with updated financial data for 2014 suggest the following:

- Average angler expenditures of about \$360 per day for anglers using boats (about \$120 for the purchase or capital cost of the boat, vehicles etc. and \$240 for fuel, food, accommodation etc.)
- About 3 people per boat i.e., average daily boat expenditure of \$1,080.
- Each angler fishing from 6 to 8 days annually on average but fishing comprises less than half the usage for the boat i.e., the average boat would be used on about 20 days a year.

A study on the ocean sector economy in BC estimated that the annual expenditures on fishing, boating, sailing, nature observation, beach visitation and other ocean recreation activities were \$3 billion in 2005 (excluding ferries & cruise ships - see GSGislason 2007).

Average annual recreational boat counts for all SCH harbours coastwide were an estimated 2,485. We estimate that 2/3 would be local home port vessels and 1/3 would be transients. The split among transient vessels is estimated as 75% CDN: 25% US with 1/4 of the CDN transient vessels having another SCH harbour as home port. Transient vessels that use a SCH harbour occasionally but do not have a SCH harbour as home port must be weighted (as such transient vessels that stay less than a month often are excluded from the source boat count data which refer to a single day each month).

Our estimate of provincial expenditures by recreational boaters is:

\$36 million	:	Home Port (1,655 boats x 20 days/year x \$1,080/day)
3 million	:	Transient - CDN from SCH (155 boats x 20 days/year x \$1,080/day)
75 million	:	- CDN not from SCH (465 boats x weight of 15 x 10 days/year x \$1,080/day)
<u>23 million</u>	:	- US (210 boats x weight of 15 x 10 days/year x \$720/day)
\$137 million		

Note: weight is the inverse probability of a boat being included in the SCH boat count data.

The daily expenditures for US transient boats is less since it excludes the capital cost component.

Total recreational boating expenditures in the province would be much larger than this. There are many more substitute moorage options in the region for pleasure boats than for commercial fishing boats.

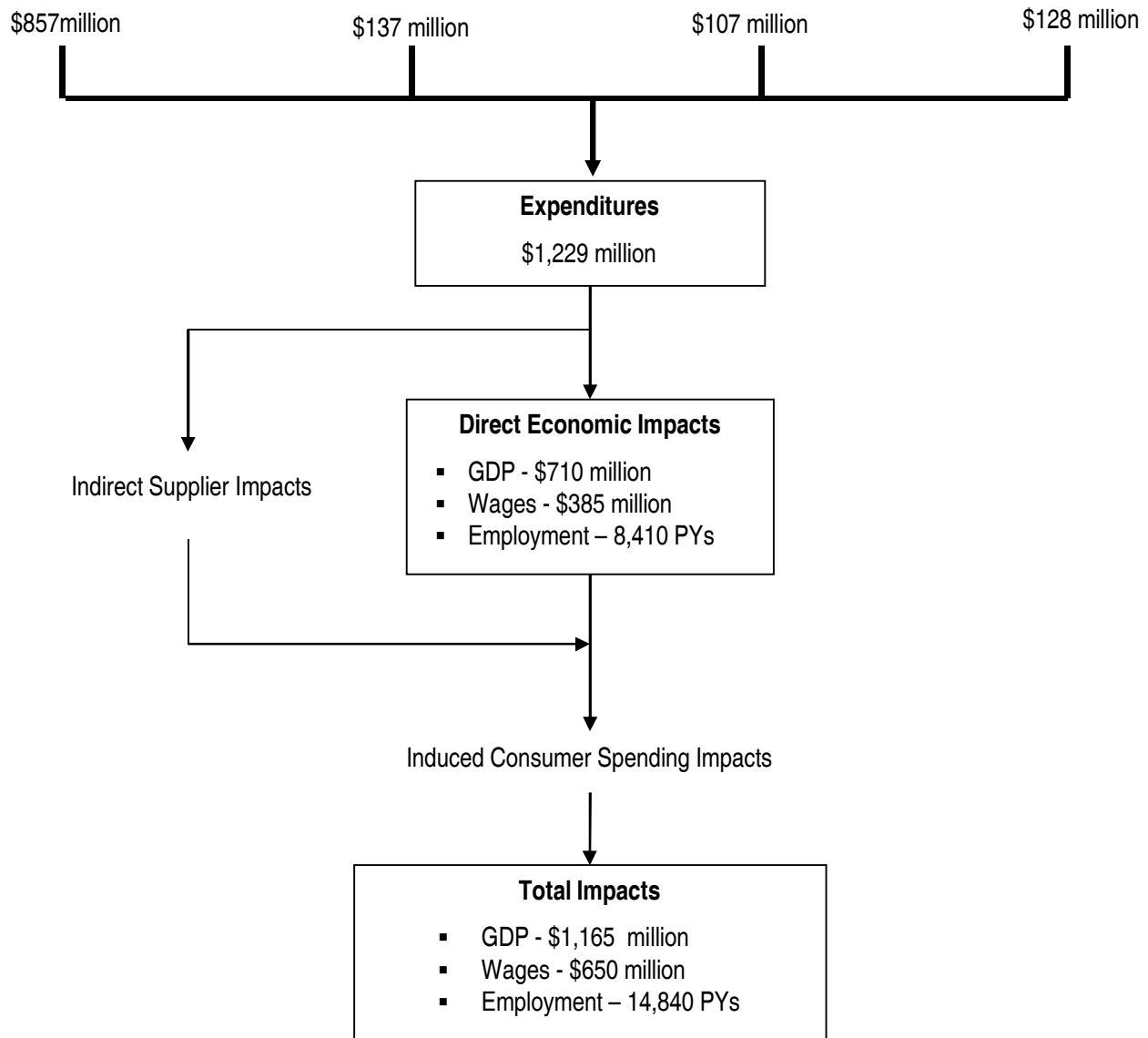
The economic analysis of recreational boating would benefit from better information or surveys on: 1) residence (Canada vs US), 2) annual days of boating use, 3) annual moorage patterns/home port, and 4) boating expenditure levels.

Other

The “other” category includes boats involved in a myriad of activities including log salvage, tugs, water taxis, ecotourism boats, government vessels etc. many of which are used in commercial ventures. For this study, we assume that \$200,000 of economic activity is associated with each of the 639 “other” boats, for a total of \$128 million (the 639 “other” boats exclude commercial recreational fishing boats as these are covered under our calculation in the general recreational/pleasure sector above).

Exhibit 3: Economic Impacts Associated with British Columbia SCH Harbours 2014

CFV Boats	Recreational Boats*	Aquaculture Boats	Other Boats**
<ul style="list-style-type: none"> ▪ Commercial fishing ▪ Value-added processing ▪ Unloading/ transport ▪ Retail/ distribution 	<ul style="list-style-type: none"> ▪ Fishing inc. charters/lodges ▪ Power ▪ Sail ▪ Other 	<ul style="list-style-type: none"> ▪ Supply deliveries ▪ Crew boats ▪ Product deliveries 	<ul style="list-style-type: none"> ▪ Log salvage ▪ Community resupply ▪ Water taxis ▪ Ecotourism boats ▪ RCMP, CCG, etc.



* Commercial Recreational Charter/Lodge boat impacts included under Pleasure.

** sum of First Nations FSC and a wide variety of Other vessels.

4.2 Provincial Economic Impact of All SCH Facilities

Commercial fishing, recreational, aquaculture and other business activity is estimated to total \$1,229 million annually in the region. The direct economic impacts of these expenditures are estimated at (see Exhibit 3 derived from multipliers in Exhibit B.1, Appendix B):

- \$710 million in annual GDP,
- \$385 million in annual labour income (wages plus benefits), and
- 8,410 person-years of annual employment

These direct expenditures also result in indirect impacts through the purchase of goods and services from suppliers and contractors. Our past interview programs with Harbour Authorities indicated that the HAs try to make purchases locally whenever possible and that 75% or more of goods and services are purchased locally. The vast majority of the remainder is spent in BC.

The re-spending of direct and indirect wages on consumer goods and services results in induced impacts, i.e., in local grocery stores, retail shops, etc. The sum of direct, indirect, and induced impacts represents the total economic impact. That is, total impacts depend not only on the “direct” effects of the initial expenditure, but also on the “multiplied” effects, both the effects on industry suppliers (indirect impacts) and the effects on retail stores in which wage earners re-spend their incomes (induced impacts).

Our estimates of total economic impacts associated with the SCH network of harbours and related activities are:

- \$1,165 million in GDP,
- \$650 million in labour income (wages plus benefits), and
- 14,840 person-years of employment

These estimates are approximate. We note also that the SCH harbour facilities are not the sole or single causal factor that creates these economic impacts. Rather, the harbours comprise an integral component of the local marine infrastructure that enables economic activity to occur. Some harbour users and independent businesses do choose to locate in a community, however, because the harbour is located there.

4.3 Regional Economic Impacts - Steveston Case Study

We were asked to develop a methodology for estimating the community/regional impacts of a single harbour and to apply the methodology to the Steveston situation. We did so in Appendix D.

Some Important Observations

Before summarizing the results, we make three important observations. The first is that such a regional or community analysis depends critically on the definition of the region. For example, the vast majority of vessel owners who have home port vessels moored in Steveston do not live in Steveston. They may not live in Richmond of which Steveston is a part. But almost all would live in the Lower Mainland. For this case study to have meaning we have defined the “region” to be the Lower Mainland which includes Vancouver, Delta, Surrey and others.

The second observation is that the circumstances of the Pacific Region commercial fishery are very different than the situation in Atlantic Canada. In Atlantic Canada, most fishermen deliver their catch to the port in which they live and this catch is most often processed in that same port - there is a tight connection between SCH location, fishermen location and processing location.

This is not the case in British Columbia in which fishermen may moor their boat 20km, 50km or even 100km or more from where they live. Often fish is unloaded at a transit point and not the vessel home port. And this fish can be trucked several hundred km or more to the processing plant. For example, much of the fish processed in Greater Vancouver is landed in Prince Rupert in Northern BC and Port Hardy and Ucluelet on Vancouver Island. The result is that in investigating the economic impacts of a Small Craft Harbour facility on the local economy one should not fixate on the community landing pattern.

For this case study, we analyzed the total catch of CFV vessels moored at Steveston HA, regardless of where that catch is landed, as the driver behind income and employment impacts arising from the HA facility. Our interviews suggested that about 10,000 tonnes of fish was landed at the Steveston Auction and public sales venues of Steveston or about 6% of total BC landings. However, the landed value of fish caught by Steveston HA-moored boats of \$93 million is a much greater 22% of coastwide landed value of \$414 million. Focussing on landings only would underestimate the economic contribution of the Steveston HA to the economy.

Finally, we note that the data to support a rigorous analysis of regional/community economic impacts is simply not available and will never be available at reasonable cost. Community economic impact analysis requires surveys of vessel owners and crew as to where they live and where they purchase their supplies, surveys of local supplier businesses to moored vessels as to where business owners and workers live and where they purchase supplies etc. As well, challenges exist with basic DFO data as to location of vessel owners, landed value of commercially caught fish and so on.

What we did was conduct limited interviews, drew on our knowledge of the marine industry in BC, and used professional judgement to present reasonable estimates of economic impacts.

Steveston HA Case Study Results

The Steveston HA is the largest HA in Canada with over 400 vessels moored on average during the year (see Exhibit D.I Appendix D).

The case study results indicate (see Exhibit 4 and Appendix D):

- economic activity tied to the Steveston HA directly contributes \$111 million in final sales to the Lower Mainland economy and \$129 million in sales to the provincial economy
- the direct, indirect supplier and consumer respending impacts of these expenditures are substantial - \$55 million in wages & benefits and 1,280 person-years of employment to the Lower Mainland and \$71 million in wages & benefits and 1,625 person-years of employment to the provincial economy.

About 85% of the economic activity at the Steveston HA level flows from the CFV fleet, a larger CFV share than for many other SCH facilities in the Province. Many other SCHs are more reliant on recreational/pleasure customers.

The same proviso for the regional analysis exists as for the provincial analysis noted previously, namely that the Steveston HA facilities are not the sole or single causal factor creating these impacts.

We suggest that in the future DFO Small Craft Harbours focus economic analysis of individual harbours or HAs to impacts on the provincial economy as a whole as there is not the data on local expenditures, without major surveys, to support local impact analysis.

Exhibit 4: Regional Impact of Steveston HA

	Region of Impact	
	Province	Lower Mainland
Regional Sales/Expenditure \$ millions		
Commercial CFV	111.1	92.8
Recreational/Pleasure	3.3	3.3
Other	<u>15.0</u>	<u>15.0</u>
Total	129.4	111.1
Direct Impact		
GDP \$ millions	77.8	66.4
Labour Income \$ millions	42.1	36.0
Employment person-years	920	785
Total Impacts		
GDP \$ millions	125.5	101.1
Labour Income \$ millions	70.5	55.2
Employment person-years	1,625	1,280

Source: Appendix D.4 Appendix D.

5.0 Community Benefits

The Small Craft Harbours program of DFO Pacific Region and the network of fishing harbours and Harbour Authorities, their staff and volunteers, are an invaluable asset to the coastal communities of British Columbia. The entire coast benefits from their existence and efforts.

Harbour and waterfront developments add not only to the local economy, but also add significantly to the quality of life in coastal communities. Some harbours provide the only sewage pump-outs, public washrooms, tourist information etc. in small communities. SCH fishing harbours and Harbour Authorities support and enable a broad spectrum of community events, community partnerships and planning, and leisure activities for both local residents and visitors. The harbours are an integral part of the life and identity of the coastal communities of British Columbia.

This commentary on community benefits and impacts draws on our past work, our interview program and the two community case studies in Appendix C (see Exhibit 5).

Stimulus to Local Economies

“Working waterfront” users such as commercial fishermen, aquaculturists, charter fishing businesses, tug boat operators etc. stimulate the local economy through incomes and wages earned. Several docks such as Steveston, False Creek, Comox and Campbell River have public fish sales. Local recreational boat owners and visiting boat owners alike spend money in the community on fuel, food & lodging, supplies etc.

The provincial income and employment impacts identified in the previous section are felt by workers and businesses in communities up and down the coast. And the HAs themselves employ workers and hire businesses that do repairs, maintenance and harbour improvements.

Benefits to First Nations

First Nations individuals and communities reap income and employment benefits from commercial fishing and other business activities that the harbour facilities enable.

In addition, there are personal use food harvesting benefits to First Nations from having the network of SCH facilities. First Nations’ communities and reserves are adjacent to the sea in order to earn a living or livelihood. Without the harbours, there would be no or very limited access to marine food.

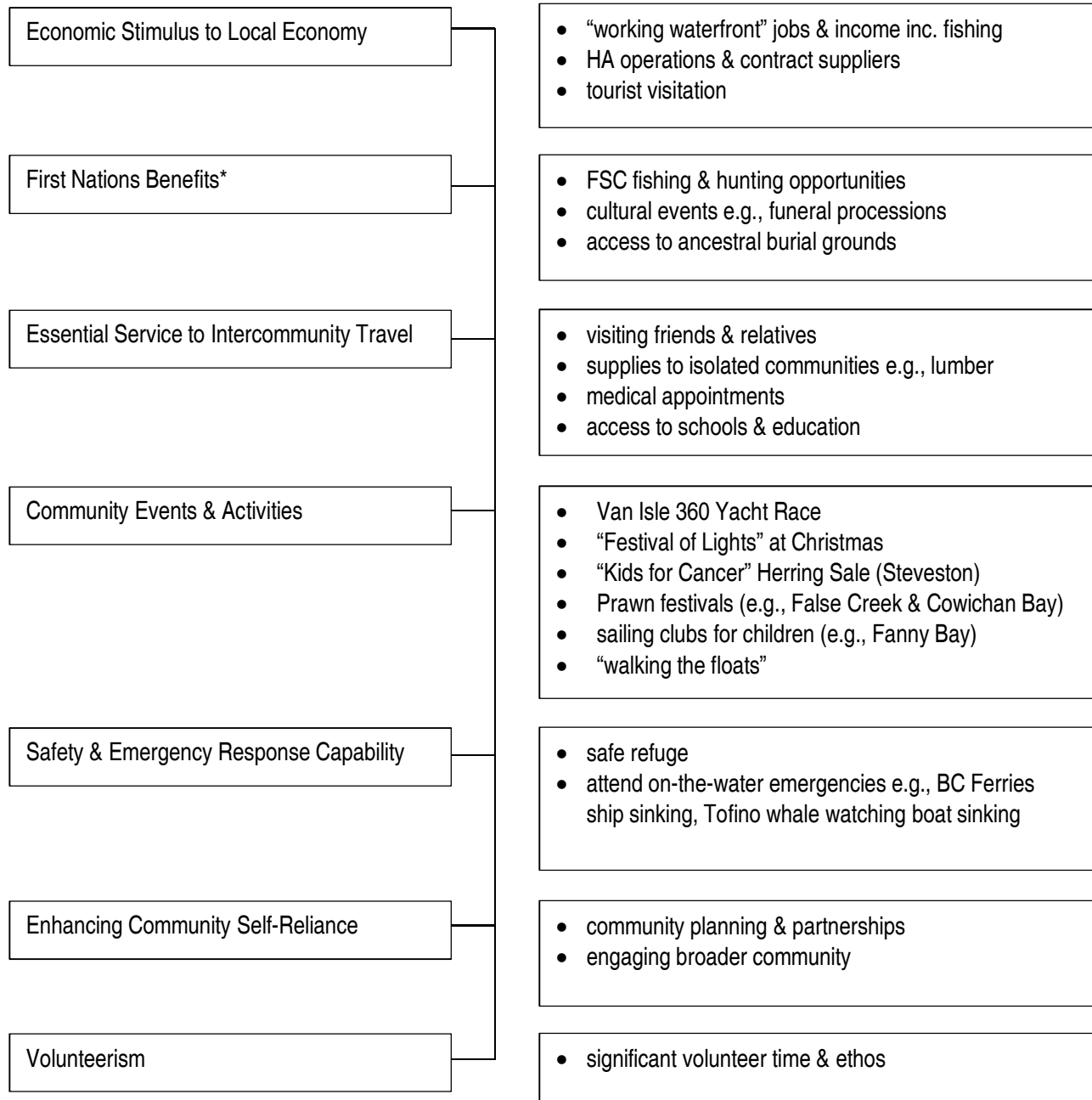
The SCHs provide access to the sea and hence enable Food, Social & Ceremonial (FSC) food harvesting and gathering activities. These foods include a variety of finfish and shellfish seafood such as salmon, herring, halibut, crab, prawns and in some cases marine mammals. For example, individuals from the Haisla First Nation travel by boats that they moor at the SCH to isolated islands to hunt seals.

FSC food gathering also includes game hunting. For example, First Nations from Alert Bay will boat from the Alert Bay SCH facility to the Broughton Archipelago to hunt deer and other animals.

An Essential Service to Outlying Communities

Harbours are especially important to isolated communities and island communities such as Quadra Island, Alert Bay, Oona River, Opitsat and Sointula as the harbour provides basic transportation infrastructure. Without the SCH harbours, economic development opportunities could not be pursued and, in fact, there would be massive depopulation and emigration from the communities.

Exhibit 5: Community Benefits from the Network of Small Craft Harbours



* Benefits to First Nations also occur under the other categories e.g., essential service, community events.

SCH facilities in some cases are essential to the education of children in island communities. For example, a water taxi in the Southern Gulf Islands acts as a school bus picking up school children from Pender and other islands to deliver them to Ganges on Saltspring Island which has the only high school in the area. School age children travel by boat from the First Nation community of Opitsaht to Tofino to attend school.

Harbours in isolated communities also enable the water transport of heavy equipment to the community for building construction, forestry and other industrial uses. Residents of isolated communities also need boats and harbour access to travel for medical and dental appointments.

Focal Point for Community Events and Activities

The SCH fishing harbours of coastal BC are often a focal point for community events. Several communities have “Harbour Days”, a community festival and celebration. Some sponsor fishing derbies for children at SCH harbours. And still others use the SCH harbour as a platform for large regional events that draw visitors from out of town.

Several SCH harbours act as stops on the VanIsle 360 Yacht Race to circumnavigate Vancouver Island. Powell River South Harbour has the Festival of Lights at Christmas. There is a “Kids for Cancer” herring sale to the public each November/December at Steveston. Alert Bay has an annual Sea Fest and an Alert Bay 360 Kayak Race. False Creek and Cowichan Bay have prawn festivals. The Prince Rupert HA has a December “Sail Pass”.

Harbours and their associated linear parkland, waterfront boardwalks, multiple use piers, picnic shelters, and other amenities are a focal point for unorganised leisure activities by local residents and visitors. People like to “walk the floats” and use harbours and harbour properties for bird watching, dog walking, weddings and a myriad of other activities. For example, approximately 100 people a day use the Fanny Bay wharf in summer to look at sea lions.

Safety & Emergency Response Capability

The SCH network of harbours also contributes to the safety of boaters. A SCH facility provides safe harbour of refuge in situations of inclement or unpredictable weather.

And SCH harbours provide emergency response capability. When the BC Ferries ship sank in Northern BC waters in March 2006, Hartley Bay boat owners disembarked from the Hartley Bay SCH to rescue passengers. When the whale watching boat sank off Tofino in October 2015, rescue boats used the Tofino SCH dock and boat ramp to assist in the rescue operation.

There are four full Canadian Coast Guard (CCG) stations located at Ganges, French Creek, Powell River and Prince Rupert (Fairview) harbours. In addition the Royal Canadian Marine Search and Rescue (SAR) bases their operations at more than a dozen SCH harbours.

Enhancing Community Self-Reliance

The devolution of the management of fishing harbours to local Harbour Authorities often has enhanced community self-reliance and partnerships, stimulated community planning, and made the harbour operations more responsive and accountable to user groups.

Exhibit 6: Some Recurring Themes Regarding the Community Importance of Harbours

- “people gravitate to the water, the harbour is the focal point of the community”
- “you need access to the sea in order to reap benefits from increased First Nations access to the commercial fishery through PICFI”
- “without the harbour, water-based businesses such as commercial fishing, aquaculture, ecotourism, and water taxis could not operate”
- “you cannot function as a coastal community without a harbour”
- “most of the harbours are a gathering point for people, product and supplies - in smaller communities, SCH facilities have a massive profile”
- “without the public dock, islands are not nearly as accessible - you could not live in a remote area”
- “the SCH harbours are the access points between First Nations and their food fish”
- “harbours are a gateway, a magnet that draws people and business to the community”
- “in our community the only downtown access to the ocean is the Small Craft Harbour”
- “many residents of isolated aboriginal and non-aboriginal communities don’t have cars - the boat is their car, the harbour is their parking lot”
- “Harbour Managers are assemblers, coordinators, facilitators, counsellors, business advisors, community spokespersons, and are undervalued”
- “First Nations fishing boats have increased in WCVI due to PICFI and due to the Ahousaht court case”
- “the Harbour Authority builds partnerships with community organizations”
- “there is not a community feeling with a private marina as they are usually gated off - SCHs are part of the community as they have public access - many are situated in the centre of town and hence become the centre of town”
- “our harbours are precious and irreplaceable - marine facilities are very expensive to permit, build and maintain today”
- “the smaller the facility, the more you rely on volunteers - but volunteer burnout is an impending issue”
- “the harbour pulls together local interests and businesses”

Source: Interview Program and GSGislason 2008.

Harbour Authorities and their managers are often at the centre of coastal community diversification projects and planning since many such initiatives are tied to the marine environment. The HAABC facilitates networking among SCH fishing harbours and allows individual communities to learn from the experiences of other HAs in addressing local issues and challenges.

Volunteerism is Substantial

Most Harbour Authorities are not-for-profit organisations that depend on volunteers for their Board of Directors. Other community residents volunteer substantial amounts of time. The Boards generally have 6 to 10 members and meet 4 to 12 times per year. Total volunteer effort could exceed 25,000 hours per year which, valued at say \$25 per hour, amounts to \$625,000 in unpaid services provided to the communities.

Most Harbour Authorities do not rely on volunteer labour other than that provided by their Board of Directors. Other Harbour Authorities, though, particularly the smaller ones often rely on Board members to help with smaller tasks. The larger HAs with larger staffs and budgets are more able either to conduct the work internally or to contract out necessary work.

Dependence on volunteers can pose challenges in harbour management, especially in the smaller communities, related to governance issues such as capacity, knowledge and expertise, time commitment, and continuity or turnover. The HAABC has made substantial efforts to raise HA governance capacity through providing resources and training especially to the smaller HAs.

Exhibit 6 provides some recurring themes from our investigations on community benefits.

6.0 Other Considerations & Issues

In our discussions with the harbour community and DFO several topics other than economic and community impacts arose (see Exhibit 7).

The World Without the Network of SCH

There was broad consensus that the loss of the network of harbours would be unthinkable. The SCH facilities are often double or triple rafted, private marinas are full and have wait lists, and the private sector would be unlikely to build new replacement facilities.

Even if some space at alternative facilities was available, the CFV fleet would be particularly disadvantaged. Our interviews suggest that:

- rates would be much higher i.e., perhaps triple
- the facilities would not have the specialized services that the commercial fleet requires e.g., product unloading capability
- the CFV fleet would not be welcome, a good “fit” at private marinas or yacht clubs

And private facilities do not offer public and community access.

First Nations communities, especially the isolated communities, would be the hardest hit. Community members would be unable to commercially fish or to FSC fish. Reliance on social assistance and other government support would escalate.

HA Governance

Each Harbour Authority had to reincorporate by October 2014 to comply with the new “Canada Not-for-Profit Corporation Act”. Under the Act, non-profit governance was strengthened to be more rigorous and transparent and to improve financial reporting. As well, the non-profit had to identify their membership and provide recourse to members for Board decisions.

The Harbour Manager works for and receives direction from the Board of Directors for each HA. The HA Board has responsibility for a broad range of harbour policy including:

- setting rates by class/type of vessels
- defining what is and what is not a commercial (CFV) vessel, and
- the allowance if any for liveaboards and derelict vessels.

It appears that in many cases HAs and their Boards have grown and become more sophisticated over time e.g., the Board has become more active, the Board is undertaking long term planning, the Board is developing Business Plans to attract leveraged funding to augment DFO funding for capital programs.

Exhibit 7: Other Considerations

- “Managers come and go - the Board of the HA is what is important”
- “HAs need to be more selective as to whom they accept into the harbour - it is hard to correct a mistake”
- “PICFI has an inland component but DFO has no SCH facilities inland”
- “without the harbours we would have to anchor the boat out in the water - there are no private/other facilities”
- “each HA is unique and its community importance or footprint is also unique”
- “the CFV fleet has specific needs which cannot be replicated elsewhere”
- “public harbours are critical to growing the fishery pie”
- ”harbours and their operations are diverse and reflect: 1) size & sophistication, 2) influence of the Harbour Manager, and 3) community setting”
- “the performance of a HA is very much reflective of the Board of Directors and its Chair”
- “the government docks are turning into a parking lot for past fishing industry people”
- “without the harbour our island community would not exist - the SCH is the only facility on the island”
- “Board members are often in conflict with the issue of having a fishing licence on a vessel that is realistically not an active fishing vessel, so the issue is avoided or ignored”
- “there are no other public or private marine infrastructure or services that could replace Small Craft Harbours. Almost every marina on the coast of Vancouver Island is full and taking waiting lists. In our area those lists are between 3 and 5 years long. There is no new marina space being planned, as there is no viable space to accommodate marinas. Private marinas are also not configured to accommodate the depth, breadth, weight and lengths of vessels existing in the commercial fleet. If new space were to be built, it would be cost prohibitive for the average fishing vessel owner”

Source: Interview Program.

For example, the Fanny Bay HA contributed to the major drive-on float construction project to enhance “beach to plate” offloading of shellfish aquaculture product. The Haisla First Nation contributed retained earnings to DFO funds for the major harbour breakwater & boardwalk project underway at the Kitamaat Village SCH.

That said, there is a wide range in performance across the 50+ HAs. Some of this diversity is due to size and location of the HA. But as with non-profits in general, some is also due to the personalities and diligence of the Harbour Manager, the Board and its Chair.

The 40K Funding Limit for Local Works

The HA can tender and commission repair, maintenance and other works under \$40,000 (40k) in cost. Projects above this figure need to be tendered through DFO Contracting Hub. Apparently the 40k limit has remained in place for a decade or more.

Several HAs, their Managers and Board Chairs, indicate that such a low threshold affects their operations. They do not argue that there is no need for financial oversight. But they argue that with a higher limit, they could cut commissioning time, ensure more local employment, receive a higher standard of work and, in essence, receive better value-for-money. In addition, more contracting decisions at the local level would assist in HA capacity building and self-sufficiency.

The Move to Zonal Planning

Our discussions with DFO SCH personnel often touched on the concept of “zonal planning”. Under such an approach, the role and needs of each harbour would not be assessed in isolation. Rather DFO SCH would strive to ensure that each zone has some core capabilities such as seafood product offloading. This could reduce costs and duplication of services.

The concept is still under early discussion and the number and location of zones is still uncertain. However, the concept and its implementation is expected to be discussed with the harbour community in the near future.

What is a Commercial Fishing Vessel (CFV) User?

Several HAs and perhaps most HAs have been wrestling with the thorny issue: “what is a Commercial Fishing Vessel (CFV) user?” Under HA rate schedules, CFV harbour users typically pay substantially lower moorage rates than do other users.

There are many formerly active commercial fishing vessels at SCH facilities who:

- sold their licence and/or quota to the federal PICFI program and now have no fishing privileges (except perhaps a general Category C privilege), or
- lease their licence and/or quota every year to a 3rd party and do not fish.

These individuals want to maintain their CFV harbour status with the attendant low moorage rates.

Some HAs have been proactive in decreeing that a vessel has to fish actively to maintain CFV status and rates. Many others have procrastinated and not taken action on the issue.

This issue is an important and growing HA governance issue. Some HAs have had to turn away high paying transient recreational vessels from their facilities as the harbours are full of former fishing vessels that never or rarely leave the harbour.

Trends

The harbour community sees several trends or emerging developments over the next 5-10 years:

- a further reduction in the number of active commercial fishing vessels coastwide but with First Nations owners increasing in absolute numbers and comprising an increasing share
- an increase in First Nations FSC vessel usage
- an increase in former commercial fishing vessels that no longer fish but still want to maintain moorage in the harbour
- an increase in shellfish aquaculture vessels and in recreational/pleasure vessels
- a demand for more offloading services, more drive-on ramps for commercial fishing and aquaculture sectors

These projected trends are a continuation of recent experience.

7.0 Conclusions

The SCH fishing harbours are a major economic and community asset in coastal British Columbia. While the primary purpose of the SCH fishing harbours is to serve commercial fishing users, the harbours also serve as a gateway that allows and enables a variety of recreation, aquaculture, tourist services, and other activities.

Although the revenue base of harbour facilities alone is modest, the SCH network has long “coat-tail” effects. For every dollar that flows directly through harbour operations, another \$52 accrues to the provincial economy as revenues/expenditures from the commercial fishery, aquaculture operations, recreational boaters and a wide variety of other users.

Revenues associated with the economic activity tied to the network of 97 harbours total \$1.2 billion annually with two thirds of these activities generated by commercial fishing, processing and retailing. In contrast, the majority of coastwide operating revenues going to Harbour Authorities flows from the recreational/ pleasure vessel customer base. However, there are many HAs that derive most of their revenue from the commercial fishing fleet and are expected to continue to do so for the foreseeable future.

In addition, the SCH harbour network has fostered community volunteerism, planning, and self-reliance, and is a focal point of community festivals, events, and leisure activities. These economic, community, and intrinsic benefits substantially enhance the quality of life in the coastal communities of the province of British Columbia. There are no other harbour facilities, public or private, that could replace the SCH harbours.

These economic and community benefits are especially important to First Nations people and First Nations communities many of which are located in isolated locations with no road access. The network of SCHs is absolutely critical to the execution of constitutionally - guaranteed FSC harvesting activities, to the implementation of federal programs to increase First Nations participation in the commercial fishery, and in fact to maintaining First Nations culture and well-being.

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Appendix A

DFO Small Craft Harbours Facilities

Exhibit A.1: DFO Harbours in British Columbia 2014

Region/Harbour	Harbour Authority	Float Length (m)
A. Queen Charlotte Islands		
1. Port Clements	Corporation of Village of Port Clements	72
2. Masset (Delkatla Slough)	Delkatla Slough Harbour Authority	335
3. Wiah Point	NA*	227
4. Queen Charlotte City	Queen Charlotte City Harbour Authority	384
B. North Coast		
5. Prince Rupert (Dodge Cove)	Dodge Cove Harbour Authority	143
6. Kitkatla	Gitxaala Harbour Authority	98
7. Kitamaat Village	Haisla Harbour Authority	145
8. Port Simpson	Harbour Authority of Port Simpson	283
9. Hartley Bay	NA	252
10. Hunts Inlet (Porcher Island)	NA	26
11. Oona River	Oona River Community Association	124
12. Port Edward	Port Edward Harbour Authority	1,076
13. Prince Rupert (Cow Bay)	“ “	99
14. Prince Rupert (Fairview)	“ “	811
15. Prince Rupert (Rushbrook)	“ “	778
16. Stewart	Stewart Harbour Authority	88
C. Central Coast		
17. Bella Coola	Bella Coola Harbour Authority	731
18. Bella Bella (Martins Cove)	NA	271
19. Klemtu	NA	81
20. Ocean Falls	Ocean Falls Harbour Authority	257
D. North Island		
21. Port Hardy	Corporation of District of Port Hardy	755
22. Port McNeill	Corporation of District of Port McNeill	281
23. Alert Bay	Corporation of Village of Alert Bay	550
24. Mitchell Bay	Malcolm Island Lions Club	23
25. Sointula	“ “	766
26. Bull Harbour (Hope Island)	NA	28
27. Gilford Island	NA	40
28. Minstrel Island Wharf & Floats	NA	120

cont'd

Exhibit A.1: DFO Harbours in British Columbia 2014 (cont'd)

Region/Harbour	Harbour Authority	Float Length (m)
E. Mid Island		
29. Campbell River	Campbell River Harbour Authority	919
30. Comox	Comox Valley Harbour Authority	575
31. Courtenay Slough	“ “	310
32. Campbell River (Discovery Harbour)	Discovery Harbour Authority	319
33. Fanny Bay	Fanny Bay Harbour Authority	42
34. Ford Cove	Ford Cove Harbour Authority	194
35. Gorge Harbour	Harbour Authority of Cortes Island	21
36. Mansons Landing	“ “	55
37. Squirrel Cove	“ “	60
38. Cortes Bay	“ “	93
39. Deep Bay	Harbour Authority of Deep Bay	341
40. French Creek	Harbour Authority of French Creek	867
41. Kelsey Bay	Harbour Authority of Sayward	177
42. Cape Mudge	NA	56
43. Heriot Bay	Quadra Island Harbour Authority	197
44. Quathiaski Cove	“ “	195
F. South Island		
45. Crofton	Corporation of District of North Cowichan	160
46. Cowichan Bay	Cowichan Bay Fisherman's Wharf Assoc.	291
47. Degnen Bay	Degnen Bay Harbour Authority	63
48. Saltspring (Burgoyne Bay)	Harbour Authority of Saltspring Island	15
49. Saltspring (Fulford)	“ “	36
50. Saltspring (Ganges Inner)	“ “	361
51. Saltspring (Ganges Outer)	“ “	121
52. Saltspring (Musgrave)	“ “	12
53. Saltspring (Vesuvius)	“ “	12
54. Ladysmith	Ladysmith Fisherman's Wharf Association	249
55. Lyall Harbour (Saturna Island)	NA	60
56. North Galiano	Whaler Bay Harbour Authority	14
57. Whaler Bay	“ “	102
58. Horton Bay	NA	41

cont'd

Exhibit A.1: DFO Harbours in British Columbia 2014 (cont'd)

Region/Harbour	Harbour Authority	Float Length (m)
G. WCVI		
59. Winter Harbour	Winter Harbour Authority	103
60. Zeballos	Zeballos Harbour Authority	194
61. Bamfield West	Bamfield Harbour Authority	184
62. Ucluelet (East)	NA	50
63. Ucluelet (Otter Street)	District of Ucluelet	150
64. Ucluelet (West)	“ “	791
65. Ahousat	NA	34
66. Marktosis (Ahousat Village)	NA	237
67. Opitsat	NA	83
68. Port Alberni	Port Alberni Port Authority	1,031
69. Tofino (4 th Street)	Tofino Harbour Authority	443
70. Tofino (Armitage Point)	“ “	122
71. Tofino (Wingen Lane)	“ “	43
H. Victoria & Area		
72. Sooke	Harbour Authority of Sooke	418
73. Tsehum (Sidney)	Tsehum Harbour Authority	319
I. Sunshine Coast		
74. Powell River South	Corporation of District of Powell River	435
75. Porpoise Bay	Corporation of District of Sechelt	150
76. Egmont	Egmont Harbour Authority	167
77. Gibsons	Gibsons Landing Harbour Authority	521
78. Hospital Bay	Harbour Authority of Pender Harbour	183
79. Madeira Park	“ “	213
80. Whiskey Slough	“ “	90
81. Finn Bay	Lund Harbour Authority	48
82. Lund	“ “	209
83. Secret Cove	NA	44
84. Squitty Bay	NA	49
85. Okeover	Okeover Harbour Authority	37
86. Saltery Bay	Saltery Bay Harbour Authority	148

cont'd

Exhibit A.1: DFO Harbours in British Columbia 2014 (cont'd)

<u>Region/Harbour</u>	<u>Harbour Authority</u>	<u>Float Length (m)</u>
J. Lower Mainland		
87. False Creek	False Creek Harbour Authority	1,349
88. Squamish	Harbour Authority of Squamish	62
89. Albion	Kanaka Landing Harbour Authority	48
90. Kanaka Landing	“ “	132
91. Ladner	Ladner Harbour Authority	274
92. McIvor's Landing	McIvor's Landing Harbour Authority	67
93. Mission	Mission Harbour Authority	319
94. McMillan Island	Seyem' Kwantlen Development Corp.	58
95. Whonnock	NA	28
96. Steveston (Gulf)	Steveston Harbour Authority	878
97. Steveston (Paramount)	“ “	<u>1,937</u>
	TOTAL	26,450

* NA - no Harbour Authority exists i.e., managed directly by DFO.

Source: DFO Small Craft Harbours.

Appendix B

Economic Parameters

Exhibit B.1: Provincial Impact Multipliers for SCH Activities

	Province-Wide Impact Multipliers		
	GDP	LI	EM
Direct Impacts			
Commercial Fishery	.62	.33	7.3
Aquaculture	.50	.24	5.4
Recreational/Pleasure	.42	.27	6.0
Other	.50	.30	6.0
Total Impacts			
Commercial Fishery	.99	.55	12.8
Aquaculture	.85	.41	9.2
Recreational/Pleasure	.85	.52	11.2
Other	.85	.51	11.0

Notes(1): Impact measures are:

- GDP - Gross Domestic Product
- LI - Labour income i.e. wages & benefits
- EM - Employment expressed in person-years

GDP and LI measures are impacts per \$ initial revenue. The EM measure is the person-years per \$1 million revenue.

- (2) The impact measures used for the commercial fishery and aquaculture are those for the overall seafood industry.

Source: Estimates based on: 1) GSGislason & Associates Ltd., "Economic Contribution of BC Seafood & Tidal Recreational Fishing 2014", Prepared for BC Seafood Alliance, November 2015, 2) GSGislason & Associates Ltd. "Economic Contribution of the Oceans Sector in British Columbia", Prepared for Canada/British Columbia Oceans Coordinating Committee, April 2007, and 3) GSGislason & Associates Ltd., "The Small Craft Harbours of BC: A Gateway for Ocean-Based Economic & Community Development", Prepared for Canada Fisheries & Oceans, March 2008.

Appendix C

Two Community Case Studies

Exhibit C.1: Tofino - Community Case Study #1

The Harbour Authority (HA). The Tofino HA has a ten-member Board of Directors - 3 commercial fishing interests, 1 aquaculture interest (the Board Chair), 2 recreational fishing interests, 1 whale watching business person, 1 small business person, 1 local government person and 1 First Nation member. The HA was formed in 1999.

The Facilities. The HA has three facilities:

- 4th Street (443m float length)
- Armitage Point i.e., the “Crab Dock” (122m float length)
- Wingen Lane (43m float length)

Wingen Lane has only a walk-on wharf. The Crab Dock has a walk-on wharf plus hydro and freshwater. The 4th Street Dock has a variety of services - walk-on wharf, hydro, freshwater, garbage collection, parking lot, public washroom, shower facility & laundry, a derrick, and grid. The 4th Street Dock also has the only boat ramp in town.

Facility Usage. Average monthly overnight boat counts in 2012 at the facilities were:

	4 th Street	Crab Dock	Wingen Lane	All
Commercial CFV	24	1	-	25
Aquaculture	5	1	-	6
Recreational	22	24	-	46
First Nations FSC	8	-	-	8
Commercial Sport	3	-	-	3
Other	<u>5</u>	<u>-</u>	<u>3</u>	<u>8</u>
Total	67	26	3	96

Many commercial salmon vessels and shellfish vessels such as crab use the 4th Street Dock. Since the Ahousaht Court Decision, small First Nations’ commercial boats have used the facility to a greater extent. As well, sport fishing and ecotourism vessels and general pleasure craft use the facilities. The “other” category includes DFO & RCMP vessels, tugboats, and forestry vessels.

First Nations use the facilities in many ways:

- moorage for commercial vessels owned by First Nations individuals
- moorage & use for FSC vessels (FSC vessels may only stay a short time to drop off a tub of fish)
- intercommunity travel & supply shipments e.g., to/from Opitsat, Hot Springs Cove and Ahousaht First Nation communities
- children from Opitsat First Nation travel by boat to Wingen Lane to attend elementary school in Tofino

Some of these uses such as intercommunity travel and FSC product deliveries may not be reflected in overnight boat count statistics as the vessels only moor at the facilities for a short period of time.

HA Revenues. The HA has annual revenues in the order of \$250,000. The HA has a year-round full time manager with an additional 2 full time workers hired from June to August. Some weekend help is hired in April and May.

Community Benefits. Tofino is at the “end of the road” on the west coast of Vancouver Island. Several nearby First Nations’ communities - Opitsat, Ahousaht, Hot Springs Cove - have no road access. Community residents must travel by boat to/from Tofino to shop, attend medical appointments, go to school etc. and to access the Vancouver Island road system. Living in these isolated communities is not tenable without the network of SCH facilities.

The Tofino SCH facilities are also the venue of several organized activities such as the Blessing of the Fleet in March and a Christmas Light event. The dock facilities are also used for several unorganized activities e.g., kids fishing off the dock, individuals “walking the floats”.

The Tofino SCH facilities provide emergency response capability - when the whale watching boat sank off Tofino in October 2015, rescue boats used the SCH dock and boat ramp to assist in the rescue operation.

Exhibit C.2: McMillan Island - Community Case Study #2

The Harbour Authority (HA). The HA is run by the Seyem' Kwantlen Development Corporation. The HA has four Board of Directors with no formal Chair (the Kwantlen Band Chief is one member of the Board). The HA was formed in late 2014.

The Facilities. The facility is located on First Nation's land on McMillan Island in the Fraser River adjacent to Fort Langley.

The harbour is small with a float length of 58m. The only services provided are moorage and power. There is no upland.

Facility Usage. There are 3 vessels moored at the facility - 2 recreational boats and 1 vessel that occasionally takes clients on river cruises (none of the 3 vessel owners are First Nations individuals). The HA also leases to an individual a net loft space which is located on the floats.

Kwantlen Band members use the facility to unload FSC-caught salmon and in-river commercially-caught salmon (in years in which an in-river commercial fishing is allowed). A cube truck operator buys the commercial fish at the dock.

Up to 20 Kwantlen Band vessels may unload at the facility but these vessels do not moor there. Vessel owners moor in front of their river front property or trailer their boats to the river.

HA Revenues. HA annual revenues are in the order of \$2,000 per year. No wages are paid to manage the facility.

Community Benefits. Current use of the facility is modest. The HA has only recently been formed and the First Nation is taking increasing interest in the facility. Discussions are underway as to future use and planning.

The facility is a 15 minute walk from Fort Langley, a historic town and major tourist magnet. There is opportunity to attract transient vessels who wish to visit the town on day trips.

The Albion Ferry Terminal adjacent to the SCH facility went out of use more than 5 years ago. The structure is disintegrating and inhibits use of the SCH dock. The structure also inhibits expansion of the SCH facility.

The HA has some preliminary development plans to enhance use of the site and associated community benefits.

Appendix D

Steveston Economic Case Study

Exhibit D.1: Steveston - Economic Impact Case Study

Introduction. This Appendix presents a case study for Steveston Harbour Authority for analyzing the economic impacts of the activities at a single harbour or HA. The Steveston HA was formed in 1990.

The analysis is restricted to three boat segments - the commercial (CFV) fleet, the recreational/pleasure fleet, and the other fleet (e.g., government vessels, tugboats, dredge vessels, log salvage vessels). No aquaculture vessels use the Steveston HA facilities. First Nations FSC use and commercial recreational fishing use e.g., sport charters are included in the CFV and pleasure fleet segments respectively.

The term “community” as defined for this case study is the Lower Mainland as opposed to Steveston per se or the City of Richmond of which Steveston forms a part i.e., community includes Vancouver, Delta, Surrey, the Fraser Valley etc. Many vessel owners who moor their boats at the Steveston HA do not live in Steveston or the City of Richmond.

The case study analysis is supported by several Exhibits:

- Exhibit D.1 - profile of boats moored at Steveston HA & the commercial fishing licences held by CFV boats
- Exhibit D.2 - average landed value per commercial fishing licence
- Exhibit D.3 - direct and total impact economic multipliers for the Lower Mainland & the Province
- Exhibit D.4 - summary of impacts
- Exhibit D.5 - overview of impact methodology

The Harbour Authority (HA). The Steveston HA is the largest HA in Canada and has an annual revenue base of approximately \$2.5 million excluding any government contributions for capital programs. The HA has substantial upland from which it generates significant lease revenue.

A variety of marine businesses operate on the two Steveston HA sites, the Paramount site (1,937m float length) and the Gulf site (878m float length).

Marine Businesses On-site at Steveston HA - Some Examples	
<ul style="list-style-type: none">• Canfisco Seine Loft• DFO Office• Trites Marine Services• Mastercraft Boat Coverings• Strait Marine Shipyard• Pacific Quality Traps• Ice Plant• Oceanside Seafoods	<ul style="list-style-type: none">• Steveston Seafood Auction• Western Maritime Institute• Nesika Insurance• Action Welding Services• Great West Fishermen’s Coop• Tricore Plastics• Ocean Rigging• Canadian Sablefish Association

Revenues/Expenditures by Major Fleet Type. We assess below the revenue/expenditures associated with three major fleet segments - commercial CFV, recreational/pleasure and other (there are no aquaculture vessels at Steveston).

The Steveston HA provided their overnight boat list for the first 24 days of November 2015. A total of 498 boats used the facility - 353 CFV, 70 recreational/pleasure and 75 other (33 boats owned by the Musqueam & other First Nations are included under the CFV count).

The CFV Fleet

We used the DFO DFV Vessel Directory, which gives licence holdings by boat name and Vessel Registration Number (VRN), to ascertain the commercial fishing licence holdings of each CFV vessel - see Exhibit D.1. Note that party-based licences, such as roe herring gillnet and roe herring seine, are not listed in the Vessel Directory (party-based licences are not attached to a particular vessel).

We then estimated the average coastwide landed value per licence by type - see Exhibit D.2 - for those types of licences held by vessels using the Steveston HA facilities. Average landed value per licence was multiplied by the number of licences to arrive at a total landed value for the Steveston HA-based fleet (we estimated that roe herring operators based in Steveston caught 20% of the total BC roe herring catch).

	Landed Value \$ millions
Salmon	20.6
Herring	3.2
Groundfish	11.4
Shellfish	11.8
Tuna	<u>1.3</u>
	48.3

This landed value figure needs to be augmented or increased for the amount of product unloading, processing and retailing occurring in the region. Over half of total provincial fish processing employment occurs in Greater Vancouver, and the share of fish processed in the Lower Mainland by the southern-based fleet would be greater than this.

Coastwide the processed value of the wild or capture harvest in BC is about twice the landed value. We assume that about 75% of the processing margin on fish landed by Steveston HA commercial vessels accrues to the region i.e., 25% is processed elsewhere in the province. We also assume that 10% of the retail value of seafood sales occurs in the region. (about 15% of BC processed seafood goes to in-province markets). The estimates of fisheries revenues resulting from the Steveston HA then is:

	\$48.3 million community landed value
x	(1 + .75 (2-1)) (1 + .10)
=	\$92.8 million regional fish value

The processing & retail margin added includes fisherman-to-consumer sales at public fish sales venues.

Recreational/Pleasure Fleet

There is little information on the economic dimensions of recreational boating at the provincial level and even less at the regional level in British Columbia. However, there is some information available for the recreational fishing component (see Section 4). This information suggests the following:

- Average angler expenditures of about \$360 per day (about \$120 for the purchase or capital cost of the boat and \$240 for fuel, food, accommodation etc.)

- About 3 people per boat i.e., average daily boat expenditure of \$625.
- Each angler fishing from 6 to 8 days annually on average but fishing comprises less than half the usage for the boat i.e., the average boat would be used on about 20 days a year.

The boat count data for Steveston HA indicates about 70 pleasure boats in moorage - we estimate that 80% would be home port i.e., 55 home port & 15 transient with the split among transient vessels being 67% CDN:33% US. Transient vessels that use a SCH occasionally but do not have another SCH as home port must be weighted (as such transient vessels that stay less than a month often are excluded from the source boat count data which refer to a single day each month).

Our estimate of regional expenditures by recreational boaters is:

\$1.188 million	:	Home Port (55 boats x \$1,080/day x 20 days/year)
1.620 million	:	Transient - CDN (10 boats x weight of 15 x 10 days/year x \$1,080/day)
<u>0.540 million</u>	:	- US (5 boats x weight of 15 x 10 days/year x \$720/day)
\$3.348 million	:	Total

Note: weight is the inverse probability of a boat being included in the SCH boat count data.

The daily expenditures for transient boats is less than for home port boats since it excludes the boat purchase cost component.

Total recreational boating expenditures in the region would be much larger than this. There are many substitute moorage options in the region for pleasure boats e.g., pleasure boats can moor at Burrard Civic, False Creek Yacht Club, Captain's Cove, Shelter Island, Sewell's Marina, Sunset Cove, Ladner Yacht Club etc.

Other Vessels

The "other" category includes boats involved in a myriad of activities including water taxis, log salvage, tugs etc. – the number of boats throughout the year is approximately 75.

For this study, we assume that \$200,000 of economic activity is associated with each of the 75 "other" boats, for a total of \$15 million.

Economic Impact. The direct regional sales associated with the Steveston HA are \$111 million to the Lower Mainland economy and \$129 million to the provincial economy. For both regions, 85% of the sales are generated by commercial fishing, processing and retailing (see Exhibit D.4).

Direct expenditures also result in indirect impacts through the purchase of goods and services from suppliers and contractors. The vast majority of purchases are made locally. Several shore-based businesses such as marine supply stores, welders, diesel mechanics, and refrigeration businesses are highly dependent on the commercial fleet. The Steveston HA, with its considerable uplands tenants, is the hub of the commercial fishing industry in Greater Vancouver.

The re-spending of direct and indirect wages on consumer goods and services results in induced impacts, i.e., in local grocery stores, retail shops, etc. The sum of direct, indirect, and induced impacts represents the total economic impact. That is, total impacts depend not only on the "direct" effects of the initial expenditure, but also on the "multiplied" effects, both the effects on industry suppliers (indirect impacts) and the effects on retail stores in which wage earners re-spend their incomes (induced impacts).

Our estimates of total economic impacts associated with the Steveston HA of harbours and related activities are:

	Provincial Impacts	Regional Impacts
GDP \$ millions	125.5	101.1
Labour Income \$ millions	70.5	55.2
Employment person-years	1,625	1,280

These estimates are approximate. We note also that the SCH harbour facilities are not the sole or single causal factor that creates these economic impacts. Rather, the harbours comprise an integral component of the local marine infrastructure that enables economic activity to occur.

Some harbour users and independent businesses do choose to locate in a community, however, because the harbour is located there. This is particularly true for the Steveston HA situation with its broad array of marine service facilities.

Future Growth. Finally we note that the economic impacts associated with the Steveston HA are poised to increase as Strait Marine has just purchased a higher capacity travel lift, planning for an expansion at the ice plant is underway, Western Maritime Institute is planning to expand, and new marine-based businesses are attracted e.g., the Coast Guard Auxiliary recently has made the Paramount site their permanent home.

Exhibit D.1: Steveston HA Boat Counts November 2015

	Steveston HA Overnight Boats
Commercial Fishing (CFV)*	353
Aquaculture	0
Recreational Pleasure**	70
First Nations FSC	0
Commercial Recreational Fishing	0
Other	<u>75</u>
	498

* includes 33 First Nations (mostly Musqueam) vessels, most without a CFV Registration, that are allocated to the CFV fleet.

** may include a couple of commercial recreational fishing vessels.

	Commercial Fishing Licences Held by CFV Boats at Steveston HA
Salmon	
Seine	54
Gillnet	277
Troll	17
Herring Food	180
Groundfish	
Halibut	25
Sablefish	5
Groundfish Trawl	20
Rockfish Hook & Line	6
Shellfish	
Crab	37
Prawn	24
Shrimp Trawl	32
Euphausid	2
Tuna	
USA68	3
Schedule II	22

Source: Steveston HA Boat List & DFO online CFV Licencing List November 2015.

Exhibit D.2: BC Commercial Fishing Landed Value per Licence 2014

Licence Category	\$000 per Licence
Salmon	
Seine	200
Gillnet	32
Troll	57
Herring Food	
	6
Groundfish	
Halibut	108
Sablefish	346
Groundfish Trawl	344
Rockfish Hook & Line	11
Shellfish	
Crab	210
Prawn	156
Geoduck	736
Red Urchin	45
Green Urchin	10
Sea Cucumber	80
Shrimp Trawl	8
Euphausid	3
Tuna	
USA68	147
CT	37

Source: Derived from BC Agriculture "British Columbia Seafood Industry Year in Review".

Exhibit D.3: Regional Impact of SCH-Related Activities

Impact Stage/Sector	Province			Lower Mainland		
	GDP	LI	EM	GDP	LI	EM
Direct Impacts						
Commercial Fishery	.62	.33	7.3	.62	.33	7.3
Recreational/Pleasure	.42	.27	6.0	.42	.27	6.0
Other	.50	.30	6.0	.50	.30	6.0
Total Impacts						
Commercial Fishery	.99	.55	12.8	.93	.50	11.7
Recreational/Pleasure	.85	.52	11.2	.81	.49	10.6
Other	.85	.51	11.0	.81	.48	10.5

Note: Impact measures are:

- GDP – Gross Domestic Product
- LI – Labour Income i.e. wages & benefits
- EM – Employment expressed in person-years

GDP and LI measures are impacts per \$ initial revenue. The EM measure is the person-years per \$1 million revenue.

Source: Estimates derived from information in Exhibit B.1, Appendix B and GSGislason & Associates Ltd. "Regional Benefits of Small Craft Harbours: Greater Vancouver Region", Prepared for Canada Fisheries & Oceans, March 2006.

Exhibit D.4: Regional Impact of Steveston HA

	Region of Impact	
	Province	Lower Mainland
Regional Sales/Expenditure \$ millions		
Commercial CFV	111.1	92.8
Recreational/Pleasure	3.3	3.3
Other	<u>15.0</u>	<u>15.0</u>
Total	129.4	111.1
Direct Impact		
GDP \$ millions	77.8	66.4
Labour Income \$ millions	42.1	36.0
Employment person-years	920	785
Total Impacts		
GDP \$ millions	125.5	101.1
Labour Income \$ millions	70.5	55.2
Employment person-years	1,625	1,280

Source: Derived from Exhibits D.1, D.2, and D.3.

Exhibit D.5: Regional Impact Methodology for Small Craft Harbours

The regional economic impact methodology consists of a number of steps under three major headings:

- region definition
- user group revenues/expenditures
- economic impacts

A. Define the Region

1. Define the region:

- economic area/communities for impacts of SCH facilities
- encatchment area/ communities for users of SCH facilities

B. User Group Revenues/Expenditures

Commercial Fisheries CFV

2. From the HA get a list of CFV boats by name and VRN that moor at the facility.
3. From DFO CFV Registration file get licences by type for each commercial fishing user of the facility.
4. From BC Ministry of Agriculture, “Seafood Year in Review” (SYIR) publication and other sources (e.g., DFO “Integrated Fisheries Management Plans”), get total landed value for each licence class. Calculate average landed value per coastwide licence by class.
5. Apply average landed value per licence in Step #4 to number of regional licences in Step #3 to estimate total landed value for the regional fleet. Add regional landed value figures over all licence classes. (i.e., say “X”).
6. From the provincial SYIR publication and other sources, estimate average ratio of processed value to landed value (i.e., say “b”). In some cases, the SYIR processed values have to be reduced by the amount of product processed that was derived from imported raw material.
7. From survey and/or judgement estimate share of fish caught by local area licence holders that is also processed in the area (i.e., say “c”). From survey and/or judgement estimate share of processed seafood that is sold in the area (say “d”).
8. The “commercial fisheries” value associated with SCH facilities in the area, say “Y”, is:
$$Y = X (1+c (b-1)) (1+d).$$

Recreational/Pleasure

9. From Harbour Authority data, calculate the number of pleasure boats moored at SCH facilities. Divide this total into a “home port” number (based on say average pleasure boat counts November to March) and into a residual “transient” number. Estimate shares of transient monthly boat count to Canadian & US vessels.
10. Estimate annual average expenditures per pleasure boat, segmented between capital or acquisition costs and operating costs. Apply total expenditure figure - capital plus operating - to the “home port” boat count in Step #9 above to get total “home port” boat expenditures in the region.

11. Estimate probability that a transient boat will be included in the annual boat counts and calculate a “weight” to be applied to transient boat counts (the weight is the inverse of the probability) - transient vessels that stay less than a month often are excluded from the source boat count data which refer to a single day each month.
12. Apply total expenditure figure - capital plus operating - to the CDN “transient” boat-day count and apply operating expenditure figure to the US “transient” boat count.
13. Add “home port” and total “transient” regional expenditures to get total regional expenditures for “pleasure” boats.

Commercial/Other

14. From Harbour Authority data, calculate the number of “commercial/ other” boats moored at SCH facilities (this category includes government vessels, tugboats, log salvage boats etc.).
15. Estimate annual average revenues and/or expenditures per “commercial/other” boat (this by necessity will be a rough approximation). In some cases, it may be possible to disaggregate this “commercial/other” boat class into subcomponents and construct separate revenue estimates for each subcomponent.
16. Apply this average revenue figure to the commercial/other boat count in Step #14 above to arrive at an estimate of total regional expenditures for “commercial/other” boats.

C. Economic Impacts

Direct Economic Impacts

17. For each of the three main types of boat traffic – “commercial fishing CFV”, “pleasure”, and “commercial/other” – estimate direct GDP, Labour Income, and Employment impact ratios per \$ direct expenditure from available provincial studies (at the direct impact stage, provincial and regional impact ratios should be the same).
18. Apply these direct impact ratios to estimated regional direct expenditures – by the three major boat categories – under Part B above. For each impact indicator, add the three component estimates to arrive at direct impacts for all types of boats.

Total Economic Impacts

19. For each of the three main types of boat traffic – “commercial fishing CFV”, “pleasure”, and “commercial/other” – estimate total GDP, Labour Income and Employment impact ratios per \$ direct expenditure from available provincial studies and judgement. Total impacts include direct, indirect supplier and induced consumer responding impacts (total regional impact ratios will be less than total provincial impact ratios due to leakages from the regional economy).
20. Apply these total impact ratios to estimated regional expenditures – by the three major boat categories – under Part B above. For each impact indicator, add the three component estimates to arrive at total impacts for all types of boats.