



Port Alberni Port Authority Economic Impact Study 2016

Prepared for **Port Alberni Port Authority**

Prepared by **Operations Economics Inc.**

20 May 2016



Source: Heart of Vancouver Island

Executive Summary

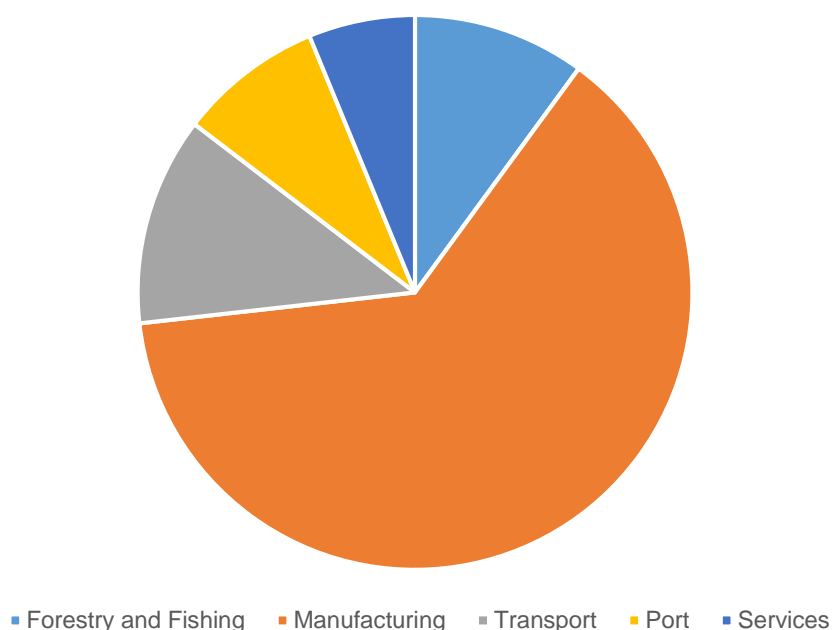
The Port Alberni Port Authority (PAPA) supports a wide range of economic activity, from lumber exports to log movements by barge to stand up paddle board rentals. In 2016 Manufacturing related to forestry remains the largest source of employment and economic activity at the port. This has two implications:

1. The port's economic activity is therefore directly tied to the health of the forest sector
2. Break bulk movement represents a large proportion of port activity.

In 2016 the port supports 1,090 jobs, 992 FTEs, generating almost \$90 million in income.

The distribution of port-related jobs is shown in **Figure ES-1**. The majority of jobs are generated by forestry-related manufacturing jobs at mills. Of these there are 353 Marine Port and Federal Property jobs, those directly related to marine operations on port lands.

Figure ES-1: Share of Employment by Sector



Economic impacts of 2016 port activity are shown in **Figure ES-2**. The table includes jobs, economic impacts, and capital and tax impacts. The port directly supports approximately:

- 1100 jobs
- \$90 million in income
- \$135 million in GDP, and
- \$385 million in Output.

Figure ES-2: Total Ongoing Economic Impacts

	Employment (Jobs)	Income (\$ millions)	GDP (\$ millions)	Output (\$ millions)
Direct	1090	87.7	135.5	383.0
Indirect	1217	76.1	120.0	252.4
Induced	571	26.8	63.5	97.0
TOTAL	2878	190.6	319.0	732.4

Capital impacts in 2016 are summarized in **Figure ES-3**. This represents the capital investment in the “Somass Strip.” Although a relatively small capital project at \$1.3 million, it will generate seven jobs, \$420,000 in income, and \$540,000 in GDP.

Figure ES-3: Direct 2016 Capital Impacts

	Jobs	Income	GDP	Output
Direct	7	\$420,000	\$540,000	\$1,300,000

Tax impacts for 2015 are summarized in **Figure ES-4**.¹ In that year, port activity generated more than \$13.5 million in taxes for all levels of government, including \$6 million for the federal government, \$2 million for the provincial government, and \$5.5 million for the municipality.

Figure ES-4: Tax Revenues by Government

	Federal	Provincial	Municipal	Total
Taxes	\$5,965,000	\$2,051,000	\$5,495,000	\$13,511,000

¹ Tax impacts are always calculated for the year before because tax rates for the current year are subject to change.

Table of Contents

Executive Summary	i
1. Introduction	1
Scope of Study	2
Report Organization	2
2. The Port	3
Owner	3
Operations	3
Community Role	5
Port Authority Facilities and Lands	6
3. Economic Impacts of Operations	10
Economic Impacts	10
Direct Impacts	10
Total Employment	12
Economic Impacts	13
4. Capital Impacts	15
5. Tax Impacts	16
6. Summary Impacts	18
7. Findings	20
Appendix A: Survey Methodology	21
Purpose	21
Survey Design	21
Distribution	21
Additional Sources	21
Appendix B: Survey Example	22
Appendix C: Multipliers	33

1. Introduction

The Port Alberni Harbour at the head of the Alberni Inlet is one of the best deep sea harbours in North America and one of the closest North American deep sea ports to Asia. Vessels up to and including panamax size can easily navigate the Alberni Inlet. (Panamax refers to the largest vessels that can fit through the locks of the current Panama Canal.)

The Port Alberni Port Authority (PAPA) oversees day-to-day operations of the harbour, and oversees development and improvement of port facilities. This also includes recreational marinas and secondary industries as specified in PAPA's Letters Patent. The Port Authority is committed to economic diversification and being "a thriving diversified port."

Prior to European contact, the Alberni Valley was inhabited by the Tseshaht and Hupacasath First Nations. The port has been used for transoceanic navigation since the arrival of Europeans on the Pacific coast. Alberni Inlet is named after Don Pedro de Alberni, a Spanish captain who commanded a Spanish outpost in Nootka Sound in the late 1700s, before the British arrival. In 1860, a schooner moored in the Alberni Inlet and the crew constructed the first saw mill in what is now British Columbia.

Figure 1-1: First Nation Whaling Canoe Sculpture, Port Alberni²



² Source: Wikimedia Commons, https://commons.wikimedia.org/wiki/File:Nuu-Chah-Nulth_Whaling_Canoe_sculpture_in_Port_Alberni_front.JPG

Scope of Study

For this project, the scope of study was defined as all economic activity that takes place at PAPA and related logistics within British Columbia. A port is a harbour where products are imported or exported (transported) via marine transportation. For example, a harbour supporting fishing vessels is not necessarily a port. A port primarily involves trade via terminals and this role defines ports' importance to the Canadian economy. However, a port is more than terminal activity. In the case of Port Alberni manufacturing related to trade is significant to port operations and trade, and generates employment. Jobs related to moving logs and forest products to and from the port are also considered in this analysis.

The scope of study has been defined as all economic activity that takes place at Port Alberni and related logistics

Report Organization

The report is developed in the following sections:

1. Introduces the report.
2. The port and its activities are discussed.
3. Economic impacts of port operations are reviewed.
4. Tax impacts are described.
5. Impacts are summarized.
6. Findings of this year's economic impact are described.

Appendices describe aspects of the report's methodology.

2. The Port

Economic numbers describe the activity that businesses and workers conduct. The analysis describes this activity in quantitative manner. For this reason, to understand the numbers it is valuable to appreciate the nature of economic activity at a site such as a port. This section describes the ongoing operations of PAPA.

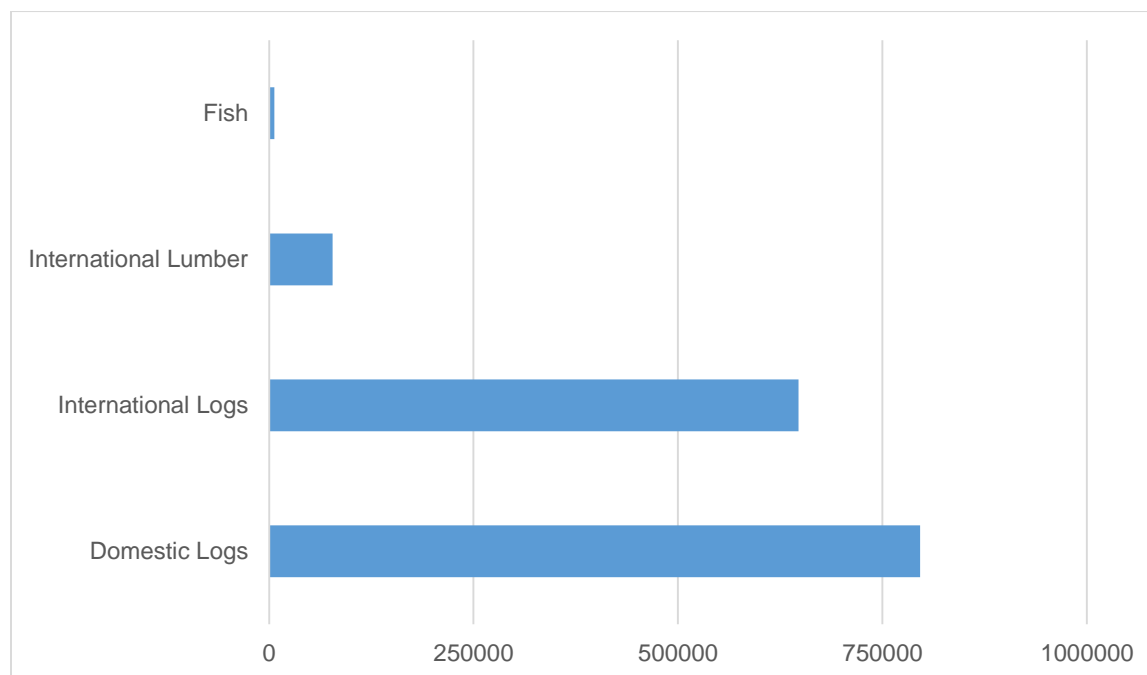
Owner

PAPA was set up in 1999 under the Canada Marine Act, and is a continuation of the former Port Alberni Harbour Commission. The Authority oversees the day-to-day operations of the harbour, and the planning and development of waterfront facilities and lands. The Port Authority operates the port terminals, manages four marinas, a campground, and oversees more than 100 leases/agreements.

Operations

Operations at PAPA include break bulk cargo movements of forest products, forestry related manufacturing, commercial fishing, marine maintenance, recreation, and other activities. Break bulk marine transport and forestry related manufacturing dominate employment related to the port. **Figure 2-1** shows 2015 cargo activity at the port.

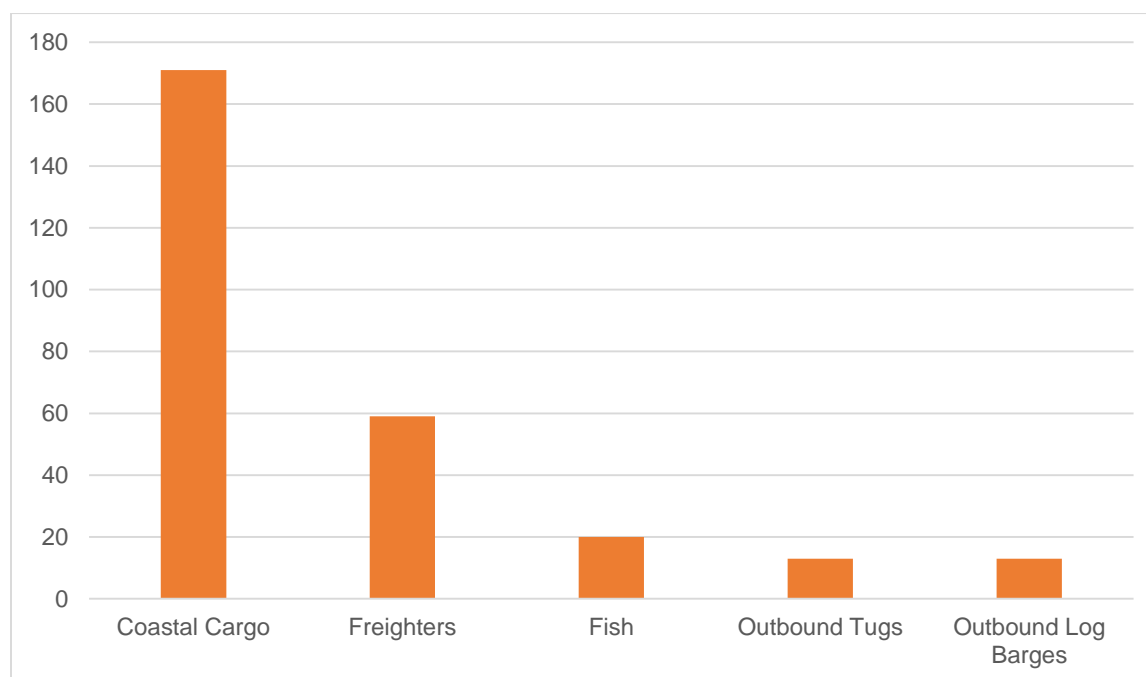
Primary Products. By mass, the major products moving via the port are domestic logs, international logs, international lumber, and fish. These statistics capture cargo arriving via the port and/or leaving via the port.

Figure 2-1: Major Port Activities, 2015 (tonnes)

Source: PAPA. Note: There was also approximately 700 tonnes of miscellaneous cargo moved in 2015 but this is too small a number to show on a graph of this scale.

Freighter movements for 2014 and 2015 were 66 and 59, respectively. These vessels move forestry exports from Port Alberni to international markets, primarily in Asia, but activity at the port includes significant other activity. The diversity of major movements is displayed in **Figure 2-2**.

Coastal cargo movements that stay on the West Coast of Vancouver Island generate the most vessel movements, approximately three per week. Many of these are the Lady Rose which serves the Barkley Sound region. Freighter movements are the second most numerous, approximately one per week in 2015, although the sailings were not evenly timed.

Figure 2-2: Vessel Movement Purposes, 2015

Source: PAPA

Fishing vessels describe large vessels such as the factory trawler FV Raw Spirit, one of the largest fishing vessels on the B.C. coast. The 844 tonne vessel goes to sea, fishes, flash freezes the catch and then returns to port, often on a biweekly basis. Many smaller commercial and recreational fishing vessels are involved in the summer regional Chinook and Sockeye Salmon fishery but are not captured in these statistics.

Outbound tug and outbound log barges refer to large movements of logs leaving the port and travelling domestically to other ports or mills in B.C. A log barge in B.C. is often large and can transport 8,000 cubic metres of logs.

Port use by smaller commercial and recreational vessels is constant but is not counted.

Community Role

Economic activity at Port Alberni is integral to the economy of the region and Vancouver Island. The Port's mission is "to facilitate profitable maritime trade and marine related tourism and industry..." The port supports forestry, manufacturing, fishing, tourism and other activities in the region, and works to expand benefits for the community.

Port Authority Facilities and Lands

PAPA operates three berths, four warehouses, related facilities four marinas and a campground. (This is unusual as most ports primarily act as landlords rather than operating businesses.) The port primarily supports forestry exports of Vancouver Island products. The terminal areas are floodlit with 24-hour security. The terminals are shown in **Figure 2-3** and include:

- Berths 1 and 2, 320 metres long with a depth alongside of 11.4 metres at zero tide.
- Berth 3, 183 metres long and a depth alongside of 12.2 metres at zero tide.
- Four warehouses on the shipping berths, providing 4,645 square metres in total, and storing up to 9,000 tonnes.³

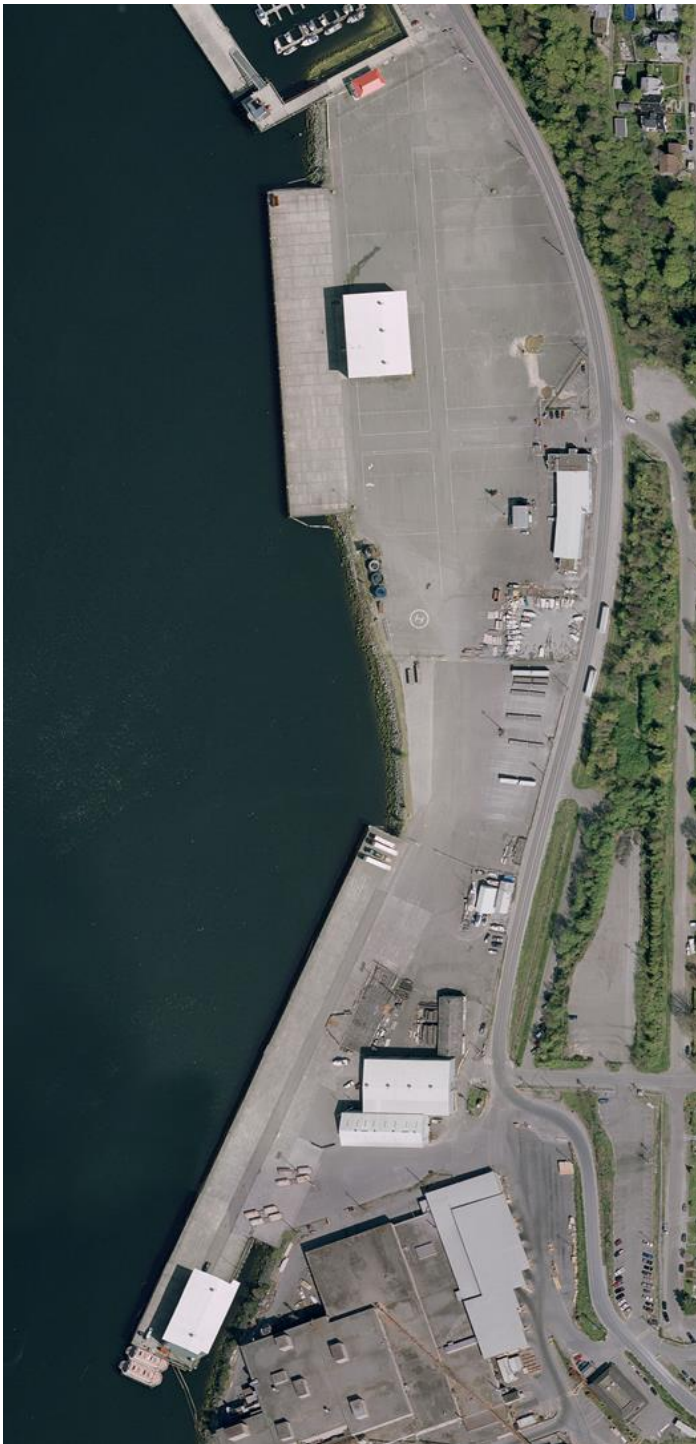
An aerial view of the terminal area and warehouses is provided in **Figure 2-3** below. These terminals are designed for break bulk products such as lumber, steel or logs.

PAPA also operates four marinas. These are China Creek, Clutesi Haven, Harbour Quay, and Fisherman's Harbour. Additionally, the Authority also operates a campground with more than 250 camp sites.

Much of the activity at the port occurs at private facilities. **Figure 2-4** shows the harbour and the location of Catalyst Paper and two WFP mills. These mills and other mills and businesses in Port Alberni are located here because of the services which the port supports and generate significant economic activity. Other private services along the port include fishing companies, repair and maintenance, and government services.

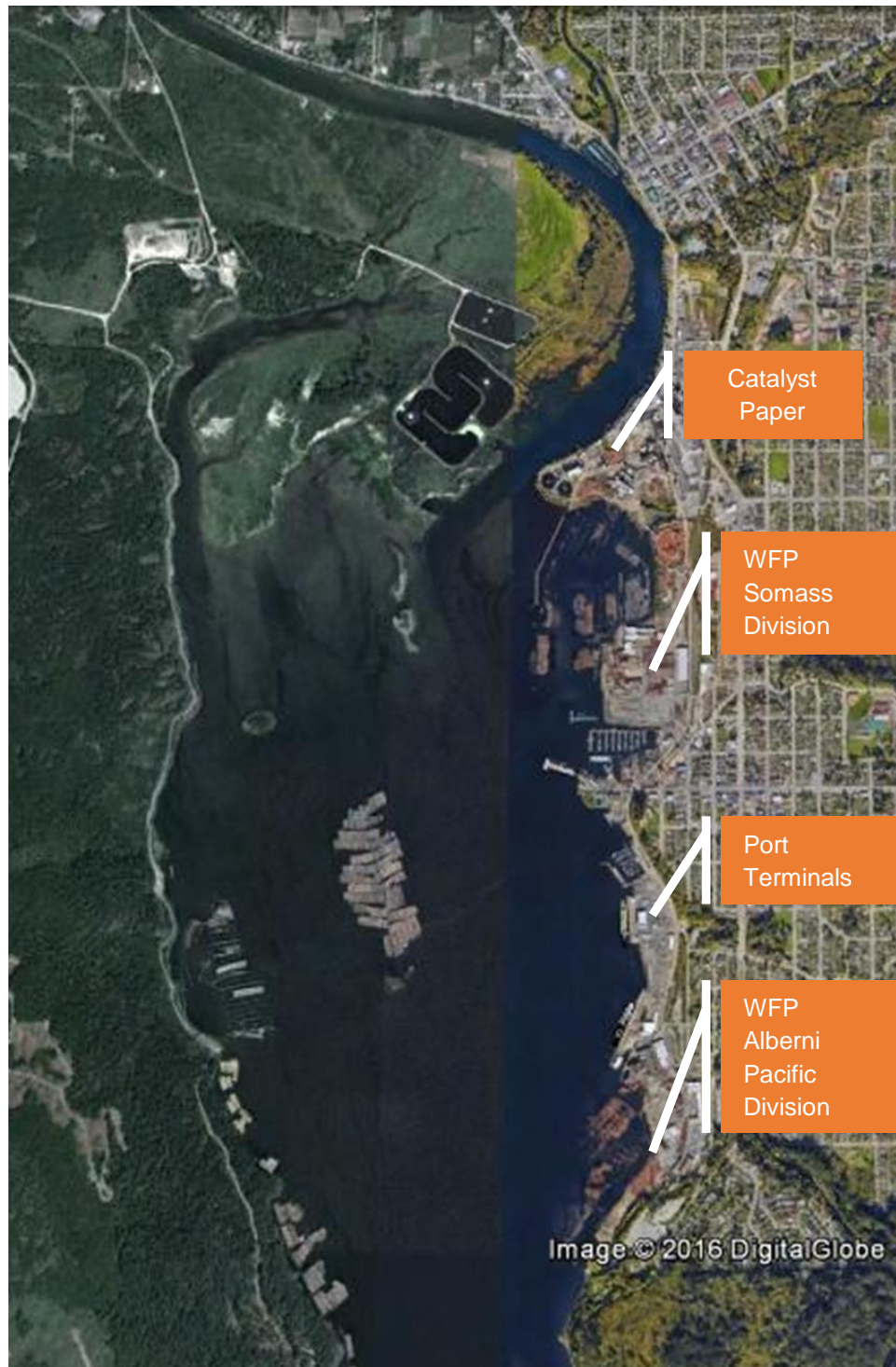
³ <http://www.portalberniportauthority.ca/en/port-alberni-terminals>

Figure 2-3: Terminal Area



Source: PAPA

Figure 2-4: Aerial View of Port Alberni



Source: Google Earth



LUMBER: SNAPSHOT OF BREAK BULK ACTIVITY

Port Alberni is predominantly a break bulk port. There are a variety of cargo types but the most common ones are bulk (coal, grain, sulphur, aggregate), containers, and break bulk (lumber, steel). Break bulk cargo generates the greatest number of jobs per tonne because it requires attention. Bulk products can load a ship via belt or other systems and containers can be loaded by efficient crane operations. With breakbulk every crane load requires significant attention, labour and care. Lumber is a good example of this.

In 2015 twelve freighters visited Port Alberni to export lumber to foreign markets. For each of these movements, the following labour would be required at a minimum (not including labour on international freighters):

- A pilot to guide the vessel to port via Alberni Inlet
- Longshoreman to tie up the vessel
- Ship agents, chandlers, and other services to support the ship
- Truckers to move the lumber from the mill to the terminal
- Longshoreman to load the bundles of lumber from the terminal to the vessel. Twelve workers per eight-hour shift loading approximately 1000 metric tonnes per shift. A typical vessel that year loaded approximately 1,000 tonnes.
- Longshoreman to cast off the vessel
- A pilot to guide the vessel via Alberni Inlet

This is the minimum port labour required for each lumber vessel.

Approximately 80 workers are directly involved each time a lumber ship berths at Port Alberni.

3. Economic Impacts of Operations

Economic Impacts

Economic impact measures economic activity, such as spending or employment. Impacts can be measured for an economic sector, a project, or a change in spending in the economy. Economic impact is measured in different ways. Two of the most common measures of economic impact are Gross Domestic Product (GDP) and jobs, which are often reported as full-time equivalents (FTEs). These and other measures such as Output and income are used to explain the impact of activity in the economy. Statistics Canada analyzes the entire Canadian economy and regularly updates an input-output model which describe economic activity in the country. Economic impact analysis such as this report are primarily based on Statistics Canada's input-output model.

The economic impact is divided into the following concepts to assist with analysis:

Direct. These impacts are directly attributable to the operations in an industry, firm, etc. For example, at PAPA, all activity based at the port is considered direct. The direct activity therefore includes the port authority itself, mills located on the port, and other port focused businesses.

Indirect. Indirect activity supports or enables direct activity. A supplier for a direct activity at the port is indirect activity. For Port Alberni, this includes supplier industries for the mills, for example. These are analyzed using economic multipliers.

Induced. Induced activity is created by people in direct and indirect sectors spending money in the regional economy. For example, a mill worker spending money for groceries generates induced impacts. These are analyzed using economic multipliers.

Total impacts are the sum of direct, indirect and induced effects.

Direct Impacts

Direct employment related to port operations includes 1090 jobs. These jobs are the equivalent of 992 person years of employment, after adjusting for seasonal and part-time employment. Employees at the port earned approximately \$88 million in wages, yielding an average of \$80,000 per person year in income. Employment figures are summarized in **Figure 3-1**.

Figure 3-1: Direct Employment and Wages

Employment (Jobs)	Employment (Person Years)	Income (\$ millions)
1090	992	88

The relative scale of different industry jobs related to port operations is shown in **Figure 3-2**. The greatest generator of jobs related to the port is manufacturing (63.1%), transport related to product moving to and from the port (12.2%), forestry and fishing (8.6%), port activities (8.4%), and services (6.3%). Of these there are 353 Marine Port and Federal Property jobs, those directly related to marine operations on port lands.

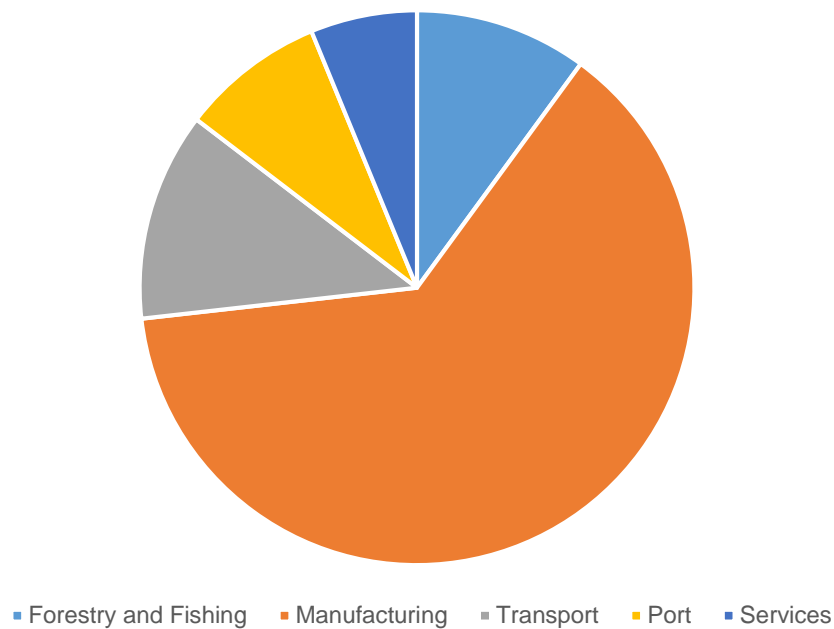
Forestry related manufacturing is the largest source of port employment.

Manufacturing refers to the numerous mills actively utilizing the port. Transport refers primarily to trucking and tugs moving products to and from the port. Forestry and fishing describes fishing and forestry jobs directly related to port activities, and the movement of products to the port. Port activities refer to port authority and port specific jobs.

Services include hospitality jobs in the port, boat rentals, security and a variety of other services related to the port.

Manufacturing activity generates some of the highest economic multiplier impacts.

Manufacturing is so significant at Port Alberni because the community includes a saw mill, a paper mill, and other forestry-related manufacturing. Forestry jobs relate to moving logs from the point of harvest to the port for export or processing. (These numbers do not include tree falling jobs, however, for example.)

Figure 3-2: Share of Employment by Sector

Total Employment

Based on the survey, interviews, and analysis of the port economy, direct jobs at PAPA are calculated, and shown in **Figure 3-3**. The direct jobs are based on the survey of port employers and related analysis. Direct income, and all indirect and induced employment numbers are based on application of economic multipliers. Direct, indirect and induced numbers added together equal Total Employment Impacts.

The direct employment generated is approximately

1100 direct jobs

generating \$90 million in direct income.

Including indirect and induced impacts, port activities generate approximately:

- 2,900 total jobs in B.C. and
- \$190 million in total income.

Figure 3-3: Direct and Total Employment

	Employment (Jobs)	Income (\$ Millions)
Direct	1090	87.7
Indirect	1217	76.1
Induced	571	26.8
TOTAL	2878	190.6

Economic Impacts

The economic measures for the Port of GDP and Output have also been measured using multiplier analysis and are shown in **Figure 3-4**.

Direct impacts are approximately:

- \$135 million in direct GDP, and
- \$385 million in direct Output.

Direct impacts are approximately

≈ \$135 million in direct GDP, and

≈ \$385 million in direct Output.

The total impacts are approximately

- \$320 million in total GDP, and
- \$730 million in total Output.

Figure 3-4: Direct and Total GDP and Economic Output

	GDP (\$ millions)	Output (\$ millions)
Direct	135.5	383.0
Indirect	120.0	252.4
Induced	63.5	97.0
Total	319.0	732.4

4. Capital Impacts

In 2016 PAPA is preparing the “Somass Strip” area for development. The Strip is on the southern end of the Somass Mill property, and will be developed into a fisherman’s wharf type of facility on the harbour. In 2016 PAPA is providing services and land preparation for the site, extending utilities to it and building a board walk and a service dock and restroom facilities at the site, and seeking a lessee to run the marine fuel service dock; a café; and other tourism and hospitality related businesses.⁴

The “Somass Strip” will be developed into a fisherman’s wharf attraction.

The capital costs of the proposed development include approximately:

- \$817,000 for the boardwalk, washroom facilities, and parking
- \$485,000 for finger floats and decking

Total project costs are \$1.3 million. Using multiplier analysis, the economic impacts of the capital project can be analyzed. The direct impacts of the project include:

- 7 jobs
- \$420,000 in income
- \$540,000 in GDP, and
- \$1.3 million in Output.

Figure 4-1: Direct Impacts of the “Somass Strip” development project

	Jobs	Income	GDP	Output
Direct	7	\$420,000	\$540,000	\$1,300,000

The development of services and land preparation at the Somass Strip will generate 7 jobs and \$420,000 in income in 2016.

⁴ For further information, please see <http://www.portalberniportauthority.ca/sites/default/files/uploads/16-04-06-Somass-cafe-RFP.pdf>.

5. Tax Impacts

Economic activity generates tax revenue for government. These taxes are paid by employers and employees. All varieties of taxes paid are considered in this analysis including, corporate taxes, personal income tax, CPP, EI and work related taxes. For each category, taxes paid to the federal, provincial and local levels of government are separately identified. Only direct employment related taxes are included.

Taxes included in this analysis include:

- Federal and provincial income tax
- Federal and provincial corporate income tax
- CPP
- EI
- MSP
- WCB
- Municipal land taxes and agreements
- Marine fees

Ongoing economic activity at PAPA generates tax revenue for all levels of government, and these are outlined in **Figure 5-1**. In 2015, total tax contributions from port related direct economic activity was approximately \$13.5 million.

In 2015, total tax contributions from port related direct employment was approximately \$13.5 million.

As with taxes in Canada in general, the federal government received the greatest share of tax revenue, approximately \$6.0 million, or 44% of the total. The majority of these taxes are paid by employers and employees as income-related taxes.

The provincial government received, \$2.1 million or 15.2%. Sources included income taxes, corporate tax, WCB, and MSP.

The municipal governments collected \$5.5 million in land taxes and \$95,000 in an agreement with the port authority.

Figure 5-1: Tax Revenues by Government

	Federal	Provincial	Municipal	Total
Taxes	\$5,965,000	\$2,051,000	\$5,495,000	\$13,511,000

6. Summary Impacts

The summary of economic impacts includes jobs, economic impacts, and capital and tax impacts. The economic impacts of PAPA in 2016 are shown in **Figure 6-1**. The direct impacts are derived from the survey and interviews, and the indirect and induced impacts are generated by multiplier analysis.

The port directly supports approximately:

- 1100 jobs
- \$90 million in income
- \$135 million in GDP, and
- \$385 million in Output.

Figure 6-1: Total Ongoing Economic Impacts

	Employment (Jobs)	Income (\$ millions)	GDP (\$ millions)	Output (\$ millions)
Direct	1090	87.7	135.5	383.0
Indirect	1217	76.1	120.0	252.4
Induced	571	26.8	63.5	97.0
TOTAL	2878	190.6	319.0	732.4

Capital impacts in 2016 are summarized in **Figure 6-2**. This represents the capital investment in the “Somass Strip.” Although a relatively small capital project at \$1.3 million, it will generate seven jobs, \$420,000 in income, and \$540,000 in GDP.

Figure 6-2: Direct 2016 Capital Impacts

	Jobs	Income	GDP	Output
Direct	7	\$420,000	\$540,000	\$1,300,000

Tax impacts for 2015 are summarized in **Figure 6-3**.⁵ In that year, port activity generated more than \$13.5 million in taxes for all levels of government, including \$6 million for the federal government, \$2 million for the provincial government, and approximately \$5.5 million in municipal taxes.

⁵ Tax impacts are always calculated for the year before because tax rates for the current year are subject to change.

Figure 6-3: Tax Revenues by Government

	Federal	Provincial	Municipal	Total
Taxes	\$5,960,000	\$2,051,000	\$5,495,000	\$13,511,000

7. Findings

Findings of this analysis include the following:

- PAPA supports a wide range of economic activity, and the Port is actively seeking and attracting new businesses. Examples of recent new business include a seaplane operator, and a high tech processor of wood into activated carbon.
- Manufacturing related to forestry remains the largest source of employment and economic activity at the port. This has two implications:
 - The port's economic activity is therefore directly tied to the health of the forest sector
 - Break bulk movement represents a large proportion of port activity.
- Port Alberni generates significant economic impacts, including direct impacts of
 - 1100 direct jobs
 - Almost \$90 million in direct income
 - \$135 million in GDP, and
 - Over \$360 million in Output
- The Port's activities generate over \$13.5 million in taxes per year
 - Almost \$6.0 million for the federal government,
 - \$2.1 million for the provincial government, and
 - \$5.5 million for municipal government.

Appendix A: Survey Methodology

The economic impact survey conducted for this project was targeted at businesses which operate at Port Alberni Port Authority or conduct economic activity to and from the port.

Purpose

The economic impact survey was designed to measure and understand the economic activity at the port. The Port Alberni Port Authority requested that the study align with its 2012 economic impact study, and the survey was prepared to ensure the results of this study and the 2012 study are comparable and align.

Survey Design

SurveyMonkey.com was used to distribute the survey to facilitate distribution and to increase the ease of response for respondents. The focus in survey design was ensure the results were comparable to the previous 2012 analysis.

Distribution

The survey list was developed in coordination with the Port using its lists of customers and suppliers. A data base of companies to be contacted was created and these companies were contacted via letter mail. The envelope sent included a letter from the Port explaining the project and a link to the SurveyMonkey survey. When companies/organizations did not respond, attempts were made to contact them by telephone.

Additional Sources

Survey results have been supplemented by on-line searches and interviews to check and add facts, and understand regional and industry context.

Appendix B: Survey Example

A reproduction of the on-line survey is shown on the following pages.



Cover Letter

February 2016

To Port Alberni Port Authority's Business Stakeholders;

Re: Port Alberni Port Authority Economic Impact Study

Explaining the significant contribution of the port community to the regional, provincial and national economy is critical to growing and maintaining community and government support for port and marina-related initiatives.

The Port Alberni Port Authority (PAPA) has therefore commissioned Operations Economics Inc. (OEI) to conduct an economic impact study of the port's ongoing operations. The results will be used to explain port and related business economic contributions.

To support this initiative, please participate in the employment survey attached. Please complete this survey as soon as possible.

If you have questions, please contact Rob Beynon at 604-417-5642 or rob@operationseconomics.com.

We appreciate that some of the information requested in the survey may be of a sensitive nature to your firm. All information provided will be treated with confidence and will not be viewed by anyone but the research firm. Only aggregate results will be provided in the final report.

Thanks you for your cooperation in this important study.

Sincerely,

David McCormick, MBA
Director, Public Relations & Business Development
Port Alberni Port Authority



Page 1

Numbers provided in this survey will be treated with strict confidentiality and will be viewed only by Operations Economics Inc. staff and reported in only aggregate form. Please be as accurate and current as possible to ensure an accurate study.

1. Firm Information

Name

Company

Address

City/Town

State/Province

ZIP/Postal Code

Email Address

Phone Number



Page 2

2. Type of Business (check one)

- ☐ Stevedoring
- ☐ Ship Building or Repair
- ☐ Marina
- ☐ Pilotage
- ☐ Tug / Tow / Barge
- ☐ Freight Forwarder / Customs Broker
- ☐ Marine Related Supply
- ☐ Chandler
- ☐ Waste Disposal / Ship Cleaning
- ☐ Dredging
- ☐ Fishing
- ☐ Seafood Processing
- ☐ Terminal Operator
- ☐ Mill Operator
- ☐ Government Agency
- ☐ Ships' Agent
- ☐ Shipping Agent
- ☐ Trucking
- ☐ Other (please specify)



Page 3

3. Business Related to the Port Alberni Port Authority (%)

For the question above, please estimate the percentage of your business that is related to the Port Alberni Port Port Authority as of January 2016. We do not want to allocate your activity for another port or location to this study.

4. Trucking to/from Port Port Alberni

- ☐ Yes, our firm contracts for trucking services to and from the port
- ☐ No, our firm does not contract trucking services to and from the port

5. Weekly truck trips (if you answered YES to Question 4)

LOCAL trips per week

NON-LOCAL trips per week

Please estimate weekly trips for the question above. Average these annually if your traffic is seasonal.



Page 4

6. Number of Employees

Total Number of Employees (in 2016)

Total 2016 Annual Payroll (\$s)

7. Number of employees (option)

If preferred, enter estimated average employee annual salary (rather than total annual payroll question in Q6 above) (\$s)

8. Number of Permanent Employees

Full-time Permanent Employees

Part-time Permanent Employees

Total Permanent Employees (full-time + part-time)

Average weekly hours of part-time employees (hours)



Page 5

9. Number of Seasonal Employees

Full-time seasonal employees (#)

Average annual weeks for **full-time** seasonal employees (weeks)

Part-time seasonal employees (#)

Average annual weeks for **part-time** seasonal employees (weeks)

Average hours per week for **part-time** seasonal employees (hours/week)



Page 6

For the question below, please describe your workforce by number of jobs for each occupation type. *If you prefer, please fill in occupations by percentage of workforce and note this in the comment box at the end of this question.*

10. Employment by Occupation (# of jobs)

Managerial / Supervisory

Clerical

Sales / Customer Service

Pilots

Stevedores (ILWU)

Stevedores (non ILWU)

Warehouse Labour

Construction / Maintenance

Seamen & Officers

Inspectors

Security Agents	<input type="text"/>
Drivers / Delivery	<input type="text"/>
Dispatchers	<input type="text"/>
Call Centre	<input type="text"/>
Shipper	<input type="text"/>
Freight Forwarder	<input type="text"/>
Customs Broker	<input type="text"/>
Engineer	<input type="text"/>
Mechanic	<input type="text"/>
General Labour	<input type="text"/>
Other	<input type="text"/>
11. Comments on the question above, if desired	
<input type="text"/>	



Page 7

Do not enter contract employee numbers for the question below if you have input their information in a previous question, please.

12. Employees on ContractNumber of Contract Employees (#)

Average number of weeks per year (weeks / year)

Average weekly hours (weekly hours)

The next two questions are related. The first (Q13) asks what kind of services you contract. The second question (Q14) asks how many annual hours of labour (estimated) are performed by each firm. Please ensure that the rows in Q13 and Q14 are matching. For example, Q13 #1 shows type of service "cleaning," and Q14 #1 shows the annual hours for "cleaning."

13. Firms on Contract, Variety

Type of service 1

Type of Service 2

Type of service 3

14. Firms on Contract, Annual Hours (estimate)

Service 1

Service 2

Service 3

15. Property Taxes Paid in 2015 (\$s)

This question applies only to taxes paid in the Port Alberni area.

16. Any additional comments on the port's economic activity or impact.

Thank you for your response. If you have any questions regarding the survey
please contact **Rob Beynon** at 604-417-5642 or
rob@operationseconomics.com

Appendix C: Multipliers

For this project, the 2010 Provincial Input-Output Multipliers produced by the Industry Accounts Division of Statistics Canada have been used. These are the most recently released public multipliers. Notes to the Statistics Canada multipliers include:

The input-output multipliers are derived from the [national] input-output tables. They are used to assess the effects on the economy of an exogenous change in final demand for the output of a given industry. They provide a measure of the interdependence between an industry and the rest of the economy.

The multipliers show the direct, indirect, and induced effects on gross output, the detailed components of GDP, jobs, and imports.

The detailed level of aggregation has been used for this analysis.

Statistics Canada definitions of key economic terms are

Direct effects measure the initial requirements for an extra dollar's worth of output of a given industry. The direct effect on the output of an industry is a one dollar change in output to meet the change of one dollar in final demand. Associated with this change, there will also be direct effects on GDP, jobs, and imports.

Indirect effects measure the changes due to inter-industry purchases as they respond to the new demands of the directly affected industries. This includes all the chain reaction of output up the production stream since each of the products purchased will require, in turn, the production of various inputs.

Induced effects measure the changes in the production of goods and services in response to consumer expenditures induced by households' incomes (i.e., wages) generated by the production of the direct and indirect requirements.⁶

⁶ Statistics Canada, Catalogue no. 15F0046XDB.



Operations Economics Inc.
Suite 2000 – 1066 West Hastings Street
Vancouver V6E 3X2
Canada

1-604-417-5642
info@operationseconomics.com