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Economic Impact Study of Independent Marine Ports in Atlantic Canada

FINAL REPORT

Prepared for:

Independent Marine Ports Association of Atlantic Canada



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TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	I
1. Study Focus	<i>i</i>
2. Critical Port Infrastructure	<i>i</i>
3. Key Economic Findings	<i>ii</i>
4. Issues and Challenges	<i>iii</i>
5. Recommendations	<i>iii</i>
I. INTRODUCTION	1
1.1 Port Activities	1
1.2 Study Purpose and Objectives	2
1.3 Measuring Impacts	2
II. OVERVIEW OF ATLANTIC CANADA PORTS	5
2.1 Ports and Management	5
2.2 Economic Role	6
2.2.1 Critical Port Infrastructure	6
2.2.2 Industry Classification	7
2.2.3 Port Activities and Types of Cargo	7
2.2.4 Cargo Tonnages Handled	9
2.2.5 Study Ports Improve Balance of Trade	10
2.3 Context and Business Climate	10
2.3.1 Context	10
2.3.2 Industry Canada Reveals Unique Revenue Challenge for Small and Medium-Sized Port and Harbour Operations	11
III. NOVA SCOTIA	13
3.1 Strait of Canso	13
3.1.1 Description	13
3.1.2 Dependent Industry Sectors	13
3.1.3 Community Profile	14
3.1.4 Economic Impacts	14
3.2 Digby	15
3.2.1 Description	15
3.2.2 Dependent Industry Sectors	16
3.2.3 Community Profile	16
3.2.4 Economic Impacts	17
3.3 Sydney	18
3.3.1 Description	18
3.3.2 Dependent Industry Sectors	18
3.3.3 Community Profile	19
3.3.4 Economic Impacts	20

IV.	NEW BRUNSWICK	23
4.1	Bayside	23
	4.1.1 Description	23
	4.1.2 Dependent Industry Sectors	23
	4.1.3 Community Profile	24
	4.1.4 Economic Impacts	24
4.2	Dalhousie	25
	4.2.1 Description	25
	4.2.2 Dependent Industry Sectors	26
	4.2.3 Community Profile	26
	4.2.4 Economic Impacts	27
V.	PRINCE EDWARD ISLAND	29
5.1	Charlottetown	29
	5.1.1 Description	29
	5.1.2 Dependent Industry Sectors	29
	5.1.3 Community Profile	30
	5.1.4 Economic Impacts	30
5.2	Souris	31
	5.2.1 Description	31
	5.2.2 Dependent Industry Sectors	32
	5.2.3 Community Profile	32
	5.2.4 Economic Impacts	33
5.3	Summerside	34
	5.3.1 Description	34
	5.3.2 Dependent Industry Sectors	34
	5.3.3 Community Profile	35
	5.3.4 Economic Impacts	35
VI.	NEWFOUNDLAND AND LABRADOR	37
6.1	Corner Brook	37
	6.1.1 Description	37
	6.1.2 Dependent Industry Sectors	37
	6.1.3 Community Profile	38
	6.1.4 Economic Impacts	38
6.2	Placentia Bay	39
	6.2.1 Description	39
	6.2.2 Dependent Industry Sectors	40
	6.2.3 Community Profile	41
	6.2.4 Economic Impacts	41
6.3	Port Harmon	42
	6.3.1 Description	42
	6.3.2 Dependent Industry Sectors	43
	6.3.3 Community Profile	43
	6.3.4 Economic Impacts	44

VII.	SUMMARY AND KEY ISSUES	47
7.1	<i>Economic Analysis</i>	47
7.2	<i>Issues and Challenges</i>	49
	7.2.1 <i>Key is Raising Sufficient Revenue</i>	49
	7.2.2 <i>Transport Canada Retains Authority to Charge Harbour Dues</i>	50
	7.2.3 <i>Ports May Charge Distinct Fees</i>	50
7.3	<i>Recommendations</i>	51
	7.3.1 <i>Harbour Maintenance Fees</i>	51
	7.3.2 <i>Capital Assistance Program</i>	51
	7.3.3 <i>Extending and Reviewing Contribution Agreements</i>	51
APPENDIX A:	ECONOMIC IMPACT METHODOLOGY	A - 1
A.1	<i>Port-dependent Business Profiles</i>	A - 1
A.2	<i>Economic Impact Analysis</i>	A - 1
	A.2.1 <i>System of National Accounts Framework</i>	A - 1
	A.2.2 <i>Water Transportation (NAICS 483)</i>	A - 3
	A.2.3 <i>Scenic and Sightseeing Transport (NAICS 487)</i>	A - 4
	A.2.4 <i>Support Activities for Water (NAICS 4883)</i>	A - 4
	A.2.5 <i>Cruise Passenger and Crew Onshore Spending (NAICS – Various)</i>	A - 5
	A.2.6 <i>Economic Input-Output Analysis</i>	A - 5
APPENDIX B:	PORT AUTHORITIES AND PORT USERS	B - 1

LIST OF TABLES & FIGURES

<i>Figure 1.1.1: Atlantic Canada map of “study ports”</i>	1
<i>Table 1.1.1: List of “the study ports” including port complexes</i>	1
<i>Table 2.2.1: Top ten types of cargo handled at CPA ports, study ports, and other ports in Atlantic Canada (2003-2007, showing top ten as % of total tonnage)</i>	8
<i>Table 2.2.2: Cargo tonnages handled at CPA ports, study ports, and other (Transport Canada and independent) ports in Atlantic Canada (2003-2007)</i>	9
<i>Table 2.3.1: Business profiles for small and medium-sized enterprises (SMEs under \$5 million revenues) related to marine transport in Atlantic Canada (2006)</i>	12
<i>Table 3.1.2.1: Economic profile of the Strait of Canso port-dependent businesses</i>	13
<i>Table 3.1.3.1: Strait of Canso socio-economic profile (2006 Census)</i>	14
<i>Table 3.1.4.1: Strait of Canso direct and spin-off economic impacts ('03-'07)</i>	15
<i>Table 3.2.2.1: Economic profile of Digby port-dependent businesses</i>	16
<i>Table 3.2.3.1: Digby socio-economic profile (2006 Census)</i>	17
<i>Table 3.2.4.1: Digby direct and spin-off economic impacts ('03-'07)</i>	17
<i>Table 3.3.2.1: Economic profile of Sydney port-dependent businesses</i>	19
<i>Table 3.3.3.1: Sydney socio-economic profile (2006 Census)</i>	20
<i>Table 3.3.4.1: Sydney direct and spin-off economic impacts ('03-'07)</i>	20
<i>Table 4.1.2.1: Economic profile of Bayside port-dependent businesses</i>	23
<i>Table 4.1.3.1: Bayside socio-economic profile (2006 Census)</i>	24
<i>Table 4.1.4.1: Bayside direct and spin-off economic impacts ('03-'07)</i>	25
<i>Table 4.2.2.1: Economic profile of Dalhousie port-dependent businesses</i>	26
<i>Table 4.2.3.1: Dalhousie socio-economic profile (2006 Census)</i>	27

<i>Table 4.2.4.1: Dalhousie direct and spin-off economic impacts ('03-'07)</i>	27
<i>Table 5.1.2.1: Economic profile of Charlottetown port-dependent businesses</i>	29
<i>Table 5.1.3.1: Charlottetown socio-economic profile (2006 Census)</i>	30
<i>Table 5.1.4.1: Charlottetown direct and spin-off economic impacts ('03-'07)</i>	31
<i>Table 5.2.2.1: Economic profile of Souris port-dependent businesses</i>	32
<i>Table 5.2.3.1: Souris socio-economic profile (2006 Census)</i>	33
<i>Table 5.2.4.1: Souris direct and spin-off economic impacts ('03-'07)</i>	33
<i>Table 5.3.2.1: Economic profile of Summerside port-dependent businesses</i>	34
<i>Table 5.3.3.1: Summerside socio-economic profile (2006 Census)</i>	35
<i>Table 5.3.4.1: Summerside direct and spin-off economic impacts ('03-'07)</i>	36
<i>Table 6.1.2.1: Economic profile of Corner Brook port-dependent businesses</i>	38
<i>Table 6.1.3.1: Corner Brook socio-economic profile (2006 Census)</i>	38
<i>Table 6.1.4.1: Corner Brook direct and spin-off economic impacts ('03-'07)</i>	39
<i>Table 6.2.2.1: Economic profile of Placentia Bay port-dependent businesses</i>	40
<i>Table 6.2.3.1 Placentia Bay* socio-economic profile (2006 Census)</i>	41
<i>Table 6.2.4.1: Placentia Bay direct and spin-off economic impacts ('03-'07)</i>	42
<i>Table 6.3.2.1: Economic profile of Port Harmon port-dependent businesses</i>	43
<i>Table 6.3.3.1: Port Harmon socio-economic profile (2006 Census)</i>	44
<i>Table 6.3.4.1: Port Harmon direct and spin-off economic impacts ('03-'07)</i>	44
<i>Table 7.1.1: Atlantic Canada study ports combined direct and spin-off economic impacts ('03-'07)</i>	48
<i>Table 7.1.2: Study port impacts as percentages of total provincial port impacts in 2007.</i>	48
<i>Table A.1: Economic output (expenditures) by subsector, by Atlantic Canada province ('03 – '07)</i>	A - 3

EXECUTIVE SUMMARY

1. STUDY FOCUS

This study speaks to marine activities in the harbours where 11 port complexes are located in Atlantic Canada, all of which include members of the Independent Marine Ports Association of Canada (IMPAC). Though the major ports in the region tend to dominate public attention, the region's independent ports are integral to the economic health of their host communities as well as to the Atlantic Provinces' broader economic fabric.

The first aim of this study is to portray the role of these ports and the impact they have in the Atlantic Provinces' economy. The second aim is to address issues facing independent ports and to make recommendations accordingly.

2. CRITICAL PORT INFRASTRUCTURE

Marine shipping more than any other form of transportation, provides linkages to overseas markets for a vast array of goods we depend on every day. It represents the least cost and lowest environmental impact mode of shipping, especially for many importers and exporters of large items and bulk volumes of goods. The communities, businesses, and port operations are closely intertwined, and the ports continue to be a cornerstone of local and regional economic development.

- *Increasing trade with overseas countries drives the need to maintain marine ports as critical infrastructure throughout the Atlantic region.* Many of today's high value consumer needs are not supplied from within the region including: perishable foods, electronics, vehicles, and machinery brought to Atlantic Canadians from elsewhere. The region also serves the rest of the world with many bulk agricultural goods, wood and paper products, and heavy equipment that require marine shipping.
- *The need for Atlantic Canada's independent marine ports is driven by geography and specific port advantages.* Import and export functions currently provided by independent marine ports could not simply be met by the region's major ports. A regional system of ports is critical to importing communities and exporting businesses because their shipping requirements could not be met in an economical fashion if their local port fails. Shipping to or from the nearest alternative marine port by rail or road would present devastating logistical challenges and costs to many businesses if faced with a local port failure.

- *Each independent port has critical relationships with importing and exporting businesses that would not be competitive without the port.* It is not an economical option for Martin Marietta Materials and Georgia Pacific to acquire supplies or export using any means other than the Strait of Canso port. The Placentia Bay, NL port complex is ideally positioned to support offshore energy development, marine ferry activity to and from Nova Scotia, and cargo handling that could not be re-located to St. John's or elsewhere. The Port of Souris, PEI, maintains interprovincial connections by way of ferry service for the Isles de la Madeleine, and the port is critical to local fisheries, seafood processing, and cargo handling enterprises that are tightly connected to the port in order to access international markets.

The sustainability of independent marine ports signifies not only the sustainability of the shipping and port-related enterprises, but also the sustainability of many dependent businesses and communities.

3. KEY ECONOMIC FINDINGS

- *Positive provincial and national balance of trade* – Independent marine ports tend to be more export-oriented than the major ports in the Atlantic region.
- *The businesses dependent on the study ports* – Represent a combined total of 7,103 full-time equivalent jobs, \$388 million of earned income, and over \$505 million in other expenditures in the economy. These are underestimates since some companies would not fully disclose financial information. This underscores the important enabling function ports play in the local and regional economies.
- *The study ports and related marine shipping* – Generated combined economic impacts of: \$303 million in total expenditures; total employment of 4,040 person-years, total GDP (added value) of \$232 million, and total salary income of \$172 million. These values are not to be added in any way with the values shown for businesses dependent on ports (above).
- *Retaining or attracting highly skilled workers* – The average wages and salaries paid by ports and related businesses ranges from 2 to 3 times the average earned income in their communities, indicating the leading job opportunities ports offer and the critical role they play as employers in the local community.
- *Study ports represent about one quarter of all Atlantic port impacts* – Based on total output (expenditures), the study ports share of total provincial port and marine shipping impacts is estimated at: 19% in Nova Scotia, 5% in New Brunswick, 60% in Prince Edward Island, 28% in Newfoundland and Labrador, and 23% for Atlantic Canada overall.

4. ISSUES AND CHALLENGES

- *Each port complex faces different strategic challenges* such as: the need for dredging, wharf repair or expansion, marketing and attraction of new business, re-orientation following business failure among key clients, or meeting new port security requirements.
- *The dominant challenge for independent ports is raising sufficient revenues* – This is not only reported by the ports themselves, but is also evident from Industry Canada profiles of small and medium-sized marine sector enterprises in Atlantic Canada. The profiles, based on Revenue Canada tax returns, show that port and harbour operations are facing a unique challenge of insufficient revenues when other support services to water transport and marine shipping businesses are enjoying stable and healthy profits.
- *Port revenue mechanisms are not aligned with their role* – Ports currently raise revenues through berthage fees, lease or rental of storage space and real estate, as well as fees for services such as water supply, power, waste disposal, and security. These together are not sufficient to cover all costs since these fees are tied to specific services provided rather than strategic development work that ports require to sustain or advance their position. Ports require significant capital investment, market research, business development, sales, regulatory compliance for all levels of government, and participation in economic development and waterfront development planning processes.
- *Transport Canada retains authority to charge harbour dues* – A revenue stream that is derived from the broader use of the port catchment area would be better aligned with port roles and capital requirements. Harbour dues are an example of such a mechanism, however Transport Canada retains authority to collect these.
- *Ports may charge fees that are distinct from harbour dues* – Devising a distinct fee would be the responsibility of independent ports. As Transport Canada continues to withdraw from the business of independent ports, a "harbour maintenance" fee charged on the part of ports may be considered legitimate.

5. RECOMMENDATIONS

To address the key challenge of raising sufficient revenues, particularly for capital investment, each port should assess the following key options:

- 1) Establishing a "harbour maintenance fee",
- 2) Securing a publicly funded capital assistance program, and
- 3) Extending and reviewing the port divestiture contribution agreements.

The preferred options will depend on the circumstances of each port and further investigation of details related to each option.

5.1 Harbour Maintenance Fees

Based on the consultants' understanding of the scope for independent ports to charge fees as described in the previous section, ports should enter into a dialogue with Transport Canada and other pertinent stakeholders. The aim should be to further clarify the regulatory and policy context, then to determine the best means for proceeding. Port fees would be most attractive given the short timeframe within which they could be instituted, the independence that they offer for setting rates, and their flexibility in terms of how the funds could be used for either operations or capital. Once established, they would also provide greater long-term stability for business planning than public funds, which are subject to uncertainty as government programs and agreements fluctuate.

5.2 Capital Assistance Program

Although ports have expressed a need for revenue to support business development and marketing, port infrastructure depreciation and capital maintenance remains as the largest cost and most pressing challenge. A publicly funded capital assistance program could be designed to meet these needs. This could follow both the principle and design of the Airport Capital Assistance Program (ACAP) that regional and local (non-National Airport System) airports have accessed for capital projects. Dialogue with Transport Canada would serve as a starting point, however other levels of government could play a role in such a program.

5.3 Extending and Reviewing Contribution Agreements

With some ports facing the end of their contribution agreements in the next year or two, while more recently divested ports will be sustained by agreements for another decade or more, extending agreements would alleviate immediate pressures. An additional benefit would be to determine the scope for increased flexibility in the terms of the agreements so that funds can be allocated to the full range of port priorities. This must be resolved with Transport Canada to determine the possibilities for renewal and changing the terms of agreements.

I. INTRODUCTION

1.1 PORT ACTIVITIES

Ports in Atlantic Canada play an important role in supporting economic activity in the region. Industries and consumers throughout the Atlantic region rely on ports for the import and export of a wide range of raw materials, semi-processed goods and manufactured items.

Though the major ports in the region tend to dominate public attention, the region's independent ports are integral to the economic health of their host communities as well as to the Atlantic Provinces' broader economic fabric. This study focuses on 11 port complexes, all of which include members of the Independent Marine Ports Association of Canada (IMPAC). The following are considered "the study ports":

Table 1.1.1: List of "the study ports" including port complexes

- | | |
|-------------------------------|---------------------|
| □ Dalhousie, NB | □ Summerside PEI |
| □ Bayside, NB | □ Souris, PEI |
| □ Digby, NS | □ Placentia Bay, NL |
| □ Strait of Canso, NS | □ Corner Brook, NL |
| □ Sydney and North Sydney, NS | □ Stephenville, NL |
| □ Charlottetown, PEI | |

Figure 1.1.1: Atlantic Canada map of "study ports"



The main activities at these ports include: vessel traffic control, piloting, tug services, longshoring, stevedoring, harbour and terminal operating, marine salvage, inspections and surveying, lighthouse maintenance, boat cleaning and provisioning, security and emergency response services. Each port is specialized for the cargo or passenger types that they handle.

Management of ports is very capital intensive since many were built over 50 years ago and were subject to deferred maintenance under federal government tenure. Ports must also respond to continual changes in the shipping needs of industry and the advancement of shipping vessels. In particular, the average size of vessels continues to increase and this requires ports to maintain adequate water depth, loading and unloading equipment, utilities and support services. International requirements for security and tracking of goods also requires increasing technological advancement at ports.

1.2 STUDY PURPOSE AND OBJECTIVES

This study is intended to inform decision-makers and the public about the role played by ports and the activities in the harbours where they are located. The report also addresses the impact these have in the Atlantic Provinces' economy. To this end, the terms of reference for the study identifies five main objectives:

- ❑ Measure the economic impact of individual ports and the shipping industry in Atlantic Canada using conventional indicators (GDP, employment and labour income).
- ❑ Identify and quantify the role of the port in economic growth and development, with a focus on the linkages between shipping/port activity and local industry.
- ❑ Provide a measure of each port's activity, importance and purpose.
- ❑ Identify and analyze policy issues related to port financial viability and long-term sustainability, and identify strategic issues facing each port and the impact on local communities.
- ❑ Make recommendations to IMPAC and port authorities on regional and community policy solutions, business and community strategies and best practices to strengthen the economic impact of shipping and marine ports.

1.3 MEASURING IMPACTS

This report provides two separate measures reflecting the economic importance of ports and associated businesses:

- 1) An economic profile of port-dependent businesses, and
- 2) Economic impact estimates for marine shipping and port-related industries.

These are distinct measures and their values are not meant to be added together. It is important to separate those who depend on the port function (1) from those who derive income from port-related activity (2).

The first refers mainly to companies that ship goods in and out of the port and therefore they require the port to function. They pay the port and harbour operators accordingly. One could argue the ports and harbour operations are in return dependent on their income, but in this study we are focused on functional dependence rather than financial dependence.

The second group includes the port and harbour businesses such as cargo handling, tugs, navigation services, and a great many other businesses that provide secondary support in the form of goods or services that are inputs to the main port and harbour operations. These businesses directly or indirectly enable the port-dependent businesses to function.

The Appendix contains detailed descriptions of the methodology used to develop impact measures presented in the report.

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II. OVERVIEW OF ATLANTIC CANADA PORTS

2.1 PORTS AND MANAGEMENT

Some ports may be regarded only as the wharf and other infrastructure associated with a port facility. Other ports may also own and manage a portion of the harbour bed, or an entire bay, harbour, or inlet. Some ports may be owned and operated by Transport Canada, while others are privately owned and operated facilities that may or may not have been formerly operated by Transport Canada. Some ports and harbours have multiple private and public users. Each port in this study has its own unique circumstances, and the approach is to refer to ports broadly including the infrastructure, and all of the users in the harbour where the port complexes are located.

The 1995 National Marine Policy initiated the Government of Canada's divestiture of ports to local interests. The Port Divestiture Program, directed by Transport Canada, involved the transfer of ownership and management for many ports to federal departments, provincial or municipal governments, community organizations and others.

Contribution agreements were established to provide funding from the federal government for operational costs and port property improvements. The funds are not to be used for capital investment. Some of the first agreements are coming to an end in 2011, while many ports that were transferred later have secured longer term agreements.

Of 549 sites across Canada at the start of the program, just 17 are governed under the Canada Marine Act as Canadian Port Authorities (CPAs), 48 are under the Port Programs of Transport Canada, and the other 484 have been divested.¹ The Atlantic ports are:

Four (4) CPAs: Saint John, Belledune, St. John's, and Halifax.

Seventeen (17) Transport Canada ports:

Newfoundland and Labrador (12): Botwood, Charlottetown, Come by Chance, Fortune, Holyrood, Lewisporte, Long Harbour, Long Pond, Manuels, Main Brook, Marystown, Roddickton, Terrenceville,

Nova Scotia (4): Brooklyn, Liverpool, Louisbourg, Lunenburg

Prince Edward Island (1): Georgetown

Sixty-nine (69) other (independent) ports²:

The eleven study port complexes are generally the largest of the independent ports according to annual shipping tonnage and number of vessel movements.

¹ Transport Canada Port Divestiture Program (last viewed April, 2010 online: <http://www.tc.gc.ca/eng/mediaroom/backgrounders-b06-m001e-1837.htm>).

² Remaining ports for which Statistics Canada publishes data, each province includes a category for "ports not elsewhere specified" (Source: Transport Canada staff, April, 2010).

2.2 ECONOMIC ROLE

2.2.1 Critical Port Infrastructure

Marine shipping more than any other form of transportation, provides linkages to overseas markets for a vast array of goods we depend on every day. It represents the least cost and lowest environmental impact mode of shipping, especially for many importers and exporters of large items and bulk volumes of goods. The communities, businesses, and port operations are closely intertwined, and the ports continue to be a cornerstone of local and regional economic development.

- ❑ *Increasing trade with overseas countries drives the need to maintain marine ports as critical infrastructure throughout the Atlantic region.* Many of today's high value consumer needs are not supplied from within the region including: perishable foods, electronics, vehicles, and machinery brought to Atlantic Canadians from elsewhere. The region also serves the rest of the world with many bulk agricultural goods, wood and paper products, and heavy equipment that require marine shipping.
- ❑ *The need for Atlantic Canada's independent marine ports is driven by geography and specific port advantages.* Import and export functions currently provided by independent marine ports could not simply be met by the region's major ports. A regional system of ports is critical to importing communities and exporting businesses because their shipping requirements could not be met in an economical fashion if their local port fails. Shipping to or from the nearest alternative marine port by rail or road would present devastating logistical challenges and costs to many businesses if faced with a local port failure.
- ❑ *Each independent port has critical relationships with importing and exporting businesses that would not be competitive without the port.* It is not an economical option for Martin Marietta Materials and Georgia Pacific to acquire supplies or export product using any means other than the Strait of Canso port. The Placentia Bay, NL port complex is ideally positioned to support offshore energy development, marine ferry activity to and from Nova Scotia, and cargo handling that could not be re-located to St John's or elsewhere. The Port of Souris, PEI, maintains interprovincial connections by way of ferry service for the Isles de la Madeleine, and the port is critical to local fisheries, seafood processing, and cargo handling enterprises that are tightly connected to the port in order to access international markets.

The sustainability of independent marine ports signifies not only the sustainability of the shipping and port-related enterprises, but also the sustainability of many dependent businesses and communities.

2.2.2 Industry Classification

To determine the associated economic impacts, it is important to clearly define the relationship between ports, vessels, and other support services that are all involved in marine transportation. As described previously in relation to how we measure economic impacts, port and harbour operations are considered part of the Support Services to Water Transport (NAICS 4883). Ports are therefore alongside and closely connected to marine cargo handling, navigational services, and other support activities. These dividing lines may not be so clear for all ports, especially smaller independent ones where many of these activities are performed by only a few individuals or companies that hold multiple responsibilities.

The ports and harbour operations perform a wide array of functions according to NAICS 2002 definitions that include:

- ❑ Operating canal locks
- ❑ Canal maintenance (except dredging)
- ❑ Canal operations
- ❑ Marine dock operation
- ❑ Harbour operation
- ❑ Lighthouse operation
- ❑ Operating piers, docks, wharves
- ❑ Maintenance of piers, docks, wharves
- ❑ Port facilities operation
- ❑ Seaway operation
- ❑ Waterfront terminal operation

2.2.3 Port Activities and Types of Cargo

The array of port components and functions support four main segments of the water transportation industry: bulk, container, ferry service and cruise ship.

- ❑ **Bulk and Break-Bulk Cargo:** several ports in the Atlantic provinces handle international bulk cargoes including Saint John, Halifax, Come-By-Chance and Port Hawkesbury (crude oil and refined products); Sydney, Belledune and Dalhousie (coal).

- **Container:** Halifax is Canada's third largest container port (after Vancouver and Montreal), where the port is also handling a range of bulk products including wheat and gypsum. Saint John also handles containers (domestic service), while a service to the Caribbean operates from the Port of Saint John.
- **Ferry service:** Several services operate in the region, carrying over one million passengers and several hundred thousand cars and trucks. The main ones are North Sydney-Port Aux Basques and North Sydney-Argentia (integral components of the Newfoundland and Labrador supply chain); Yarmouth-Maine; Nova Scotia-PEI, Saint John-Digby and PEI-Magdalen Islands.
- **Cruise ship:** Traffic has increased steadily over the past decade, with Halifax and Saint John ranking as the 3rd and 4th largest ports of call in Canada. Sydney and Charlottetown also have growing cruise line businesses.

The top ten categories of cargo handled by volume over the years 2003-2007 show some differences between CPA, study ports, and others (Table 2.2.1).

Table 2.2.1: Top ten types of cargo handled at CPA ports, study ports, and other ports in Atlantic Canada (2003-2007, showing top ten as % of total tonnage)

CPA ports (87%)	Study ports (98%)	Other ports (95%)
1. Crude petroleum	1. Crude petroleum	1. Other non-metallic minerals
2. Fuel oils	2. Stone, sand, gravel and crushed stone	2. Fuel oils
3. Gasoline and aviation turbine fuel	3. Gasoline and aviation turbine fuel	3. Salt
4. Other non-metallic minerals	4. Fuel oils	4. Newsprint
5. Mixed loads or unidentified freight or cargo	5. Other non-metallic minerals	5. Stone, sand, gravel and crushed stone
6. Coal	6. Coal	6. Gasoline and aviation turbine fuel
7. Other refined petroleum and coal products	7. Other refined petroleum and coal products	7. Other metallic ores and concentrates
8. Potash	8. Limestone	8. Wood chips
9. Other manufactured and miscellaneous goods	9. Coal coke and petroleum coke	9. Mixed loads or unidentified freight or cargo
10. Other basic chemicals	10. Newsprint	10. Other refined petroleum and coal products

Source: Statistics Canada custom tabulation.

The main cargo across all ports are energy related products such as crude petroleum, gasoline and aviation fuel, and other refined petroleum and coal products. However, stone, gravel, other aggregates and minerals are more important for non-CPA ports. Newsprint and wood chips also appear on non-CPA top ten lists. These items reflect the particular export industries using the non-CPA ports.

2.2.4 Cargo Tonnages Handled

Focusing specifically on cargo in Atlantic Canada (Table 2.2.2), it is useful to distinguish the scale of CPA ports, study ports, and others (Transport Canada and independent ports). CPA ports handle more tonnage in New Brunswick than the study ports, but the reverse is true for the other provinces (PEI does not have a CPA port). Across the Atlantic region, the study ports handle about twice the amount handled by CPA ports. Tonnages handled have been relatively steady over the years 2003-2007 regardless of port management.

Table 2.2.2: Cargo tonnages handled at CPA ports, study ports, and other (Transport Canada and independent) ports in Atlantic Canada (2003-2007)

Millions MT	2003	2004	2005	2006	2007	Average
New Brunswick						
CPA ports	28.3	28.3	29.6	25.7	28.0	28.0
Study ports	2.6	2.6	2.5	2.3	2.2	2.4
Other	0.0	0.0	0.0	0.0	0.0	0.0
Newfoundland & Labrador						
CPA ports	1.5	1.6	1.4	1.5	1.4	1.5
Study ports	63.5	60.9	57.2	45.3	55.6	56.5
Other	1.6	1.4	1.5	1.3	1.8	1.5
Nova Scotia						
CPA ports	14.2	14.2	14.1	13.7	12.6	13.8
Study ports	25.3	27.1	33.7	34.5	34.4	31.0
Other	3.5	3.9	3.8	3.6	3.1	3.6
Prince Edward Island						
CPA ports	0.0	0.0	0.0	0.0	0.0	0.0
Study ports	0.8	0.9	0.8	0.7	0.9	0.8
Other	0.0	0.0	0.1	0.0	0.1	0.0
Atlantic Total						
CPA ports	44.1	44.1	45.0	41.0	42.0	43.2
Study ports	92.2	91.4	94.3	82.9	93.1	90.8
Other	5.2	5.3	5.4	4.9	4.9	5.1
Percent	2003	2004	2005	2006	2007	Average
New Brunswick						
CPA ports	91%	92%	92%	92%	93%	92%
Study ports	8%	8%	8%	8%	7%	8%
Other	0%	0%	0%	0%	0%	0%
Newfoundland & Labrador						
CPA ports	2%	3%	2%	3%	2%	3%
Study ports	95%	95%	95%	94%	95%	95%
Other	2%	2%	2%	3%	3%	3%
Nova Scotia						
CPA ports	33%	31%	27%	26%	25%	28%
Study ports	59%	60%	65%	67%	69%	64%
Other	8%	9%	7%	7%	6%	7%
Prince Edward Island						
CPA ports	0%	0%	0%	0%	0%	0%
Study ports	95%	96%	93%	97%	93%	100%
Other	5%	4%	7%	3%	7%	0%
Atlantic Total						
CPA ports	31%	31%	31%	32%	30%	31%
Study ports	65%	65%	65%	64%	67%	65%
Other	4%	4%	4%	4%	3%	4%

2.2.5 Study Ports Improve Balance of Trade

Ports serve different economic functions in terms of their contribution to provincial and national balance of trade. Where ports load cargo onto vessels and these are sent elsewhere this will often be a provincial or national export. Where the opposite occurs and vessels from elsewhere are unloaded, this is likely to be a provincial or national import.

When the cargo tonnages for Atlantic region ports are divided according to the amounts loaded (exports) versus unloaded (imports), the following percentages emerge:

- ❑ CPA: exports 47%, and imports 53%
- ❑ Study ports: exports 60%, and imports 40%
- ❑ Other ports: exports 76%, and imports 24%

These are only indicative since about 16% of marine cargo in Canada is both loaded and unloaded at ports (Transport Canada, 2008). It is not possible to distinguish the location and extent of this activity with the data available for Atlantic Canada. However, the study ports and particularly the other ports appear to be more export-oriented and therefore represent important contributors to provincial and national balance of trade.

The findings are not surprising since larger ports including the CPAs are typically found in larger communities, and are therefore more likely to play the role of bringing goods to consumers from elsewhere. Many smaller ports in rural areas exist to transport natural resources and products to other provinces and countries.

2.3 CONTEXT AND BUSINESS CLIMATE

2.3.1 Context

Transport Canada reports that cargo tonnages handled at Canadian ports have been rising an annual average of 2.4% over the period from 1999-2007³. This is consistent with global trends of increased demand for marine shipping. The driving factors for these trends include global growth in trade, competitive advantages for marine shipping due to increasing size of vessels, improved efficiencies due to infrastructure and technology investment throughout the industry, and climate change concerns leading to demand for transport with low greenhouse gas emissions per ton-kilometer of shipping.

Ferry services for passengers and vehicles have also been a long-standing driver of port activities. In the Atlantic region this represents an area of growth for Newfoundland and Labrador, however challenges exist in other parts of the region. In particular, the Confederation Bridge to Prince Edward Island reduced the need for ferry services, while the Yarmouth-Maine and Digby-Saint John routes have also seen declines in traffic.

³ Transport Canada, 2008. Transportation in Canada.

The cruise industry has grown remarkably over the last decade and now represents over \$122 million in spending by cruise lines, passengers and crew at ports in Atlantic Canada⁴. The number of passengers rose from about 338,000 to 409,000 from 2003 to 2007. This represents an average annual increase of 5.3%. Key ports for cruise lines include Saint John, Charlottetown, Halifax, Sydney, St. John's, and Corner Brook.

2.3.2 Industry Canada Reveals Unique Revenue Challenge for Small and Medium-Sized Port and Harbour Operations

Understanding the financial position of Atlantic Canada businesses involved in water transportation, scenic and sightseeing water transport, and support services to water transportation, helps to identify whether ports and harbours are sharing in the same financial trends as other businesses in the sector. This is not part of the economic impact analysis; this helps highlight unique revenue and cost challenges that ports and harbours may be facing.

Industry Canada reports revenues, expenses, and net profits for 169 Atlantic Canada small and medium-sized enterprises (SMEs) involved in support services for water transport (NAICS 4883); 103 of these are port and harbour operations (NAICS 48831). These are based on Revenue Canada tax return data that is compiled such that confidentiality is protected and financial information can be released publicly.

Profitable conditions (3.3% profits) are reported generally for all businesses that provide support services to water transport in Atlantic Canada (Table 2.3.1). However the sub group of port and harbour operations reported 2.8% losses in 2006. For 2004 the reported figures are similar with 3.8% profits for support services to water transport, and 3.3% losses for the sub group of port and harbour operations. Profits are reported for all other sub sectors within support services for water transport. Port and harbour operations appear to face a unique challenge in raising sufficient revenues to cover their costs, despite an industry climate that is generally stable and profitable.

Industry Canada further breaks down port and harbour operations businesses by size, and those with revenues of \$150,000-\$5 million (the largest SMEs) are experiencing the most difficulties. In this size class there is an average annual revenue shortfall of about \$25 million. An overall loss of about \$475,000 is reported in 2006 for all port and harbour operations included in the analysis.

⁴ Business Research and Economic Advisors, 2008. The economic contribution of the international cruise industry in Canada 2007.

Table 2.3.1: Business profiles for small and medium-sized enterprises (SMEs under \$5 million revenues) related to marine transport in Atlantic Canada (2006)

Industry Sector	NAICS	# Businesses	Revenues \$M	Expenses \$M	% Profit (loss)
Water transport	483	25	\$32.0	\$31.9	0.3%
Deep sea, coastal	4831	22	\$32.0	\$31.9	0.3%
Ferries	483115	16	\$18.3	\$18.4	-0.5%
Non-ferries	483116	6	\$11.8	\$11.8	-0.1%
Inland waters	4832	3	x	x	x
Ferries	483213	x	x	x	x
Non-ferries	483214	x	x	x	x
Scenic and sightseeing transport	487	46	\$20.9	\$20.5	1.7%
Land, other	Various	7	\$8.1	\$7.9	2.6%
Water	4872	39	\$12.8	\$12.6	1.1%
Support activities for transport	488	507	\$265.0	\$252.2	4.8%
Air, rail, road, other	Various	184	\$88.2	\$81.4	7.6%
Freight arrangement	4885	98	\$96.2	\$93.5	2.9%
Marine shipping agencies	488511	21	\$12.1	\$11.7	2.7%
Other	488519	77	\$84.2	\$81.7	2.9%
Water	4883	169	\$62.9	\$60.8	3.3%
Port and harbour operations	48831	103	\$17.1	\$17.6	-2.8%
Marine cargo	48832	26	\$20.0	\$19.5	2.6%
Other support for water	48839	22	\$15.9	\$15.0	6.0%
Navigational services	48833	17	\$9.4	\$8.4	11.2%
Marine salvage	488331	1	x	x	x
Ship piloting	488332	8	\$2.6	\$2.5	5.0%
Other	488339	8	\$6.6	\$5.8	12.6%
Other support for transport	4889	56	\$17.6	\$16.4	6.8%

Source: Industry Canada SME Benchmarking Tool (online: <http://www.ic.gc.ca/eic/site/pp-pp.nsf/eng/home>)

III. NOVA SCOTIA

3.1 STRAIT OF CANSO

3.1.1 Description

The Strait of Canso port complex is located between mainland Nova Scotia and Cape Breton Island. It is one of the finest natural deep-water harbours on the Eastern Seaboard of North America. The Canso Causeway, built in the mid 1950s, is a permanent link between Cape Breton and mainland Nova Scotia. It forms the northern boundary of the port and ensures that the port, on the south side, remains ice-free year round. The Strait of Canso is 20 km long, up to 1.5 km wide, has a limiting depth of 27 m and can handle vessels up to 500,000 deadweight tonnes (dwt).

3.1.2 Dependent Industry Sectors

- **Mining:** Georgia Pacific exports gypsum, and Martin Marietta Materials exports aggregates from Auld's Cove.
- **Forestry:** Newpage Corporation exports newsprint and supercalendered paper products from their location in Point Tupper.
- **Energy:** NuStar energy is a storage and transshipment facility for petroleum products. Nova Scotia Power imports coal for their generating station at Point Tupper.

Interviews were conducted with the key businesses that depend on the port for marine shipments of finished products going to market, or bringing in raw materials, supplies, and equipment for local manufacturing. Interviews captured the combined annual full-time equivalent (FTE) employment, salaries, and total expenditures (Table 3.1.2.1). The following are distinct from the formal economic impact analysis and are not meant to be added with economic impact values.

Table 3.1.2.1: Economic profile of the Strait of Canso port-dependent businesses

Full-time equivalent jobs	1,400
Wages and salaries	\$136 million
Expenditures for other goods and services	\$193 million

These may be underestimates since some companies would not disclose payroll or expenditure information, in particular as it related to release of details for large capital investments that could compromise their competitive position.

3.1.3 Community Profile

The communities and particularly the labour force catchment areas surrounding the Strait of Canso include: Inverness County, Richmond County, Guysborough County, Port Hawkesbury, Port Hastings, and Mulgrave. These together form a medium-sized community in the province where port operations and related business activities represent a large form of income and employment in the area. The socio-economic profile of the community (Table 3.1.3.1) indicates the unemployment rate is 14.3%, and this is well above the provincial rate of 9.1%. Average earnings of \$14,095 are well below the provincial average of \$22,608. The top three defined industry sectors by percentage of employment in the community are: business (15%), retail (14%), and manufacturing tied with primary resources (13%).

Table 3.1.3.1: Strait of Canso* socio-economic profile (2006 Census)

		Employment by industry
Population	25,641	<p>Detailed description: A 3D pie chart titled 'Employment by industry' showing the distribution of jobs in the Strait of Canso community. The largest slice is 'Other' at 18%, followed by 'Business' at 15% and 'Retail' at 14%. 'Primary resources' and 'Manufact' are both at 13%. 'Health & Social' is at 11%, 'Education' at 6%, 'Finance & real estate' at 3%, 'Construct' at 8%, and 'Wholesale' at 2%.</p>
Population 15 yrs+	21,520	
Labour force	12,395	
Employed	10,625	
Unemployment rate	14.3%	
Persons >15 with earnings	13,385	
Total earnings (\$ million)	\$189	
Average earnings	\$14,095	
Total income (\$ million)	\$288	
Average income	\$21,487	

Source: Statistics Canada Census 2006.

*Profile includes: Guysborough County, Inverness Subdivisions B & C, Richmond Subdivisions A & C, Port Hawkesbury, Port Hastings, and Mulgrave.

3.1.4 Economic Impacts

The economic impacts of the port and related operations (Table 3.1.4.1) indicate the output (expenses), employment (person-years), GDP, and earned income. Total expenditures of port-related business activities were estimated at \$48 million in 2007. The total employment was 557 person-years, total GDP (added value) was \$36 million, and total income was about \$27 million. Total impacts include the direct (port and related businesses), indirect (support industries), and induced (effect of spending direct and indirect incomes).

Table 3.1.4.1: Strait of Canso direct and spin-off economic impacts ('03-'07)

(\$ millions)	2003	2004	2005	2006	2007
Direct output	\$30.68	\$31.32	\$28.37	\$26.31	\$48.08
Employment*					
Direct	233	245	208	193	352
Spin-off	132	137	121	112	205
Total	365	382	329	305	557
GDP					
Direct	\$12.90	\$13.33	\$11.78	\$10.92	\$19.95
Spin-off	\$10.41	\$10.65	\$9.60	\$8.91	\$16.27
Total	\$23.31	\$23.98	\$21.38	\$19.83	\$36.23
Income					
Direct	\$10.97	\$11.22	\$10.12	\$9.38	\$17.15
Spin-off	\$6.43	\$6.57	\$5.95	\$5.51	\$10.08
Total	\$17.40	\$17.79	\$16.07	\$14.90	\$27.22

Source: Statistics Canada 2005 input-output model.

*Employment in person-years.

Dividing the 2007 direct income by the corresponding direct employment provides an average earnings estimate of \$48,325 associated with the port and related businesses. This illustrates how these jobs represent leading opportunities in the community, since earnings are more than triple the local average. These are highly skilled positions that help keep trained workers in the area and in the region.

Since many of the spin-off impacts will extend beyond the local community, it is useful to set just the direct impacts in the community context. The 2007 total direct employment represents 3.3% of all community employment, while the total direct income represents 9.1% of the community earnings.

3.2 DIGBY

3.2.1 Description

The Digby Harbour Port Association (DHPA) purchased the port facilities in 2007 and has assumed responsibility for the port's operation. The Port of Digby, located in the southwest region of Nova Scotia, provides berthage and loading and unloading facilities to a fleet of close to 100 fishing vessels. The port also contains an independently operated marina that provides an 80-berth facility for local and visiting leisure boats. A ferry service to Saint John, New Brunswick draws tourists from the U.S. and elsewhere in Canada and also provides substantial trip time savings for Nova Scotians leaving the western parts of the province. The ferry is an outlet for many fish and wood products that are destined for export markets.

3.2.2 Dependent Industry Sectors

- **Fisheries:** The Port of Digby provides berthage and service to vessels and operators in the scallop, lobster, groundfish, and aquaculture industries. Fish buying and cold storage facilities at the port are operated by independent companies.
- **Ferry:** A daily 3-hour crossing to Saint John, New Brunswick accommodates up to 160 cars, 650 passengers, drop trailer service, and general cargo handling.
- **Recreation/Tourism:** The Port of Digby operates a small marina offering berthage and basic amenities to local and visiting recreational vessels. Cruise ships have been welcomed on occasion.

Interviews were conducted with the key businesses that depend on the port for marine shipments of finished products going to market, or bringing in raw materials, supplies, and equipment for local manufacturing. The combined annual FTE employment, salaries, and total expenditures (Table 3.2.2.1). The following are distinct from the formal economic impact analysis, and are not meant to be added with economic impact values.

Table 3.2.2.1: Economic profile of Digby port-dependent businesses

Full-time equivalent jobs	265
Wages and salaries	\$18 million
Expenditures for other goods and services	\$5 million

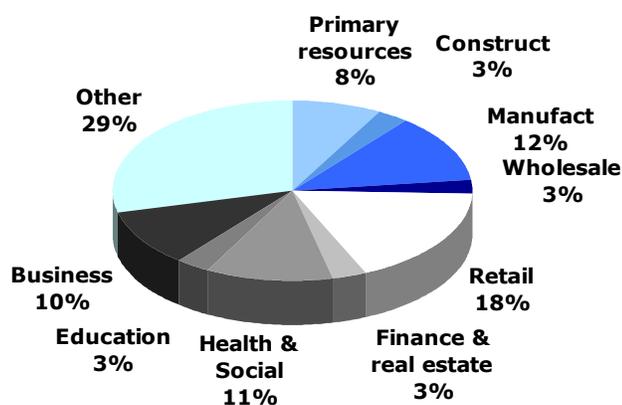
These may be underestimates since some companies would not disclose payroll or expenditure information, in particular as it related to release of details for large capital investments that could compromise their competitive position.

3.2.3 Community Profile

The town of Digby is the backdrop for the economic significance of the port. This is a relatively small community in the province, therefore the port plays a significant role in the area's community economic development. The socio-economic profile of the community (Table 3.2.3.1) indicates the unemployment rate is 11.6%, and this is just over the provincial rate of 9.1%, average earnings of \$16,102 are well below the provincial average of \$22,608. The top three defined industry sectors by percentage of employment in the community are: retail (18%), manufacturing (12%), and health and social services (11%). Manufacturing at 12% is relatively high reflecting the fisheries processing and related activities in the area.

Table 3.2.3.1: Digby socio-economic profile (2006 Census)

Population		2,092		Employment by industry	
Population 15 yrs+		1,710			
Labour force	950				
Employed		840			
Unemployment rate		11.6%			
Persons >15 with earnings	1,020				
Total earnings (\$million)	\$16				
Average earnings		\$16,102			
Total income (\$million)	\$28				
Average income		\$27,572			



Source: Statistics Canada Census 2006.

3.2.4 Economic Impacts

The economic impacts of the port and related operations (Table 3.2.4.1) indicate the output (expenses), employment (person-years), GDP, and earned income. Total expenditures from port-related business activities were estimated at about \$5 million in 2007. The total employment was 66 person-years, total GDP (added value) was \$3.9 million, and total income was about \$2.9 million. Total impacts include the direct (port and related businesses), indirect (support industries), and induced (effect of spending direct and indirect incomes).

Table 3.2.4.1: Digby direct and spin-off economic impacts ('03-'07)

(\$ millions)	2003	2004	2005	2006	2007
Direct output	\$4.32	\$4.58	\$4.35	\$4.53	\$5.03
Employment*					
Direct	38	42	39	40	44
Spin-off	19	21	19	20	22
Total	58	62	58	60	66
GDP					
Direct	\$1.93	\$2.06	\$1.94	\$2.02	\$2.23
Spin-off	\$1.44	\$1.53	\$1.44	\$1.50	\$1.67
Total	\$3.37	\$3.60	\$3.38	\$3.52	\$3.90
Income					
Direct	\$1.61	\$1.71	\$1.63	\$1.70	\$1.88
Spin-off	\$0.88	\$0.94	\$0.89	\$0.92	\$1.03
Total	\$2.50	\$2.65	\$2.52	\$2.62	\$2.91

Source: Statistics Canada 2005 input-output model.

*Employment in person-years.

Dividing the 2007 direct income by the corresponding direct employment provides an average earnings estimate of \$42,734 associated with the port and related businesses. This illustrates how these jobs represent leading opportunities in the community, since earnings are about double the local average. These are highly skilled positions that help keep trained workers in the area and in the region.

Since many of the spin-off impacts will extend beyond the local community, it is useful to set just the direct impacts in the community context. The 2007 total direct employment represents 5.2% of all community employment, while the total direct income represents 11.4% of the community earnings.

3.3 SYDNEY

3.3.1 Description

The Port of Sydney, located in the Cabot Strait on the northeast shore of Cape Breton Island, is comprised of a number of marine terminals that handle marine cargo and passenger vessel activities. Activity at the Sydney Marine Terminal is centered around cruise ships, project cargo, break bulk, bulk, and fuel transport; the International Coal Pier is primarily used in the transport of coal for its owner and operator, Emera (Nova Scotia Power); facilities at the Syd-Port Industrial Park are engaged in the handling of bulk, containers, and heavy-lifting cargo, as well as fuel and fisheries-related activity; North Sydney is the Nova Scotia terminus for Marine Atlantic's passenger and freight service to Newfoundland. A full range of supply services to ships is available.

3.3.2 Dependent Industry Sectors

- **Construction:** A relatively small amount of aggregate is imported through the Atlantic Canada Bulk Terminal for use in Cape Breton's institutional and commercial construction industries.
- **Fisheries:** Port facilities at North Sydney are home to MV Osprey, a privately owned seafood processing facility serviced by its own fleet of fishing vessels. Infrastructure at the North Sydney port includes two 130-metre wharves and a 700 m² cold storage facility.
- **Energy:** Coal and coke destined for use in Nova Scotia Power's local power generation is imported through facilities at both the Sydney Marine Terminal (SMT) and International Coal Pier. The SMT also sees an average of three tankers per month discharging over 300 million litres of petroleum annually, representing the region's local supply. Component parts for turbines used in the region's wind energy sector have been shipped through the Atlantic Canada Bulk Terminal.
- **Retail:** The Cruise Pavilion, located at the SMT, serves as a marshalling and entertainment facility for cruise passengers. Retail activity occurs through The Pavilion's visitor centre, art gallery, shops, boutiques, exhibition centre and licensed bar.

- **Ferry:** Marine Atlantic Inc. (MAI) provides passenger and cargo ferry service to the Province of Newfoundland and Labrador from the terminal in North Sydney. The ferry operates year round to Port-aux-Basques, with additional seasonal service provided to Argentia. Between 420,000 and 520,000 passengers and 79,000 to 87,000 commercial vehicles are transported annually.
- **Tourism:** The Port of Sydney's cruise ship activities are accommodated at the SMT, where approximately 50,000 passengers and 40 to 50 cruise vessels visit between May and October. Facilities at the SMT serve as a marshalling and entertainment facility for cruise passengers.

Interviews were conducted with the key businesses that depend on the port for marine shipments of finished products going to market, or bringing in raw materials, supplies, and equipment for local manufacturing. The combined annual FTE employment, salaries, and total expenditures (Table 3.3.2.1). The following are distinct from the formal economic impact analysis and are not meant to be added with economic impact values.

Table 3.3.2.1: Economic profile of Sydney port-dependent businesses

Full-time equivalent jobs	1,623
Wages and salaries	\$60 million
Expenditures for other goods and services	\$134 million

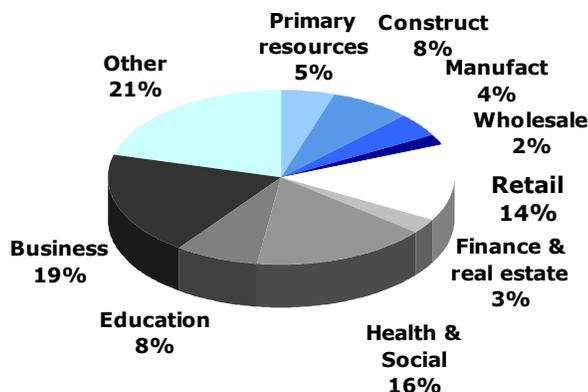
These may be underestimates since some companies would not disclose payroll or expenditure information, in particular as it related to release of details for large capital investments that could compromise their competitive position.

3.3.3 Community Profile

The communities surrounding the Sydney Port Complex include: Sydney, North Sydney, Sydney Mines, and Membertou First Nations. These together form the second largest community in the province, only the provincial capital is larger. The socio-economic profile of the community (Table 3.3.3.1) indicates the unemployment rate is 14.7%, and this is over five percentage points above the provincial rate of 9.1%, Average earnings of \$16,441 are below the provincial average of \$22,608. The top three defined industry sectors by percentage of employment in the community are: business (19%), health and social services (16%), and retail (14%).

Table 3.3.3.1: Sydney* socio-economic profile (2006 Census)

		Employment by industry
Population	44,112	
Population 15 yrs+	34,794	
Labour force	19,416	
Employed	16,557	
Unemployment rate	14.7%	
Persons >15 with earnings	21,122	
Total earnings (\$million)	\$347	
Average earnings	\$16,441	
Total income (\$million)	\$575	
Average income	\$27,220	



Sources: Statistics Canada Census 2006; Government of Nova Scotia 2010 Community Counts.

*Profile includes: Sydney, North Sydney, Sydney Mines, Membertou.

3.3.4 Economic Impacts

The economic impacts of the port and related operations (Table 3.3.4.1) indicate the output (expenses), employment (person-years), GDP, and earned income. Total expenditures from port-related business activities were estimated at about \$58 million in 2007. The total employment was 723 person-years, total GDP (added value) was \$44.3 million, and total income was \$33.3 million. Total impacts include the direct (port and related businesses), indirect (support industries), and induced (effect of spending direct and indirect incomes).

Table 3.3.4.1: Sydney direct and spin-off economic impacts ('03-'07)

(\$ millions)	2003	2004	2005	2006	2007
Direct output	\$62.33	\$65.94	\$139.63	\$155.44	\$57.96
Employment*					
Direct	530	581	1,084	1,194	474
Spin-off	271	289	598	665	249
Total	800	871	1,682	1,860	723
GDP					
Direct	\$27.18	\$29.16	\$59.01	\$65.47	\$24.90
Spin-off	\$20.93	\$22.17	\$47.04	\$52.42	\$19.44
Total	\$48.11	\$51.33	\$106.06	\$117.89	\$44.34
Income					
Direct	\$22.93	\$24.38	\$50.48	\$56.06	\$21.22
Spin-off	\$12.94	\$13.67	\$29.13	\$32.46	\$12.04
Total	\$35.87	\$38.05	\$79.61	\$88.51	\$33.26

Source: Statistics Canada 2005 input-output model.

*Employment in person-years.

Dividing the 2007 direct income by the corresponding direct employment provides an average earnings estimate of \$44,821 associated with the port and related businesses. This illustrates how these jobs represent leading opportunities in the community, since earnings are more than double the local average. These are highly skilled positions that help keep trained workers in the area and in the region.

Since many of the spin-off impacts will extend beyond the local community, it is useful to set just the direct impacts in the community context. The 2007 total direct employment represents 2.9% of all community employment, while the total direct income represents 6.1% of the community earnings.

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IV. NEW BRUNSWICK

4.1 BAYSIDE

4.1.1 Description

Located along the south shore of New Brunswick on the Bay of Fundy at the mouth of the St Croix River on the Canada – US border, Bayside port connects by road directly to the U.S., and New Brunswick's major centres. The berth length is over 242 metres long with 9 -10 metre depths at low tide. Frozen food storage for up to 7,000 metric tonnes, and 3,600 square metres of dry storage area facilitate shipment of fish, agricultural, wood and paper products through the port. Local private interests formed the Bayside Port Corporation and purchased the port in 1999 and began operating as a private corporation.

4.1.2 Dependent Industry Sectors

- ❑ **Mining:** Jamer Materials annually ships over 1 million tonnes of aggregates, primarily to U.S. markets.
- ❑ **Fisheries:** The Bayside Food terminal operates the cold storage facility, which handles fish from Alaska and other outgoing seafood products totaling over 20,000 tonnes per year. The port also ships fish feed for aquaculture operations.
- ❑ **Forestry:** Over 20,000 tonnes in paper and newsprint products, as well as 10,000 tonnes of lumber go through the port each year.
- ❑ **Agriculture:** The port accepts an annual average of over 20,000 tonnes of fertilizer, and ships out nearly the same amount in potatoes destined for international markets.

Interviews were conducted with the key businesses that depend on the port for marine shipments of finished products going to market, or bringing in raw materials, supplies, and equipment for local manufacturing. The combined annual FTE employment, salaries, and total expenditures (Table 4.1.2.1). The following are distinct from the formal economic impact analysis and are not meant to be added with economic impact values.

Table 4.1.2.1: Economic profile of Bayside port-dependent businesses

Full-time equivalent jobs	125
Wages and salaries	\$7 million
Expenditures for other goods and services	\$20 million

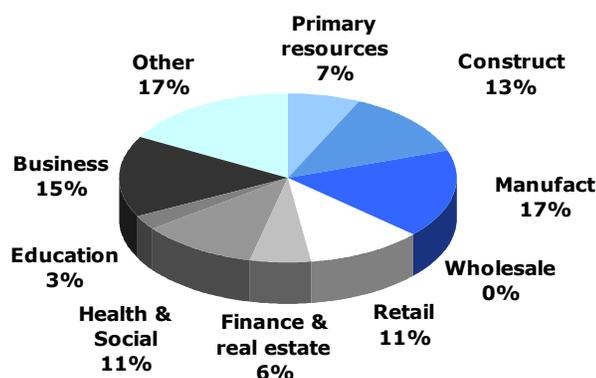
These may be underestimates since some companies would not disclose payroll or expenditure information, in particular as it related to release of details for large capital investments that could compromise their competitive position.

4.1.3 Community Profile

The port is set within the community of Saint Croix, with a population of about 670 (Table 4.1.3.1). This is a very small community and is therefore highly reliant on the port and related businesses for its economic well-being. The unemployment rate at 10.8% is equivalent to the provincial average of 10.0%. The average earnings of \$17,382 are somewhat lower than the provincial average of \$21,534. The top three defined industry sectors by percentage of employment in the community are: manufacturing (17%), business (15%), and construction (13%). These three sectors reflect the dominance of the port and related businesses in the community.

Table 4.1.3.1: Bayside* socio-economic profile (2006 Census)

Population		670		Employment by industry	
Population 15 yrs+		555			
Labour force		370			
Employed		330			
Unemployment rate		10.8%			
Persons >15 with earnings		400			
Total earnings (\$million)		\$7			
Average earnings		\$17,382			
Total income (\$million)		\$10			
Average income		\$24,243			



Source: Statistics Canada Census 2006.

*Profile includes: Saint Croix.

4.1.4 Economic Impacts

The economic impacts of the port and related operations (Table 4.1.4.1) indicate the output (expenses), employment (person-years), GDP, and earned income. Total expenditures from port-related business activities were estimated at about \$4.8 million in 2007. The total employment was 50 person-years, total GDP (added value) was \$3.5 million, and total income was about \$2.4 million. Total impacts include the direct (port and related businesses), indirect (support industries), and induced (effect of spending direct and indirect incomes).

Table 4.1.4.1: Bayside direct and spin-off economic impacts ('03-'07)

(\$ millions)	2003	2004	2005	2006	2007
Direct output	\$7.10	\$7.87	\$6.30	\$4.76	\$4.81
Employment*					
Direct	48	52	42	31	32
Spin-off	27	29	24	18	18
Total	74	82	65	49	50
GDP					
Direct	\$2.96	\$3.28	\$2.61	\$1.97	\$1.99
Spin-off	\$2.17	\$2.40	\$1.92	\$1.45	\$1.46
Total	\$5.13	\$5.68	\$4.53	\$3.42	\$3.46
Income					
Direct	\$2.32	\$2.57	\$2.05	\$1.55	\$1.56
Spin-off	\$1.27	\$1.41	\$1.13	\$0.85	\$0.86
Total	\$3.59	\$3.97	\$3.17	\$2.40	\$2.42

Source: Statistics Canada 2005 input-output model.

*Employment in person-years.

Dividing the 2007 direct income by the corresponding direct employment provides an average earnings estimate of \$49,262 associated with the port and related businesses. This illustrates how these jobs represent leading opportunities in the community, since earnings are almost triple the local average. These are highly skilled positions that help keep trained workers in the area and in the region.

Since many of the spin-off impacts will extend beyond the local community, it is useful to set the direct impacts in context with the community. The 2007 total direct employment represents 9.6% of all community employment, while the total direct income represents 22.5% of the community earnings.

4.2 DALHOUSIE

4.2.1 Description

The port is situated on the coast of northern New Brunswick at the junction of the St. Lawrence River, the Restigouche River, and the Bay de Chaleur. The Port of Dalhousie Inc. assumed responsibility for the port from Transport Canada in 2006. The port has two wharves, one 340 metres with a low tide depth of 9.1 metres, and a 355 metre wharf with a depth of 10.3 metres. The deeper wharf is dedicated to petroleum and ores, while the other supports paper products and general cargo. The port offers about 34,000 square metres of covered storage, 10 acres of exterior storage, and 360,000 barrels of liquid storage capacity. The port is connected by road and rail to major centres in New Brunswick, Quebec, Ontario, and the U.S.

4.2.2 Dependent Industry Sectors

- **Forestry:** The Abitibi Bowater plant in Dalhousie shipped up to 170,000 tonnes of newsprint through the port.
- **Energy:** New Brunswick Power has shipped up to 800,000 tonnes of raw energy resources in the form of petroleum and coal products for their generating station in Dalhousie.

Interviews were conducted with the key businesses that depend on the port for marine shipments of finished products going to market, or bringing in raw materials, supplies, and equipment for local manufacturing. The combined annual FTE employment, salaries, and total expenditures (Table 4.2.2.1). The following are distinct from the formal economic impact analysis and are not meant to be added with economic impact values.

Table 4.2.2.1: Economic profile of Dalhousie port-dependent businesses

Full-time equivalent jobs	23
Wages and salaries	\$1 million
Expenditures for other goods and services	\$4 million

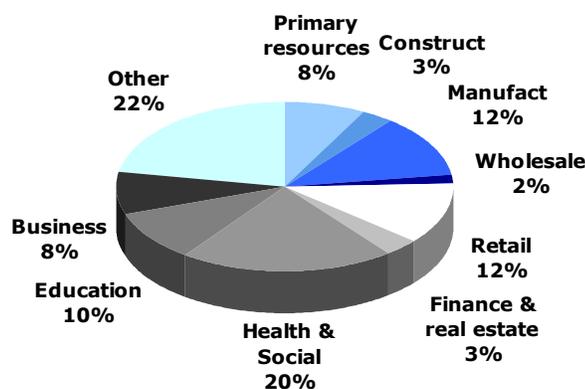
These may be underestimates since some companies would not disclose payroll or expenditure information, in particular as it related to release of details for large capital investments that could compromise their competitive position.

4.2.3 Community Profile

The port is set within the community of Dalhousie, with a population of about 3,676 (Table 4.2.3.1). The community is relatively small and highly dependent on a handful of large employers including the port and related businesses. The unemployment rate at 11.3% is just above the provincial average of 10.0%. The average earnings of \$19,810 are somewhat lower than the provincial average of \$21,534. The top three defined industry sectors by percentage of employment in the community are: health and social services (20%), retail (12%), and manufacturing (12%).

Table 4.2.3.1: Dalhousie socio-economic profile (2006 Census)

		Employment by industry	
Population	3,676		
Population 15 yrs+	3,120		
Labour force	1,500		
Employed	1,330		
Unemployment rate	11.3%		
Persons >15 with earnings	1,605		
Total earnings (\$million)	\$32		
Average earnings	\$19,810		
Total income (\$million)	\$54		
Average income	\$33,805		



Source: Statistics Canada Census 2006.

4.2.4 Economic Impacts

The economic impacts of the port and related operations (Table 4.2.4.1) indicate the output (expenses), employment (person-years), GDP, and earned income. Total expenditures from port-related business activities were estimated at about \$3.3 million in 2007. The total employment was 34 person-years, total GDP (added value) was \$2.3 million, and total income was \$1.7 million. Total impacts include the direct (port and related businesses), indirect (support industries), and induced (effect of spending direct and indirect incomes).

Table 4.2.4.1: Dalhousie direct and spin-off economic impacts ('03-'07)

(\$ millions)	2003	2004	2005	2006	2007
Direct output	\$2.50	\$2.99	\$3.26	\$3.29	\$3.27
Employment*					
Direct	17	20	22	22	22
Spin-off	9	11	12	12	12
Total	26	31	34	34	34
GDP					
Direct	\$1.04	\$1.24	\$1.35	\$1.36	\$1.36
Spin-off	\$0.76	\$0.91	\$0.99	\$1.00	\$1.00
Total	\$1.80	\$2.16	\$2.35	\$2.37	\$2.35
Income					
Direct	\$0.82	\$0.98	\$1.06	\$1.07	\$1.06
Spin-off	\$0.45	\$0.53	\$0.58	\$0.59	\$0.58
Total	\$1.26	\$1.51	\$1.64	\$1.66	\$1.65

Source: Statistics Canada 2005 input-output model.

*Employment in person-years.

Dividing the 2007 direct income by the corresponding direct employment provides an average earnings estimate of \$49,262 associated with the port and related businesses. This illustrates how these jobs represent leading opportunities in the community, since earnings are more than double the local average. These are highly skilled positions that help keep trained workers in the area and in the region.

Since many of the spin-off impacts will extend beyond the local community, it is useful to set the direct impacts in context with the community. The 2007 total direct employment represents 1.6% of all community employment, while the total direct income represents 3.3% of the community earnings.

V. PRINCE EDWARD ISLAND

5.1 CHARLOTTETOWN

5.1.1 Description

Located in the province's capital, the Port of Charlottetown is Prince Edward Island's most active marine terminal facility, offering over 300 metres of berthage along two piers. The Charlottetown Harbour Authority Inc. (CHAI) acquired ownership of the port in 2005, and has focused the facility on three main areas of marine activity: cruise ships, bulk petroleum transportation, and aggregate shipment. Services offered at the port include fresh water, ship supplies, bunker and diesel fuel, gas and lubricants, security, Canada Customs services, and pilotage.

5.1.2 Dependent Industry Sectors

- **Mining/Construction:** The Port of Charlottetown provides service to the island's commercial and industrial construction industry. Aggregate, sand, and gravel are shipped through the port for use in provincial roads and highways construction, as well as a wide range of other industrial and commercial projects.
- **Energy:** The Port of Charlottetown serves as the gateway for the province's petroleum product supply. Irving Oil Ltd. imports the petroleum products distributed by all gas retailers and heating oil suppliers across the island.
- **Tourism:** The cruise ship industry has become an increasingly important generator of economic activity in the city of Charlottetown. The Port of Charlottetown expanded cruise ship capacity in recent years to accommodate the 8-fold increase in passenger visitation since 1999.
- **Agriculture:** Bulk ingredients used in the production of fertilizer are shipped through the Port of Charlottetown by one manufacturer on the island. Chemical and fertilizer products are then sold to agricultural producers across Prince Edward Island.

Interviews were conducted with the key businesses that depend on the port for marine shipments of finished products going to market, or bringing in raw materials, supplies, and equipment for local manufacturing. The combined annual FTE employment, salaries, and total expenditures (Table 5.1.2.1). The following are distinct from the formal economic impact analysis and are not meant to be added with economic impact values.

Table 5.1.2.1: Economic profile of Charlottetown port-dependent businesses

Full-time equivalent jobs	257
Wages and salaries	\$7 million
Expenditures for other goods and services	\$25 million

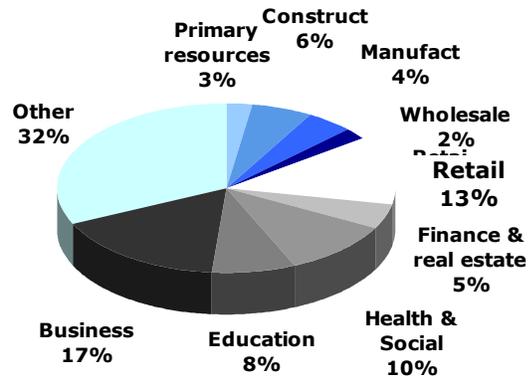
These may be underestimates since some companies would not disclose payroll or expenditure information, in particular as it related to release of details for large capital investments that could compromise their competitive position.

5.1.3 Community Profile

As the provincial capital, Charlottetown serves as the centre for government, commerce, and residential development, reflecting the ports primary role as an importer of goods to meet these needs. The population in 2006 was 32,174 (Table 5.1.3.1), and the unemployment rate of 9.0% is just under the provincial average of 11.1%, while the average earnings of \$20,176 are just over the provincial average of \$19,459. The top three defined industry sectors by percentage of employment in the community are: business (17%), retail (13%), health and social services (10%).

Table 5.1.3.1: Charlottetown socio-economic profile (2006 Census)

Population		Employment by industry	
Population 15 yrs+	32,174		
Labour force	17,145		
Employed	15,600		
Unemployment rate	9.0%		
Persons >15 with earnings	18,585		
Total earnings (\$million)	\$375		
Average earnings	\$20,176		
Total income (\$million)	\$537		
Average income	\$28,905		



Source: Statistics Canada Census 2006.

5.1.4 Economic Impacts

The economic impacts of the port and related operations (Table 5.1.4.1) indicate the output (expenses), employment (person-years), GDP, and earned income. Total expenditures from port-related business activities were estimated at about \$24.9 million in 2007. The total employment was 404 person-years, total GDP (added value) was \$19.0 million, and total income was \$13.3 million. Total impacts include the direct (port and related businesses), indirect (support industries), and induced (effect of spending direct and indirect incomes).

Table 5.1.4.1: Charlottetown direct and spin-off economic impacts ('03-'07)

(\$ millions)	2003	2004	2005	2006	2007
Direct output	\$22.65	\$22.13	\$24.48	\$17.16	\$24.92
Employment*					
Direct	204	201	224	176	232
Spin-off	156	152	169	121	172
Total	360	353	393	296	404
GDP					
Direct	\$7.28	\$7.25	\$7.99	\$5.87	\$8.19
Spin-off	\$9.88	\$9.62	\$10.65	\$7.39	\$10.82
Total	\$17.16	\$16.87	\$18.64	\$13.26	\$19.02
Income					
Direct	\$5.98	\$5.81	\$6.46	\$4.58	\$6.58
Spin-off	\$6.21	\$6.00	\$6.66	\$4.57	\$6.75
Total	\$12.19	\$11.81	\$13.12	\$9.15	\$13.34

Source: Statistics Canada 2005 input-output model.

*Employment in person-years.

Dividing the 2007 direct income by the corresponding direct employment provides an average earnings estimate of \$28,395 associated with the port and related businesses. This illustrates how these jobs represent leading opportunities in the community, since earnings are 40% higher than the local average. These are highly skilled positions that help keep trained workers in the area and in the region.

Since many of the spin-off impacts will extend beyond the local community, it is useful to set the direct impacts in context with the community. The 2007 total direct employment represents 1.5% of all community employment, while the total direct income represents 1.8% of the community earnings. Since Charlottetown is the only provincial capital featured in the study, the relative impacts of the port on the community are not as prominent as for other ports.

5.2 SOURIS

5.2.1 Description

The Port of Souris is at Prince Edward Island's eastern end. The port consists of five wharves and a breakwater, which are owned and operated by the Souris Harbour Authority Inc. (SHAI). This non-profit community-based corporation took responsibility for the port in 2006. The Port of Souris services include fresh water, ship supplies, fuel, stevedoring, and minor repairs. SHAI also owns and operates a 23,000 square-foot cold storage facility for seafood, fruit and vegetable processors, and the fishing industry. Activity at the port is concentrated around the fisheries, import of construction materials, and agricultural products.

5.2.2 Dependent Industry Sectors

- **Fisheries:** Fisheries industries represent the predominant activity at the Port of Souris with approximately 40 fishing vessels based there throughout the year. Fish buying and cold storage facilities available at the port and are used by a range of fisheries operators. The largest and most modern seafood processing plant in Prince Edward Island is also located in Souris.
- **Construction:** Aggregate and armour stone are the main commercial commodities shipped through the Port of Souris. The port serves eastern PEI for construction companies involved in municipal and provincial road construction, as well as an array of industrial and commercial projects.
- **Agriculture:** The Souris Food Park is a spacious development that is home to the international food products firm, AgraWest, Ocean Choice International, one of Atlantic Canada's largest seafood processors and the 23,000 sq.ft. Souris Harbour Authority's Eastern Cold Storage. This 48-acre site offers large development lots and on-site waste treatment facilities. The park is located in the Town of Souris and is immediately adjacent to the Souris Port and ferry service to the Isles de la Madeleine.
- **Energy:** Energy sector activity at the Port of Souris is limited to the receipt of a small number of international shipments of windmill components used in Prince Edward Island's growing wind energy industry.
- **Ferry:** Transport Canada continues to operate domestic ferry service between Souris and Cap-aux-Meules on Isle de la Madeleine, Quebec.

Interviews were conducted with the key businesses that depend on the port for marine shipments of finished products going to market, or bringing in raw materials, supplies, and equipment for local manufacturing. The combined annual FTE employment, salaries, and total expenditures (Table 5.2.2.1). The following are distinct from the formal economic impact analysis and are not meant to be added with economic impact values.

Table 5.2.2.1: Economic profile of Souris port-dependent businesses

Full-time equivalent jobs	116
Wages and salaries	\$4 million
Expenditures for other goods and services	\$5 million

These may be underestimates since some companies would not disclose payroll or expenditure information, in particular as it related to release of details for large capital investments that could compromise their competitive position.

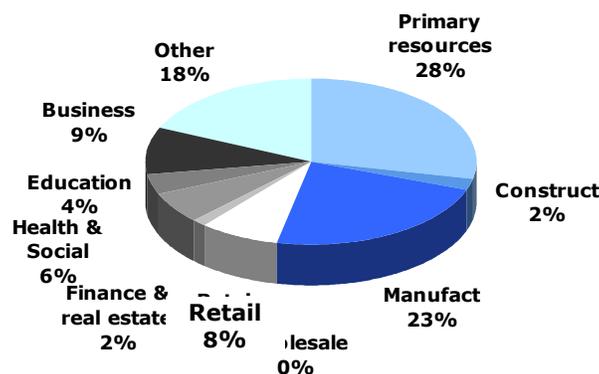
5.2.3 Community Profile

Souris is a relatively small community with a population in 2006 of 1,232 (Table 5.2.3.1). The unemployment rate of 11.3% is just over the provincial average of 11.1%, while the average earnings of \$17,230 are just under the provincial average of \$19,459. The top three defined industry sectors by percentage of employment in the community are: primary resources (28%), manufacturing (23%), and business (9%). The dominance of

primary resources and manufacturing is a reflection of the fishery both in terms of harvesting and processing, which are intrinsically linked to the port.

Table 5.2.3.1: Souris socio-economic profile (2006 Census)

Population		1,232		Employment by industry	
Population 15 yrs+		955			
Labour force		665			
Employed		590			
Unemployment rate		11.3%			
Persons >15 with earnings		725			
Total earnings (\$million)		\$12			
Average earnings		\$17,230			
Total income (\$million)		\$18			
Average income		\$25,117			



Source: Statistics Canada Census 2006.

5.2.4 Economic Impacts

The economic impacts of the port and related operations (Table 5.2.4.1) indicate the output (expenses), employment (person-years), GDP, and earned income. Total expenditures from port-related business activities were estimated at about \$8.9 million in 2007. The total employment was 135 person-years, total GDP (added value) was \$6.7 million, and total income was \$4.8 million. Total impacts include the direct (port and related businesses), indirect (support industries), and induced (effect of spending direct and indirect incomes).

Table 5.2.4.1: Souris direct and spin-off economic impacts ('03-'07)

(\$ millions)	2003	2004	2005	2006	2007
Direct output	\$5.30	\$5.98	\$5.38	\$11.92	\$8.93
Employment*					
Direct	46	51	48	94	74
Spin-off	36	41	37	81	61
Total	83	92	85	175	135
GDP					
Direct	\$1.68	\$1.90	\$1.74	\$3.59	\$2.77
Spin-off	\$2.32	\$2.61	\$2.35	\$5.27	\$3.92
Total	\$4.00	\$4.52	\$4.08	\$8.86	\$6.69
Income					
Direct	\$1.40	\$1.56	\$1.42	\$3.13	\$2.34
Spin-off	\$1.46	\$1.64	\$1.47	\$3.36	\$2.48
Total	\$2.86	\$3.21	\$2.89	\$6.49	\$4.82

Source: Statistics Canada 2005 input-output model.

*Employment in person-years.

Dividing the 2007 direct income by the corresponding direct employment provides an average earnings estimate of \$31,676 associated with the port and related businesses. This illustrates how these jobs represent leading opportunities in the community, since earnings are more than double the local average. These are highly skilled positions that help keep trained workers in the area and in the region.

Since many of the spin-off impacts will extend beyond the local community, it is useful to set the direct impacts in context with the community. The 2007 total direct employment represents 12.5% of all community employment, while the total direct income represents 18.7% of the community earnings.

5.3 SUMMERSIDE

5.3.1 Description

The port of Summerside is located on Bedeque Bay on the southwestern coast of PEI. Summerside Port Corporation Inc. acquired the facilities from Transport Canada in 2010. The port activity focuses on potatoes, aggregates, fertilizers and other products. A 5,000 square metre heated transit shed has been a recent addition to the extensive outside storage. The port can accommodate vessels over 152 metres with at least 6 metre berth depths at low tide. There are three independent terminals with protection afforded by two breakwaters.

5.3.2 Dependent Industry Sectors

- **Mining:** Aggregates including stone and gravel are regularly brought in for construction.
- **Agriculture:** Fertilizer and limestone imports have accounted for up to 120,000 tonnes of cargo in a year. Up to 10 tonnes of potatoes and other agricultural products have been exported primarily to international markets in the Caribbean and South America.

Interviews were conducted with the key businesses that depend on the port for marine shipments of finished products going to market, or bringing in raw materials, supplies, and equipment for local manufacturing. The combined annual FTE employment, salaries, and total expenditures (Table 5.3.2.1). The following are distinct from the formal economic impact analysis and are not meant to be added with economic impact values.

Table 5.3.2.1: Economic profile of Summerside port-dependent businesses

Full-time equivalent jobs	151
Wages and salaries	\$5 million
Expenditures for other goods and services	\$4 million

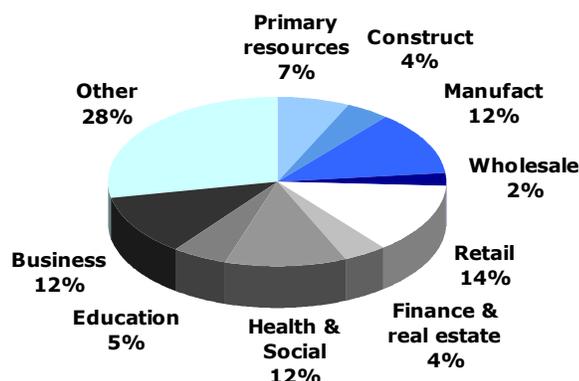
These may be underestimates since some companies would not disclose payroll or expenditure information, in particular as it related to release of details for large capital investments that could compromise their competitive position.

5.3.3 Community Profile

The population of Summerside in 2006 was 14,500 (Table 5.3.3.1), and the unemployment rate of 12.4% is just under the provincial average of 11.1%, while the average earnings of \$20,461 are just over the provincial average of \$19,459. The top defined industry sectors by percentage of employment in the community are: retail (14%), business (12%), manufacturing (12%), health and social services (12%).

Table 5.3.3.1: Summerside socio-economic profile (2006 Census)

Population		14,500		Employment by industry	
Population 15 yrs+		11,695			
Labour force		7,680			
Employed		6,730			
Unemployment rate		12.4%			
Persons >15 with earnings		8,025			
Total earnings (\$million)		\$164			
Average earnings		\$20,461			
Total income (\$million)		\$243			
Average income		\$30,313			



Source: Statistics Canada Census 2006.

5.3.4 Economic Impacts

The economic impacts of the port and related operations (Table 5.3.4.1) indicate the output (expenses), employment (person-years), gross domestic product (GDP), and earned income. Total expenditures from port-related business activities were estimated at about \$3.9 million in 2007. The total employment was 60 person-years, total GDP (added value) was \$3.0 million, and total income was \$2.1 million. Total impacts include the direct (port and related businesses), indirect (support industries), and induced (effect of spending direct and indirect incomes).

Table 5.3.4.1: Summerside direct and spin-off economic impacts ('03-'07)

(\$ millions)	2003	2004	2005	2006	2007
Direct output	\$2.93	\$6.78	\$3.43	\$3.00	\$3.95
Employment*					
Direct	25	52	29	26	33
Spin-off	20	45	23	21	27
Total	45	97	53	47	60
GDP					
Direct	\$0.92	\$2.05	\$1.08	\$0.95	\$1.24
Spin-off	\$1.29	\$2.99	\$1.50	\$1.31	\$1.73
Total	\$2.20	\$5.04	\$2.58	\$2.26	\$2.97
Income					
Direct	\$0.77	\$1.76	\$0.90	\$0.79	\$1.04
Spin-off	\$0.81	\$1.90	\$0.95	\$0.83	\$1.09
Total	\$1.58	\$3.66	\$1.85	\$1.62	\$2.13

Source: Statistics Canada 2005 input-output model.

*Employment in person-years.

Dividing the 2007 direct income by the corresponding direct employment provides an average earnings estimate of \$31,081 associated with the port and related businesses. This illustrates how these jobs represent leading opportunities in the community, since earnings are 50% more than the local average. These are highly skilled positions that help keep trained workers in the area and in the region.

Since many of the spin-off impacts will extend beyond the local community, it is useful to set the direct impacts in context with the community. The 2007 total direct employment represents 0.5% of all community employment, while the total direct income represents 0.6% of the community earnings.

VI. NEWFOUNDLAND AND LABRADOR

6.1 CORNER BROOK

6.1.1 Description

The port complex of Corner Brook, located on the west coast of Newfoundland and Labrador, includes private wharves operated by Barry's Seafood's Inc., Corner Brook Pulp and Paper, Irving Oil Ltd., Ultramar, Holcim and Imperial Oil. There is also a former public Transport Canada port now operated by the Corner Brook Port Corporation since 2004. The corporation's port offers 362 metres of berthage with dockside low tide depths of 10.1 metres, and ice-breaking services are available for the winter months. The port concentrates on general cargo including container shipping, cruise ship travel, and real estate as part of the town waterfront development planning.

6.1.2 Dependent Industry Sectors

- ❑ **Mining/Construction:** Up to 1.5 million tonnes of limestone and other non-metallic minerals have been shipped out annually. A further 270,000 tonnes of stone, sand, and gravel products have also been exported to a mix of domestic and international destinations. Construction in the region also demands the import of cement and other equipment through the port.
- ❑ **Fisheries:** Fishing vessels operate from the port, processing occurs at a dockside facility, and up to 10,000 tonnes of fish and seafood products have been exported from the port in a year.
- ❑ **Forestry:** Corner Brook Pulp and Paper exports up to 360,000 tonnes of newsprint and paper products per year.
- ❑ **Energy:** The three energy companies serve as a fuel hub for the region and bring in or re-distribute up to 220,000 tonnes of fuel oils, gasoline and aviation fuel, and other refined petroleum products each year.
- ❑ **Retail:** Up to 90,000 tonnes of general cargo are moved through the port generally serving the needs of residents and businesses in the region.
- ❑ **Tourism/Recreation:** Corner Brook hosts a number of cruise ships each year, primarily during the fall, bringing over 20,000 passengers in 2007. In addition, water-based recreation and scenic tours on smaller vessels operating in the area capitalize on the excellent local fishing, sightseeing, and proximity to the UNESCO World Heritage Site at Gros Morne National Park.

Interviews were conducted with the key businesses that depend on the port for marine shipments of finished products going to market, or bringing in raw materials, supplies, and equipment for local manufacturing. The combined annual FTE employment, salaries, and total expenditures (Table 6.1.2.1). The following are distinct from the formal economic impact analysis and are not meant to be added with economic impact values.

Table 6.1.2.1: Economic profile of Corner Brook port-dependent businesses

Full-time equivalent jobs	896
Wages and salaries	\$31 million
Expenditures for other goods and services	\$33 million

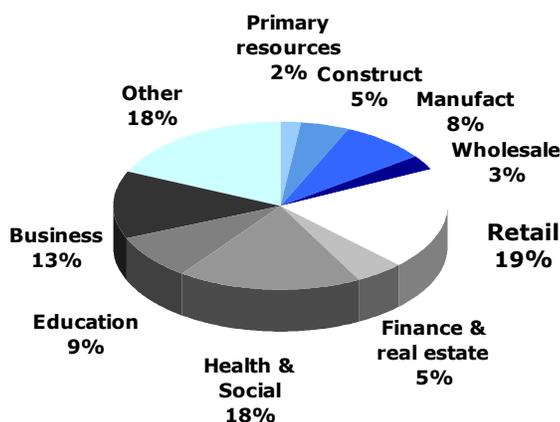
These may be underestimates since some companies would not disclose payroll or expenditure information, in particular as it related to release of details for large capital investments that could compromise their competitive position.

6.1.3 Community Profile

The population of Corner Brook in 2006 was 20,083 (Table 6.1.3.1), and the unemployment rate of 13.8% is well under the provincial average of 18.6%, while the average earnings of \$20,978 are over the provincial average of \$18,086. The top defined industry sectors by percentage of employment in the community are: retail (19%), health and social services (18%), and business (13%).

Table 6.1.3.1: Corner Brook socio-economic profile (2006 Census)

Population		20,083		Employment by industry	
Population 15 yrs+		16,810			
Labour force		9,565			
Employed		8,245			
Unemployment rate		13.8%			
Persons >15 with earnings		10,755			
Total earnings (\$million)		\$226			
Average earnings		\$20,978			
Total income (\$million)		\$334			
Average income		\$31,033			



Source: Statistics Canada Census 2006.

6.1.4 Economic Impacts

The economic impacts of the port and related operations (Table 6.1.4.1) indicate the output (expenses), employment (person-years), GDP, and earned income. Total expenditures from port-related business activities were estimated at about \$19.4 million in 2007. The total employment was 286 person-years, total GDP (added value) was \$15.2 million, and total income was \$11.3 million. Total impacts include the direct (port and related businesses), indirect (support industries), and induced (effect of spending direct and indirect incomes).

Table 6.1.4.1: Corner Brook direct and spin-off economic impacts ('03-'07)

(\$ millions)	2003	2004	2005	2006	2007
Direct output	\$18.34	\$18.60	\$16.55	\$10.35	\$19.42
Employment*					
Direct	173	177	165	105	194
Spin-off	87	88	78	49	92
Total	260	265	243	154	286
GDP					
Direct	\$8.19	\$8.36	\$7.57	\$4.73	\$8.90
Spin-off	\$6.03	\$6.10	\$5.39	\$3.36	\$6.32
Total	\$14.22	\$14.46	\$12.95	\$8.09	\$15.22
Income					
Direct	\$6.78	\$6.91	\$6.21	\$3.88	\$7.30
Spin-off	\$3.81	\$3.85	\$3.40	\$2.12	\$3.99
Total	\$10.59	\$10.76	\$9.61	\$6.00	\$11.29

Source: Statistics Canada 2005 input-output model.

*Employment in person-years.

Dividing the 2007 direct income by the corresponding direct employment provides an average earnings estimate of \$37,533 associated with the port and related businesses. This illustrates how these jobs represent leading opportunities in the community, since earnings are 80% higher than the local average. These are highly skilled positions that help keep trained workers in the area and in the region.

Since many of the spin-off impacts will extend beyond the local community, it is useful to set the direct impacts in context with the community. The 2007 total direct employment represents 2.4% of all community employment, while the total direct income represents 3.2% of the community earnings.

Dividing the 2007 direct income by the corresponding direct employment provides an average income estimate of \$35,251 for jobs associated with the port. This illustrates how these jobs represent excellent opportunities in the community, with earned incomes 75% higher than the local average of \$20,978.

6.2 PLACENTIA BAY

6.2.1 Description

The Placentia Bay port complex on the southeast coast of Newfoundland and Labrador consists of three ports: Argentia, Come By Chance, and Whiffen Head. Facilities in Argentia supports the marine ferry service from Nova Scotia, and two docks with a total of 645 metres of berthage space and minimum dockside depths of 7.4 metres and 11.0 metres at two berths. Up to 450 acres of developed land is available for storage including 180 acres dockside. The Come By Chance facilities meet North Atlantic's refinery needs, which involve processing oil from many sources including Russia, Venezuela, and the Middle East. Their oil terminal has 463 metres of wharf space and

minimum depths of 29 metres. Whiffen Head has been utilized by Newfoundland Transshipment Limited since 1998, first receiving oil from Hibernia then from Terra Nova starting in 2002. Shuttle vessels bring oil from the field to the terminal where they are then loaded onto larger tankers for delivery. Placentia bay is a year-round ice-free port with depths to accommodate some of the largest current vessels in the world.

6.2.2 Dependent Industry Sectors

- **Mining/Construction:** A wide range of aggregates, minerals and metallic products have moved through the port. These have been dominated by cement and salt for use in the province.
- **Fisheries/Food:** Up to 48,000 tonnes of seafood and other food products have moved through the port annually.
- **Agriculture:** Small amounts of feed and fertilizers have been brought in through the port.
- **Energy:** Up to 60 million tonnes of crude petroleum, fuel oils, and other refined petroleum products have been shipped through in year.
- **Retail:** A growing number of products have been imported including some vehicles recently.
- **Ferry:** The Marine Atlantic ferry service operates from mid-June to mid-September three days a week carrying passengers, vehicles, and freight.

Interviews were conducted with the key businesses that depend on the port for marine shipments of finished products going to market, or bringing in raw materials, supplies, and equipment for local manufacturing. The combined annual FTE employment, salaries, and total expenditures (Table 6.2.2.1). The following are distinct from the formal economic impact analysis, and are not meant to be added with economic impact values.

Table 6.2.2.1: Economic profile of Placentia Bay port-dependent businesses

Full-time equivalent jobs	480
Wages and salaries	\$22 million
Expenditures for other goods and services	\$49 million

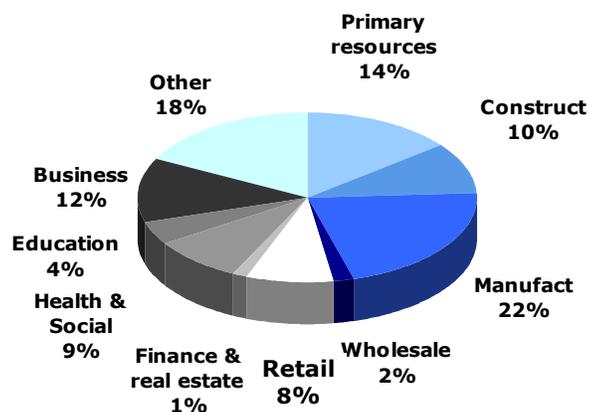
These may be underestimates since some companies would not disclose payroll or expenditure information, in particular as it related to release of details for large capital investments that could compromise their competitive position. In particular, the full expenditures are not included for Come By Chance and Whiffen Head operations.

6.2.3 Community Profile

The socioeconomic profile for the Placentia Bay port complex includes a number of communities identified under Table 6.2.3.1. The Placentia Bay communities had a combined population of 9,450 in 2006; the unemployment rate of 26.4% is well over the provincial average of 18.6%, while the average earnings of \$13,698 are well under the provincial average of \$18,086. The area of the province has a very high need for employment opportunities, especially those offering higher wages for skilled trades. The top defined industry sectors by percentage of employment in the community are: manufacturing (22%), primary resources (14%), and business (12%).

Table 6.2.3.1 Placentia Bay* socio-economic profile (2006 Census)

Population		9,540		Employment by industry	
Population 15 yrs+		8,145			
Labour force		4,320			
Employed		3,180			
Unemployment rate		26.4%			
Persons >15 with earnings		4,090			
Total earnings (\$million)		\$56			
Average earnings		\$13,698			
Total income (\$million)		\$92			
Average income		\$22,572			



Source: Statistics Canada Census 2006.

*Profile includes: Come By Chance, Southern Harbour, Chance Cove, Sunnyside, Arnolds Cove, Norman's Cove - Long Cove, Chapel Arm, Long Harbour - Mount Arlington Heights, Fox Harbour, Placentia, Census Division 1 Subdivisions A and B.

6.2.4 Economic Impacts

The economic impacts of the port and related operations (Table 6.2.4.1) indicate the output (expenses), employment (person-years), gross domestic product (GDP), and earned income. Total expenditures from port-related business activities were estimated at about \$125 million in 2007. The total employment was 1,704 person-years, total GDP (added value) was \$97.2 million, and total income was \$72.4 million. Total impacts include the direct (port and related businesses), indirect (support industries), and induced (effect of spending direct and indirect incomes).

Table 6.2.4.1: Placentia Bay direct and spin-off economic impacts ('03-'07)

(\$ millions)	2003	2004	2005	2006	2007
Direct output	\$101.86	\$102.87	\$87.72	\$75.24	\$125.54
Employment*					
Direct	895	910	779	668	1,115
Spin-off	479	483	412	353	590
Total	1,374	1,394	1,191	1,021	1,704
GDP					
Direct	\$44.76	\$45.52	\$38.96	\$33.40	\$55.75
Spin-off	\$33.76	\$34.01	\$28.96	\$24.85	\$41.45
Total	\$78.52	\$79.52	\$67.92	\$58.25	\$97.20
Income					
Direct	\$37.28	\$37.81	\$32.31	\$27.71	\$46.24
Spin-off	\$21.35	\$21.48	\$18.28	\$15.68	\$26.16
Total	\$58.64	\$59.29	\$50.59	\$43.39	\$72.40

Source: Statistics Canada 2005 input-output model.

*Employment in person-years.

Dividing the 2007 direct income by the corresponding direct employment provides an average earnings estimate of \$41,482 associated with the port and related businesses. This illustrates how these jobs represent leading opportunities in the community, since earnings are about triple the local average. In Atlantic Canada this represents the largest discrepancy between local income levels and those associated with port activities, underscoring the significance of these operations to local development, municipal and provincial tax revenues, and retention of highly skilled workers in the area.

Since many of the spin-off impacts will extend beyond the local community, it is useful to set the direct impacts in context with the community. The only caution is that some employment even from direct activities may be located in St. John's and/or employees may commute from St. John's. The 2007 total direct employment represents up to 35% of all community employment, while the total direct income represents up to 82% of the community earnings.

6.3 PORT HARMON

6.3.1 Description

The port is situated in St. George's Bay in southwestern Newfoundland and Labrador. There are 293 metres of berthage with dockside low tide depths of 7.8 metres. Over 6,500 square metres of lay down and open storage area is available. The port has served the forestry, agriculture, fisheries, energy, and mining sectors primarily as an outlet for export products. A regional vessel safety and emergency response training program has been established at the port by Memorial University and others.

6.3.2 Dependent Industry Sectors

- ❑ **Mining/Construction:** Metallic ores, salt and some aggregates have been shipped out through the port for a total of up to 50,000 tonnes in a year.
- ❑ **Fisheries:** A group of fishing vessels land their catch at the port but processing and redistribution may occur elsewhere.
- ❑ **Forestry:** Up to 175,000 tonnes of newsprint have been shipped through the port in a year.
- ❑ **Agriculture:** A combination of grain feeds for livestock, fertilizer, and other agricultural goods have been imported through the port.
- ❑ **Energy:** Up to 40,000 tonnes of fuel oils and other refined petroleum or coal products have been imported to the community.

Interviews were conducted with the key businesses that depend on the port for marine shipments of finished products going to market, or bringing in raw materials, supplies, and equipment for local manufacturing. The combined annual FTE employment, salaries, and total expenditures (Table 6.3.2.1). The following are distinct from the formal economic impact analysis and are not meant to be added with economic impact values.

Table 6.3.2.1: Economic profile of Port Harmon port-dependent businesses

Full-time equivalent jobs	12
Wages and salaries	\$1 million
Expenditures for other goods and services	\$2 million

These may be underestimates since some companies would not disclose payroll or expenditure information, in particular as it related to release of details for large capital investments that could compromise their competitive position.

6.3.3 Community Profile

Port Harmon is associated with the community of Stephenville, which had a population of 6,588 in 2006 (Table 6.3.3.1). The unemployment rate of 18.0% is equivalent to the provincial average of 18.6%, while the average earnings of \$18,230 are equivalent to the provincial average of \$18,086. The top defined industry sectors by percentage of employment in the community are: retail (17%), education (14%), health and social services (13%).

Table 6.3.3.1: Port Harmon* socio-economic profile (2006 Census)

Population		6,588		Employment by industry	
Population 15 yrs+		5,485			
Labour force		2,750			
Employed		2,255			
Unemployment rate		18.0%			
Persons >15 with earnings		2,930			
Total earnings (\$million)		\$53			
Average earnings		\$18,230			
Total income (\$million)		\$87			
Average income		\$29,788			

Source: Statistics Canada Census 2006.

*Profile includes: Stephenville.

6.3.4 Economic Impacts

The economic impacts of the port and related operations (Table 6.3.4.1) indicate the output (expenses), employment (person-years), GDP, and earned income. Total expenditures from port-related business activities were estimated at about \$1.3 million in 2007. The total employment was 22 person-years, total GDP (added value) was \$1.0 million and total income was \$780,000. Total impacts include the direct (port and related businesses), indirect (support industries), and induced (effect of spending direct and indirect incomes).

Table 6.3.4.1: Port Harmon direct and spin-off economic impacts ('03-'07)

(\$ millions)	2003	2004	2005	2006	2007
Direct output	\$3.15	\$2.94	\$2.13	\$0.49	\$1.36
Employment*					
Direct	30	28	21	7	15
Spin-off	15	14	10	3	7
Total	45	42	32	10	22
GDP					
Direct	\$1.39	\$1.30	\$0.95	\$0.22	\$0.61
Spin-off	\$1.04	\$0.96	\$0.69	\$0.15	\$0.44
Total	\$2.42	\$2.27	\$1.64	\$0.37	\$1.05
Income					
Direct	\$1.15	\$1.08	\$0.78	\$0.18	\$0.50
Spin-off	\$0.66	\$0.61	\$0.44	\$0.10	\$0.28
Total	\$1.81	\$1.69	\$1.22	\$0.27	\$0.78

Source: Statistics Canada 2005 input-output model.

*Employment in person-years.

Dividing the 2007 direct income by the corresponding direct employment provides an average earnings estimate of \$34,146 associated with the port and related businesses. This illustrates how these jobs represent leading opportunities in the community, since earnings are double the local average. These are highly skilled positions that help keep trained workers in the area and in the region.

Since many of the spin-off impacts will extend beyond the local community, it is useful to set the direct impacts in context with the community. The 2007 direct employment and direct income both represent just under 1% of the community totals.

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VII. SUMMARY AND KEY ISSUES

7.1 ECONOMIC ANALYSIS

The following summarizes the key economic analysis findings that apply to the study ports in the Atlantic region.

- ❑ Independent marine ports tend to be more export-oriented than CPA ports, and are therefore important contributors to positive provincial and national balance of trade.
- ❑ The independent marine ports and associated businesses in this study are generally situated in the smaller communities of their respective provinces (except Charlottetown) and therefore represent significant employers in their community.
- ❑ The average wages and salaries paid by ports and related businesses ranges from 2 to 3 times the average earned income in their communities, indicating the leading job opportunity they represent and the role they play in retaining or attracting highly skilled workers in the local community.
- ❑ The host communities are typically experiencing elevated unemployment rates compared to their provincial averages so the importance of supporting ports and related businesses as important employers is especially pronounced.
- ❑ The port-dependent businesses represent a combined total of 7,103 full-time equivalent jobs, \$388 million of earned income, and over \$505 million in other expenditures in the economy. These are underestimates since some companies would not disclose financial information that could compromise their competitive position.
- ❑ The economic impacts in 2007 of the port and related operations (Table 7.1.1) indicate: total expenditures from port-related business activities were estimated at about \$303 million; total employment was 4,040 person-years, total GDP (added value) was \$232 million, and total income was \$172 million.

Table 7.1.1: Atlantic Canada study ports combined direct and spin-off economic impacts ('03-'07)

(\$ millions)	2003	2004	2005	2006	2007
Direct output	\$261.15	\$272.00	\$321.61	\$312.50	\$303.28
Employment*					
Direct	2,238	2,360	2,661	2,556	2,586
Spin-off	1,252	1,311	1,504	1,455	1,454
Total	3,491	3,670	4,165	4,012	4,040
GDP					
Direct	\$110.22	\$115.46	\$134.97	\$130.50	\$127.89
Spin-off	\$90.02	\$93.96	\$110.55	\$107.61	\$104.54
Total	\$200.24	\$209.42	\$245.52	\$238.12	\$232.43
Income					
Direct	\$92.02	\$95.79	\$113.43	\$110.02	\$106.87
Spin-off	\$56.27	\$58.61	\$68.87	\$67.00	\$65.35
Total	\$148.29	\$154.40	\$182.30	\$177.02	\$172.22

Source: Statistics Canada 2005 input-output model.

*Employment in person-years.

- When the 2007 impacts of study ports are combined by province and the same economic impact analysis is applied to total output values by province (see Table A.1 in Appendix), then the percentages represented by study ports are as shown in the following table, and represent 23% of output for all ports in Atlantic Canada.

Table 7.1.2: Study port impacts as percentages of total provincial port impacts in 2007.

(%)	NS	NB	PEI	NL	Atlantic
Direct output	19%	5%	60%	28%	23%
Employment*					
Direct	15%	3%	59%	25%	19%
Spin-off	17%	4%	63%	29%	23%
Total	16%	4%	61%	26%	21%
GDP					
Direct	17%	4%	54%	25%	20%
Spin-off	19%	5%	61%	29%	24%
Total	18%	4%	58%	27%	21%
Income					
Direct	19%	4%	62%	26%	21%
Spin-off	19%	5%	64%	30%	24%
Total	19%	4%	63%	28%	22%

Source: Statistics Canada 2005 input-output model.

*Employment in person-years.

The eleven independent study ports represent significant economic contributions in their respective provinces. These economic impact estimates are considered conservative since they do not reflect all of the port-dependent business activities, and do not include all inter-provincial and national economic impacts.

7.2 ISSUES AND CHALLENGES

Through interviews with port authorities and users it is clear that each port complex faces different strategic challenges including: the need for dredging, wharf repair or expansion, marketing and attraction of new business, re-orientation following business failure for key clients, meeting new port security requirements and so on.

There were surprisingly few issues and challenges spanning across the region, and port-dependent businesses consistently reported excellent working relations with the port authorities. Among the few regional issues, port users are concerned about rising costs for some services such as piloting, customs requirements, and security, but they understand these are not within the control of port authorities. Port users would also like to ensure that maintenance of ports and improvements continue, especially where new developments are underway. In this regard, they underscore the regional need to build sufficient revenues for ongoing promotion and development of the ports.

7.2.1 Key is Raising Sufficient Revenue

The dominant issue and challenge that spans across independent marine ports in Atlantic Canada, is the difficulty of raising sufficient revenues. Ports currently raise revenues through berthage fees, lease or rental of storage space and real estate, as well as fees for services such as water supply, power, waste disposal, and security. These together are not sufficient to cover all costs since these fees are tied to specific services provided rather than strategic development work that ports require to sustain or advance their position. Strategic development work includes: capital investment, market research, business development, sales, regulatory compliance for all levels of government, participating in economic development and waterfront development planning.

The financial challenge is not only reported by the ports themselves, but is also evident from the Industry Canada profiles of small and medium-sized enterprises in the sector. The profiles, based on Revenue Canada tax returns, show that port and harbour operations are facing a unique challenge of having insufficient revenues to cover costs when other support services to water transport and marine shipping businesses are enjoying stable and healthy profits. The revenue shortfall stands as the major issue cutting across independent ports in Atlantic Canada.

7.2.2 Transport Canada Retains Authority to Charge Harbour Dues

The ports are often expected to drive regional economic development and participate in community planning beyond the port itself, yet they have no clear basis for raising revenues to support such objectives. A revenue that is derived from the broader use of the port catchment area would be better aligned with the role ports play, and harbour dues are an example of such a mechanism.

The consultant's understanding is that harbour dues were initially charged by Transport Canada simply for vessel passage through Canadian waters, and remains separate from port facility fees. These were meant to cover a range of services provided by the federal government including: aids to navigation, ice breaking, emergency response, and port development activities. The authority for Transport Canada to charge harbour dues lies in the Canada Marine Act, Canada Shipping Act, and Navigable Water Act. Transport Canada continues to regulate Canadian waters to ensure safe and orderly passage of vessels, and this responsibility is the basis for charging harbour dues.

As Transport Canada has divested ports to local interests, in some cases only the port facilities were transferred, but in others the harbour beds were also transferred. In neither case does this transfer authority or responsibility for the port waters which is the basis to charge harbour dues. Therefore none of the changes associated with the divestiture of ports has allowed local interests to charge harbour dues in place of Transport Canada.

7.2.3 Ports May Charge Distinct Fees

As Transport Canada has gradually withdrawn its role in the operation of many ports, and shifted towards user fees to cover services such as ice breaking, aids to navigation and others, a gap now exists for harbour maintenance and development that must be addressed. Ports that own their harbour bed may charge vessels that anchor (to the harbour bed) even if they do not necessarily use port facilities. Other ports may charge harbour maintenance or development fees, not harbour dues, to vessels passing through even if they do not use port facilities.

Our understanding is that from Transport Canada's perspective, any broader fee mechanism must be distinct (from harbour dues) and transparent (advance notification to users). If the market will bear this as a reasonable cost that is part of port business then there should be no conflict with regulatory and policy requirements set by Transport Canada. Given any objection on the part of vessel operators, there would be no statutory basis (law) to back ports, this would have to be resolved through negotiation between ports and vessel operators.

Over time harbour dues should diminish or disappear as Transport Canada continues to remove itself from the business of independent ports, and it is not unreasonable for vessel operators to expect a similar charge to emerge, considering some of the same functions and services must now be carried on by local port authorities. The nature of the fee in terms of the basis, amounts, billing, and logistics would be the responsibility of each independent port.

7.3 RECOMMENDATIONS

To address the key challenge of raising sufficient revenues, particularly for capital investment, ports must assess the following key options. The best approach must be determined by each port based on their unique circumstances and further investigation of the details associated with each potential option.

- 1) Establishing a "harbour maintenance fee",
- 2) Securing a publicly funded capital assistance program, and
- 3) Extending and reviewing the port divestiture contribution agreements.

7.3.1 Harbour Maintenance Fees

Based on the consultants' understanding of the scope for independent ports to charge fees as described in the previous section, ports should enter into a dialogue with Transport Canada and other pertinent stakeholders. The aim should be to further clarify the regulatory and policy context, then to determine the best means for proceeding. Port fees would be most attractive given the short timeframe within which they could be instituted, the independence that they offer for setting rates, and their flexibility in terms of how the funds could be used for either operations or capital. Once established, they would also provide greater long-term stability for business planning than public funds, which are subject to uncertainty as government programs and agreements fluctuate.

7.3.2 Capital Assistance Program

Although ports have expressed a need for revenue to support business development and marketing, port infrastructure depreciation and capital maintenance remains as the largest cost and most pressing challenge. A publicly funded capital assistance program could be designed to meet these needs. This could follow both the principle and design of the Airport Capital Assistance Program (ACAP) that regional and local (non-National Airport System) airports have accessed for capital projects. Dialogue with Transport Canada would serve as a starting point, however other levels of government could play a role in such a program.

7.3.3 Extending and Reviewing Contribution Agreements

With some ports facing the end of their contribution agreements in the next year or two, while more recently divested ports will be sustained by agreements for another decade or more, extending agreements would alleviate immediate pressures. An additional benefit would be to determine the scope for increased flexibility in the terms of the agreements so that funds can be allocated to the full range of port priorities. This must be resolved with Transport Canada to determine the possibilities for renewal and changing the terms of agreements.

APPENDIX A: ECONOMIC IMPACT METHODOLOGY

A.1 PORT-DEPENDENT BUSINESS PROFILES

Profiling port-dependent businesses is not formally part of the economic impact analysis (below), this provides a picture of the business linkages with ports, and a sense of "what is at stake" if ports are not sufficiently maintained. Through interviews with port users and managers, the relationships between the ports and others are determined and the nature of the dependency is used to depict the role and importance of the ports.

The port-dependent businesses extend beyond the shipping and port businesses to include others that fall within other industry sectors such as mining, energy, forestry, paper products and so on. To a greater or lesser degree these businesses depend on the efficient operation of ports in their communities to bring inputs from abroad for their manufacturing processes, or to ship out finished products. Business information regarding employment, payroll, and annual goods and service expenditures is not available from public sources and is obtained directly from the businesses themselves.

Where port-dependent businesses operate in a highly competitive market, they may for instance seek shipments on larger vessels to gain economies of scale. This in turn may require deeper harbours, larger cranes for loading and unloading cargo, or greater load bearing capacity on wharves. Since there are multiple beneficiaries of such investments, either public investments may be justified to maintain jobs or stimulate economic growth, or ports require a mechanism to raise the required capital funds.

By interviewing those involved with the ports, the views on issues and challenges are also captured. Some are unique to specific ports while others cut across the region. Some issues emerge as the most important to address for continued financial viability of the ports and stability of the industries and communities that depend on them.

A.2 ECONOMIC IMPACT ANALYSIS

A.2.1 System of National Accounts Framework

Measuring the economic impact of the ports follows the approaches set out by Statistics Canada in their system of national accounts. Some indirect methods are required as described below, and therefore results are indicative rather than definitive economic impact estimates. Statistics Canada provides the basis for defining the industry sectors, determining what is included or excluded, the nature of the activities, available data, and basis for economic impact calculations. The measure of economic activity related to ports involves four industry sectors defined here according to the 2002 National Industry Classification System (NAICS)⁵:

⁵ Source: North American Industry Classification System (2002), (online: www.census.gov/cgi-bin/sssd/naics/).

- 1) **Water transportation** (NAICS 483): "Industries in the Water Transportation subsector provide water transportation of passengers and cargo using water craft, such as ships, barges, and boats." Water transportation includes cruise line vessels, however the onshore activities and spending of crew and passengers are handled separately below (cruise industry activity).
- 2) **Scenic and sightseeing transportation** (NAICS 487): "Industries in the Scenic and Sightseeing Transportation subsector utilize transportation equipment to provide recreation and entertainment. The Scenic and Sightseeing Transportation subsector is separated into three industries based on the mode: land, water, and other. Activities that are recreational in nature and involve participation by the customer, such as white-water rafting, are generally excluded from this subsector, unless they impose an impact on part of the transportation system. Charter boat fishing, for example, is included in the Scenic and Sightseeing Transportation, Water industry."
- 3) **Support services for water transportation** (NAICS 4883): Industries in this subsector include: port and harbour operations (NAICS 48831), marine cargo handling (NAICS 48832), navigational services to shipping (NAICS 48833), and other support activities to water transportation (NAICS 48839).
- 4) **Cruise industry activity** (NAICS various): There is no NAICS category specifically for cruise industry activity. The expenditures by cruise lines and vessel operators is captured in Water Transport (NAICS 483) as mentioned, but the onshore expenditures by visiting passengers and crew are separate and these affect a wide range of industries in different sectors. These expenditures are for food and beverage, retail, recreation and entertainment, ground transportation and other tourism-related activities.

Economic impact analysis begins with estimates of output (Table 1.3.2.1) by subsector. For some subsectors (e.g., water transport) output values are available from Statistics Canada, but in others (e.g., support services for water transportation) these must be estimated. The methodology for estimates shown in the table is described below, as well as the means for dividing output values across ports in each province.

Table A.1: Economic output (expenditures) by subsector, by Atlantic Canada province ('03 – '07)

(current \$millions)	2003	2004	2005	2006	2007
Nova Scotia					
^{1.} Water transportation	\$200	\$197	\$229	\$230	\$222
^{2.} Scenic & sightseeing water transportation	\$8	\$8	\$9	\$9	\$10
^{3.} Support activities for water transportation	\$300	\$296	\$344	\$345	\$332
^{4.} Cruise (passenger and crew onshore only)	\$24	\$28	\$24	\$19	\$17
Total	\$531	\$528	\$605	\$603	\$581
Newfoundland and Labrador					
^{1.} Water transportation	\$194	\$190	\$210	\$168	\$205
^{2.} Scenic & sightseeing water transportation	\$3	\$3	\$3	\$3	\$3
^{3.} Support activities for water transportation	\$291	\$285	\$315	\$252	\$308
^{4.} Cruise (passenger and crew onshore only)	\$2	\$3	\$3	\$3	\$2
Total	\$490	\$480	\$531	\$426	\$519
Prince Edward island					
^{1.} Water transportation	\$18	\$18	\$20	\$17	\$22
^{2.} Scenic & sightseeing water transportation	\$6	\$6	\$7	\$8	\$8
^{3.} Support activities for water transportation	\$27	\$27	\$30	\$26	\$33
^{4.} Cruise (passenger and crew onshore only)	\$1	\$2	\$2	\$2	\$1
Total	\$53	\$53	\$59	\$53	\$63
New Brunswick					
^{1.} Water transportation	\$62	\$65	\$68	\$60	\$64
^{2.} Scenic & sightseeing water transportation	\$1	\$1	\$1	\$1	\$1
^{3.} Support activities for water transportation	\$93	\$98	\$102	\$89	\$96
^{4.} Cruise (passenger and crew onshore only)	\$8	\$12	\$7	\$6	\$9
Total	\$164	\$176	\$179	\$157	\$171
Grand total	\$1,238	\$1,238	\$1,374	\$1,239	\$1,335

Sources: 1. & 2. Statistics Canada, note: cruise line spending is included in water transportation; 3. Gardner Pinfold see methodology below; 4. Crew and passenger onshore spending obtained from Business Research & Economic Advisors 2003 and 2007 Cruise Industry reports.

A.2.2 Water Transportation (NAICS 483)

Water transportation output is available by province from Statistics Canada but is comprised of both cargo and passenger transport.

The first step is to estimate the output from ferry transportation operations and cruise line spending so this can be separated by port. The information for cruise line spending is available from the Business Research and Economic Advisors (BREA) 2003 and 2007 reports, and detail is available for the main cruise line ports of call in the Atlantic region. The information for large ferry operations is available from company annual reports that are publicly available, previous studies, or direct contact with company representatives.

The second step is to allocate the cargo transport output by port and this must be accomplished by indirect methods. We have used vessel movements handled by ports as a basis for dividing the related economic output across ports. For example, if the Sydney port complex represents 5% of the province's total vessel movements, then 5% of the estimated output is assigned to Sydney. Sydney would also be assigned its share of Marine Atlantic's passenger ferry output to complete the marine shipping total.

A.2.3 Scenic and Sightseeing Transport (NAICS 487)

The economic output for scenic and sightseeing transport is available at the provincial level however this includes air, ground, and water transport.

First, the Industry Canada SME Benchmarking Tool⁶ provided a basis for determining what portion of total output may be considered water transport. The reported Industry Canada scenic and sightseeing water transport revenues as a percentage of the total scenic and sightseeing transport revenues (with air and ground), were very close to 90% across the provinces and this portion of the output was then assigned to scenic and sightseeing water transport. To obtain a breakdown by port, portions were only assigned to those ports with known scenic and sightseeing water transport operators, using a percentage basis according to estimates of their revenue relative to the rest of the province.

A.2.4 Support Activities for Water (NAICS 4883)

Statistics Canada does not report economic indicators separately for any of the activities supporting water transportation. Without such separate reporting, if a distinct picture of the support activities for water transportation sector is to be developed, it is necessary to use indirect methods. Fortunately historical data (1997-2000) from Statistics Canada distinguished marine shipping (NAICS 483) and support services for water transport (NAICS 4883) and allowed the relative contribution to GDP of the industries to be determined (the ratio of 4883/48311 is 1.5:1.0). Working backwards from this ratio, it is possible to derive the output value for NAICS 4883. The GDP ratio is confirmed by current U.S. data for these industries (the U.S. Bureau of Census reports GDP for NAICS 4883 and support activities for other transportation modes). Applying this ratio to NAICS 483 allows the derivation of NAICS 4883, providing a basis for estimating overall industry impacts by province.

The share of provincial output for support services to water transport was divided by port in the same way marine shipping output was divided for each province. The marine passenger ferry, cruise line, and cargo handling output for each port was combined and its percentage share of provincial marine shipping output was calculated. This percentage was used to assign a proportional share of support services output to the port, considering support services activities would be tied to the amount of marine shipping in each port.

⁶ Source: Industry Canada, 2010. SME Benchmarking Tool (online: <http://www.ic.gc.ca/eic/site/pp-pp.nsf/eng/home>).

A.2.5 Cruise Passenger and Crew Onshore Spending (NAICS – Various)

Detailed estimates of cruise passenger and crew expenditures onshore are reported by BREA (2003 and 2007) for key ports of call in the Atlantic region. Estimates were required for the years between the 2003 and 2007 reports so weighted spending averages were calculated based on passenger data that is available for every year. The trend in per passenger (crew and passenger) spending was applied to the passenger counts to produce spending totals. It is important to recognize that although passenger and vessel visits have generally increased since the first study in 2003, the per-passenger spending has declined along with less favourable U.S.-Canada currency exchange rates. The overall effect has been to produce stable or slight declines in economic impacts from crew and passenger onshore spending.

A.2.6 Economic Input-Output Analysis

The Statistics Canada 2005 input-output model is the basis for all economic impact calculations. Economic impacts within each province are produced from the Statistics Canada model. The breakdown of outputs for each of the sectors (marine shipping, scenic and sightseeing transport etc) serves as the starting point for the analysis. The output estimates are flowed through the appropriate industries, and in the case of cruise passenger and crew spending for which there is no specific industry, the outputs are flowed through a collection of industries according to the description of expenditures found in the BREA 2007 study.

Impacts are quantified using conventional economic indicators consistent with the national income accounting framework. Economic impact is measured with three key indicators:

- **GDP:** an industry's contribution to Gross Domestic Product represents its broadest measure of economic impact. The domestic product of an industry captures the value it adds to purchased inputs through the application of labour and capital. GDP represents the sum of the value added by each industry. Value added should not be confused with sales value, since the latter would include the value of purchased inputs.
- **Employment:** industry employment is important politically because of the significance generally attached to jobs, but from an economic impact perspective, the significance lies in the economic impact generated through the spending of employment income. The greater the employment and higher the average income, the more significant the industry in terms of economic impact.
- **Income:** this captures the payments to households in the form of wages and salaries earned in the marine industries. Returns to labour in the form of wages and salaries form a key component of GDP. Industries paying relatively high average wages and salaries generate a correspondingly higher economic impact than industries paying lower average incomes.

Economic impacts are generated through direct, indirect and induced demand in the economy expressed in terms of industry and consumer purchases of goods and services. The sum of indirect and induced impacts is often referred to as the “spin-off” impact.

- **Direct impact:** refers to impact arising from the expenditures made by firms in the subject industries on the goods and services needed to produce industry outputs. For example, the fishing industry buys nets and traps from manufacturers; water transportation buys fuel from refineries; the oil & gas industry buys food services from local catering companies.
- **Spin-off impact:** the sum of indirect and induced impacts. Indirect impact refers to the impacts generated as direct demand triggers a range of inter-industry purchases. For example, net makers buy monofilament line from manufacturers; refineries buy services from maintenance contractors; catering companies buy basic food products. These industries in turn buy more basic goods and services, and so on. Induced impact refers to the demand created in the broader economy through consumer spending of incomes earned by those employed in direct and indirect activities. It may take a year or more for these rounds of consumer spending to work their way through an economy. Spin-off impacts are less likely to occur in the local community of the port, especially if this is not a regional business centre such as a provincial capital.

The sum of impacts flowing from each level of demand gives the overall economic impact. Generally, the greater the domestic supply capability for each industry, the greater will be the economic impact. Conversely, the higher the import content, the weaker the domestic industry (lower multipliers) and the lower the impact.

APPENDIX B: PORT AUTHORITIES AND PORT USERS

PORT	COMPANY
New Brunswick	
Port of Bayside	Bayside Potatoport (McCain's) Champlain Stevedoring Cooke's Acquaculture Fundy Stevedoring Jamer Materials Skretting Transportation Logistics Consultants Woodstock Cold Storage
Port of Dalhousie Inc.	CN Rail Fundy Shipping Goodfellow Shipping
Newfoundland	
Argentia Port Corporation	A. Harvey & Co. Ltd Argentia Freezers & Terminals Ltd. Argental Metalworks Atlantic North Development Corp Campbell Ship Supplies Canadian Coast Guard Canadian Maritime Agencies Ltd. Canship Uglan Capital Crane Ltd. Capital Ready Mix Clearwater Fleet Operations DFO, CCGS Vessels Eimskip Canada Inc. Holcim (cement) Imperial Oil Ltd. Integrated Logistics Irving Oil Ltd. Kent Homes M & M Engineering Limited Marine Atlantic Metal World NLL Recycling Ltd North Atlantic Petroleum Ocean Steel & Strescon Ltd. Petroleum Bulk Storage Facilities Provincial Energy Ventures Quinsea/Dorset Fisheries Reinforced Plastics Sydney Ports Corporation Inc. Transport Desgagnes Inc. Ultramar Canada Vulcan Minerals Vytrell Engineering Ltd.

PORT	COMPANY
Corner Brook Port Corporation	Barry Seafoods Inc. Corner Brook Port Corporation Corner Brook Pulp & Paper Imperial Oil Oceanex Ultramar
Port Harmon Authority Ltd.	A. Harvey and Company Ltd. Barry Seafoods Inc. Beothuck Fisheries, Breakwater Fisheries Furlong Bros K & J Metals Marine Institute, Memorial University Montship Newfoundland and Labrador Asphalt Quinsea/Dorset Fisheries Shur-Gain Feeds N Needs Tetra Technologies Vulcan Minerals
Nova Scotia	
Digby Harbour Port Association, NS	D. B. Kenney Fisheries Ltd Hazelton Fisheries Ltd. Kelly Cove Salmon Co. Ltd. Larche Industrial Marine Little LaHave Trawlers Ltd. Mosher Fisheries Ltd O'Neil Fisheries Ltd. Scotia Seas Fisheries Ltd Tidal Boatworks
Strait of Canso Superport Corporation Ltd.	Georgia-Pacific Canada Inc. Martin Marietta Materials Canada Ltd. NewPage Port Hawkesbury Ltd. NSPI NuStar Energy Superport Marine Services
Sydney Ports Corporation Inc.	Harbourside Commercial Park International Coal Pier (Logistics Stevedoring) Laurentian Energy Corporation/ New Dawn Enterprise Logistec Stevedoring (Atlantic) Marine Atlantic Inc. MV Osprey Nova Scotia Power Inc. NuStar Energy - Canso Port Provincial Energy Ventures/Tamarack Resources Inc. Superport Marine Services-Canso Port Sydney Marine Terminal Sydney Marine, Group/Laurentian Energy Corporation Sydport Industrial Park/Laurentian Energy

PORT	COMPANY
Prince Edward Island	
Charlottetown Harbour Authority Inc.	Cavendish Agri Services Chapman Bros. Construction CRM Ready Mix Ltd. Irving Oil Ltd. Island Coastal Services Ltd. Island Construction Company Ltd. & Mariner Towing Schurman's Concrete
Souris Harbour Authority Inc.	A & L Seafood's Agra West Foods BA Richard Ltd. Chapman Brothers Construction Ltd. Island Coastal Services Island Construction Mariner Seafoods Ocean Choice PEI Inc. Ocean Pride Ltd. Transport Canada - Traversier Ltee
Summerside Port Steering Committee	Cavendish Agri Services Cavendish Agri Services Coastal Stevedoring Ltd CRM Ready Mix CRM Ready Mix Curran and Briggs Ltd Island Coastal Services Mariner Towing Ltd. McCain Produce McCains Fertilizer Ltd Mid Isle Stevedoring (1998) Ltd. PEI Agromart Port Authority, Summerside Port Steering Committee Red Isle Produce Schurman's Concrete Ltd. Transera International Logistics Ltd Visser Potato Ltd