

Estimating the Value of the Marine, Coastal and Ocean Resources-Regional Breakout for the Placentia Bay Area



*Estimating the Value of the Marine, Coastal and Ocean Resources of Newfoundland and Labrador
- Regional Breakout for the Placentia Bay Area*



Estimating the Value of the Marine, Coastal and Ocean Resources of Newfoundland and Labrador - Regional Breakout for the Placentia Bay Area was prepared by the Economics and Statistics Branch, Department of Finance for Fisheries and Oceans Canada - Oceans and Habitat Management Branch (www.nfl.dfo-mpo.gc.ca). All data is current as of September 10, 2005. The Economics and Statistics Branch can be reached as follows:

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TABLE OF CONTENTS

1.0 Introduction.....	1
1.1 Background.....	1
1.2 Defining the Oceans Sector	2
1.3 Methodology	5
2.0 Economic Impact of the Oceans Sector	9
2.1 GDP Impact	9
2.2 Labour Income Impact	10
2.3 Employment Impact	10
2.4 Comparison to Provincial Estimates.....	11
3.0 Conclusions.....	13
Appendix 1 - Economic Impacts	15
Appendix 2 - Data Sources.....	19
Appendix 3 - Glossary of Terms.....	23



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- Regional Breakout for the Placentia Bay Area*



1.0 INTRODUCTION

1.1 Background

In 2001, the provincial Department of Fisheries and Aquaculture and Fisheries and Oceans Canada contracted the Economic Research and Analysis Division, Department of Finance to estimate the economic value of oceans, marine and coastal activity (i.e., the oceans sector) in Newfoundland and Labrador. The study covered the period 1997 to 1999 and was released in March 2002. In 2005, Fisheries and Oceans Canada sought to update the earlier study. In this regard, the Economic Research and Analysis Division was contracted to update the data for the 2001-2004 period using the same methodology as the previous study. In addition to updating the data for the province, Fisheries and Oceans Canada sought to determine the value of oceans resources for the Placentia Bay area and contracted the Economic Research and Analysis Division to generate similar estimates for the Placentia Bay area as well.

The Placentia Bay area encompasses the area from Point Lance at the bottom of the Avalon Peninsula to Point Crewe on the tip of the Burin Peninsula. The area has about 60 communities and a population of approximately 25,060 (2001).

Because of its proximity to the ocean, much of the industry in the area is tied to the Atlantic Ocean. Major industries in Placentia Bay include an oil refinery at Come By Chance, a shipyard at Marystown, an offshore oil transshipment facility at Whiffen Head, a Marine Atlantic ferry terminal in Argentia, and various fish plants throughout the region. As well, many self-employed fishermen fish out of communities in the Placentia Bay area.

Economic value can be derived from ocean resources and from the use of the ocean as a means of movement, operation, business activity, and innovation. Estimating this value is important for several reasons:

- Fisheries and Oceans Canada can incorporate the analysis and results into policies and management decisions as part of its oceans mandate;
- It can assist the Atlantic Canada Opportunities Agency in facilitating economic development and building on identified oceans-related opportunities in Newfoundland and Labrador, specifically the Placentia Bay region;
- The Government of Newfoundland and Labrador can utilize the results to further its transportation, economic development and information technology agendas as well as assist in the development of integrated coastal zone management plans;
- Both orders of government will better understand the role and importance of industries and other stakeholders vis-à-vis their economic contributions to the oceans sector in Newfoundland and Labrador, specifically the Placentia Bay region;
- The study will provide baseline and benchmark data from which future trends and growth can be measured, and from which statistics and other information to develop policy can be derived; and
- It will allow for inter-regional analysis with other regions within Newfoundland and Labrador which may undertake similar research.



This study generates estimates of oceans related activity in both private sector industries (i.e., oil, fishery, aquaculture, shipbuilding, boatbuilding, marine tourism, marine transportation, and oceans technologies) and federal and provincial public sector oceans-related departments and agencies.

The economic impacts of an activity or project are measured using the following indicators: Gross Domestic Product (GDP) in current dollars, labour income (wages and salaries plus supplementary labour income such as employers' portion of mandatory employment programs and pension contributions) and employment. To calculate economic impacts due to spinoff activity, the Department of Finance used the Newfoundland and Labrador Econometric Model and multipliers from the provincial Input-Output Model.

1.2 Defining the Oceans Sector

For the purposes of this study, the area under consideration includes the coastline, inshore and nearshore waters, as well as activity in offshore areas to the edge of the continental shelf.

Marine resources in these areas can be classified as economic or ecological. This study focuses on the oceans sector as an economic resource and includes two broadly based industrial groupings in both the private and public sectors:

- Industries that use/extract ocean resources, including offshore oil activity, the fishery, and (to some degree) tourism.
- Industries that use the ocean as a medium of movement, operation or innovation. This would include marine system design and construction, marine operations and shipping, and marine-related equipment and service industries.

Private sector industries considered in the study include:

- oil production and support services
- oil development
- fishery
- aquaculture
- shipbuilding and ship repair
- marine tourism and recreation
- marine transportation and infrastructure (including ports and harbours)
- oceans technologies (marine IT, communications, environmental, biotechnology).

Public sector departments, institutions and agencies include:

Federal¹

- Atlantic Canada Opportunities Agency
- Canadian Food Inspection Agency
- Canadian Transportation Agency
- Department of National Defence
- Environment Canada
- Fisheries and Oceans Canada
- Human Resources and Skills Development Canada
- Institute for Ocean Technology
- Marine Atlantic
- Natural Resources Canada
- Parks Canada
- Royal Canadian Mounted Police
- Transport Canada

Provincial

- Department of Environment and Conservation²
- Department of Fisheries and Aquaculture
- Department of Human Resources, Labour, and Employment³
- Department of Innovation, Trade and Rural Development⁴
- Department of Natural Resources⁵
- Department of Tourism, Culture and Recreation
- Department of Transportation and Works⁶
- Department of Education
- Marine Institute

¹ Other federal departments and agencies have oceans related responsibilities but have no direct operational or labour expenditures in Newfoundland and Labrador and are, therefore, not included in this study.

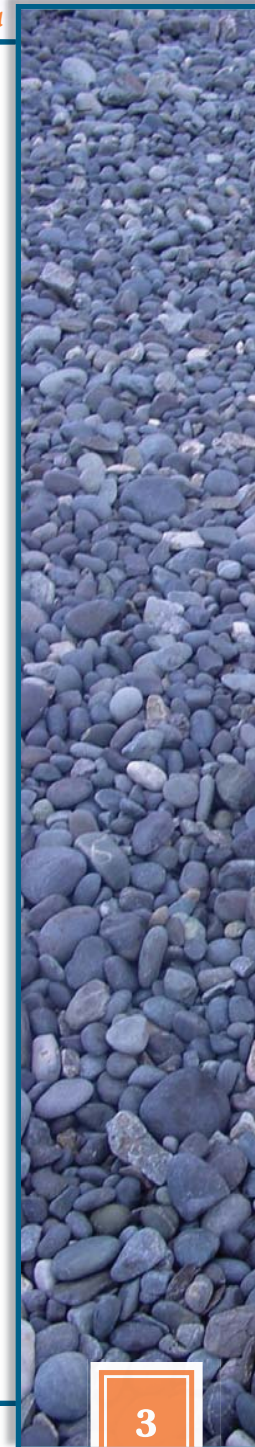
² Includes activities of the former Department of Environment.

³ Includes activities of the former Department of Human Resources and Employment.

⁴ Includes activities of the former Department of Industry, Trade and Rural Development.

⁵ Includes activities of the former Department of Mines and Energy.

⁶ Includes activities of the former Department of Works, Services and Transportation.



Federal-Provincial Partnerships

Canada-Newfoundland and Labrador Offshore Petroleum Board

Research and Development institutes⁷

- Aquanet
- Canadian Centre For Fisheries Innovation
- Canadian Centre For Marine Communications
- C-CORE
- Centre for Aquaculture and Seafood Development
- Centre for Earth Resources Research
- Centre for Sustainable Aquatic Resources
- GENESIS Group
- Ocean Engineering Research Centre
- Oceans Sciences Centre.

⁷ Each of these institutes is affiliated with Memorial University.

1.3 Methodology

The analytical phase of the study encompassed two key blocks: data collection and economic impact analysis. Industry specific Gross Domestic Product, employment and labour income data for the Placentia Bay region were derived from the corresponding provincial data. Regional industry shares were developed using a number of data sources, including 2001 census employment, fish landings, and detailed employment data related to oil development activity. When estimating the oceans related portion of the Placentia Bay economy, every effort was made to include significant and quantifiable data from both the private and public sectors. A list of industries/entities included was outlined in Section 1.2 - Defining the Oceans Sector.

The reference period for the study was 2001 to 2004. The data for the four years were adjusted to remove double counting, and was averaged to help minimize the problems of annual fluctuations in oceans-related activity over the period. This data came from various sources outlined in Appendix 2. Public sector data for labour income and employment (in full-year equivalents) was collected from relevant departments.

Fisheries and Oceans Canada led the collection of federal departmental and agency data. Twenty-eight federal departments and agencies which could potentially have oceans-related activities in Newfoundland and Labrador were contacted via letter and asked to contribute to the project. These departments/agencies were also asked to identify oceans related expenditures and employment in the Placentia Bay area. Fourteen of these responded with information pertaining to total departmental/agency expenditures, income expenditures and number of full time equivalent positions pertaining to fiscal years 2000/2001 to 2003/04. Only five of these indicated they had activities in the Placentia Bay area. The remaining departments/agencies indicated that they had no direct expenditures related to ocean activity in Newfoundland and Labrador or that the expenditures were minimal.

The Department of Finance coordinated and managed the collection of data from nine provincial departments and agencies. One department/agency provided expenditure and employment information for the Placentia Bay area.

The study also included cost-shared economic development agreements whose program delivery often includes several federal (e.g., DFO, ACOA) and provincial departments (e.g., Innovation, Trade and Rural Development; Fisheries and Aquaculture; Tourism, Culture and Recreation). For simplicity, federal expenditures made under these agreements are, unless otherwise indicated, included with those of the ACOA and provincial expenditures are included with those of the Department of Innovation, Trade and Rural Development.

The provincial Department of Finance also managed the collection of private sector data. A number of sources were used to find, and in some cases, derive the data. A list of sources for private sector data is contained in Appendix 2. Although the goal of the study was to be as comprehensive as possible, not all the activities of government departments, industries or sub-industries are included due to lack of data. As such, the study's results should be considered conservative.



Estimating the Value of the Marine, Coastal and Ocean Resources of Newfoundland and Labrador - Regional Breakout for the Placentia Bay Area

While recognizing that oceans technologies, research and development (R&D) institutes, and industry associations (e.g., Newfoundland Ocean Industries Association, Newfoundland Association of Technical Industries) are a component of the oceans sector, for the purposes of this study these entities were not included as a direct data source as these activities are, in most cases, captured in the indirect impacts.

The economic impacts of the public and private entities identified in this study are separated into three categories:

- Direct impacts are labour income and business profits earned by workers and business owners working directly on a given activity or project;
- Indirect impacts are generated when other firms supply goods and services to the direct activity or project; and
- Induced impacts are generated when direct and indirect employees and business owners spend their incomes in other areas of the economy which leads to increased retail sales, housing starts and so on.

The primary data formed the direct economic impact of the oceans sector. Two economic analysis tools, the Newfoundland and Labrador Econometric and Input-Output Models, were then used to determine the indirect and induced impacts of the oceans sector.

The Newfoundland and Labrador Econometric Model (NALEM), is a detailed model of the relationships between key economic variables in the provincial economy and is used by government for economic forecasting as well as to assess the macroeconomic impacts created by major development projects and government policy changes. NALEM contains over 370 mathematical equations and 600 data series which are designed to represent key aspects of the provincial economy, and to capture the relationship between certain socioeconomic variables or indicators. For example, changes in consumer spending can affect government revenues, employment levels, investment spending, and so on; NALEM tries to capture these relationships. The model is designed to capture the major economic relationships in the provincial economy, but not the minute details of every aspect of economic activity. It provides a representation of the current structure (i.e., basic economic relationships) of the provincial economy. As this structure changes (e.g., EI program changes, tax harmonization, collapse of the groundfishery, development of the oil and gas industry, etc.), the model is modified to capture the new or changed economic relationships. NALEM is organized into 10 different sectors. Consumer spending, residential construction, business investment, government spending, exports, and imports comprise the six expenditure sectors essential to the determination of GDP and other key economic indicators. The remaining four sectors cover income and output, demographic and labour market activity, prices and wages, and government revenue. The government revenue sector deals with the revenues of all levels of government. Forecasts can be produced for all main indicators of provincial economic activity including GDP, personal income, labour force, employment, and Consumer Price Index (CPI). Forecasts for detailed components and determinants of the main economic indicators are also available. Forecasts of economic indicators which are largely determined by factors outside of the provincial economy (e.g., interest rates, exchange rates, certain commodity prices, etc.) are generally obtained from external sources such as national forecasting agencies. NALEM has been in use since 1990.

The Newfoundland and Labrador Input-Output Model (NALIOM), simulates the relationships between commodity outputs and commodity inputs at an industry level under the assumption of linearity (that is, that inputs used by an industry in the past to produce a commodity will be used in the same proportions in future for producing any incremental output). NALIOM can provide estimates of GDP and employment impacts of over 600 types of commodity purchases on over 200 industries (i.e., the direct impact). It can also provide the impacts of purchases locally sourced to specific industries (i.e., the indirect impact). The model's strength lies in its ability to capture backward linkages that arise from the production of one industry's inputs by other industries, and, in turn, the production of inputs for those industries by their suppliers.

Note on Individual Industry Impacts

In some cases direct oceans related industries are also indirect (e.g., transportation services used by the oil and gas industry). To avoid double counting, the indirect multipliers have been adjusted to remove any direct impacts quantified elsewhere. As such, readers are cautioned that individual industry impacts in this report are lower in some cases than if an impact was conducted for an industry on a stand alone basis.

Multipliers from NALIOM were used in the provincial study to obtain the indirect industry impacts. Due to the fact that the Placentia Bay Area has a less developed service sector than the province as a whole and relies to a large extent on goods and services from outside the area, indirect industry multipliers for the Placentia Bay Area were assumed to be half the comparable provincial level multipliers. NALEM was used to capture the induced impacts on the economy in the provincial study. The "induced multipliers" for the Placentia Bay Area were also assumed to be half the provincial level.



*Estimating the Value of the Marine, Coastal and Ocean Resources of Newfoundland and Labrador
- Regional Breakout for the Placentia Bay Area*



2.0 ECONOMIC IMPACT OF THE OCEANS SECTOR

The primary data collected for the oceans-related sectors formed the direct economic impacts of the oceans sector. To calculate indirect and induced economic impacts (specifically nominal GDP, labour income and employment impacts), the Department of Finance used multipliers from both the Newfoundland and Labrador Econometric and Input-Output Models.

The industries used in the analysis are identified in Section 1.2. In reporting the findings of the analysis, the following industry groupings were used:

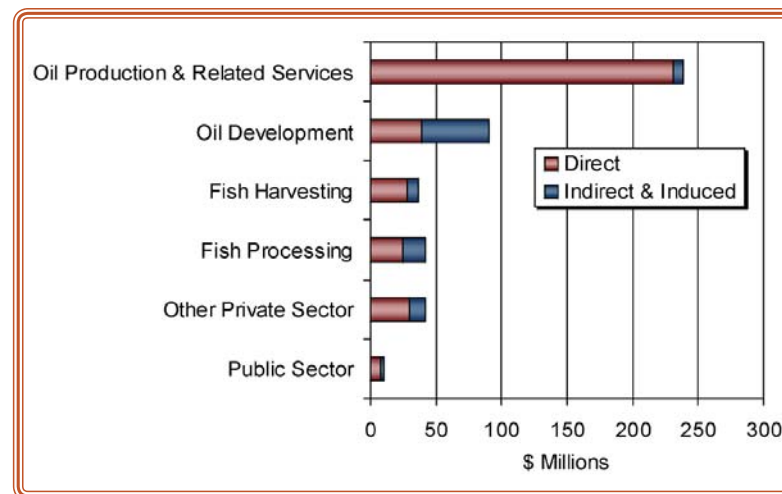
- oil production & related services
- oil development
- fish processing
- fish harvesting
- other private sector (i.e., aquaculture, shipbuilding and ship repair, tourism, and marine transportation and related services)
- federal government
- provincial government

2.1 GDP Impact

The direct GDP impact of oceans-related activity in the Placentia Bay region averaged about \$358 million annually from 2001 to 2004, representing 50.3 percent of the region's total GDP. Including direct, indirect and induced effects, oceans-related GDP in the Placentia Bay region averaged about \$454 million over this period, representing 63.9 percent of the region's total economic activity. This compares to the provincial analysis which estimated that total oceans related activity accounted for 41.3 percent of provincial GDP.

The most significant private sector industries in the Placentia Bay region, in terms of total GDP impact, were offshore oil (production and development) at 46.3 percent of total GDP and the fishery (harvesting and processing) at 11.0 percent.

GDP Impacts



Total public sector oceans-related activity contributed 0.7 percent of Placentia Bay's GDP. Fisheries and Oceans Canada accounted for the largest portion of the public sector contribution.

2.2 Labour Income Impact

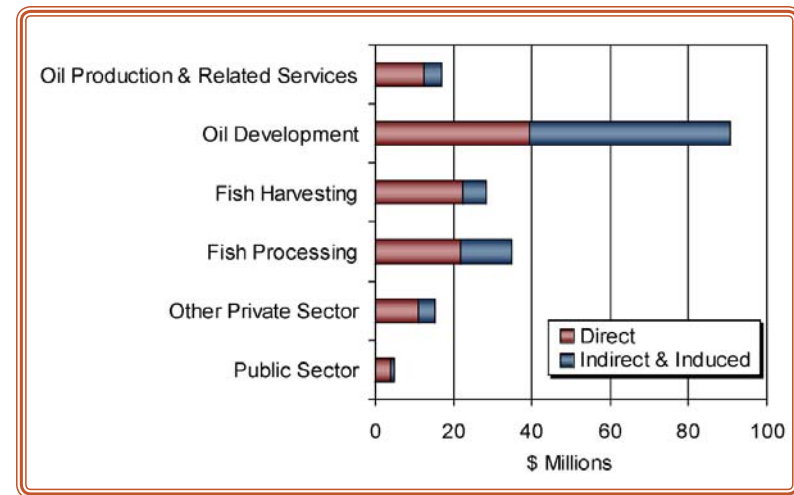
The direct labour income impact of oceans-related activity in the Placentia Bay region averaged about \$111 million annually from 2001 to 2004 representing 31.4 percent of the region's total labour income. Including direct, indirect and induced effects, oceans-related labour income in the Placentia Bay region averaged about \$191 million over this period, representing 53.8 percent of total labour income in the region. The comparable total oceans related labour income share for the entire province is 27.2 percent.

The most significant private sector industries, in terms of total labour income impact, were offshore oil (production and development) at 30.4 percent and the fishery (harvesting and processing) at 17.8 percent. Due to its capital intensive nature the oil and gas industry accounts for a lower percentage of the Placentia Bay region's total labour income (30.4%) than its does of total GDP (46.3%). This difference can also be seen in its employment impacts. Public sector oceans-related activity contributed 1.4 percent of labour income.

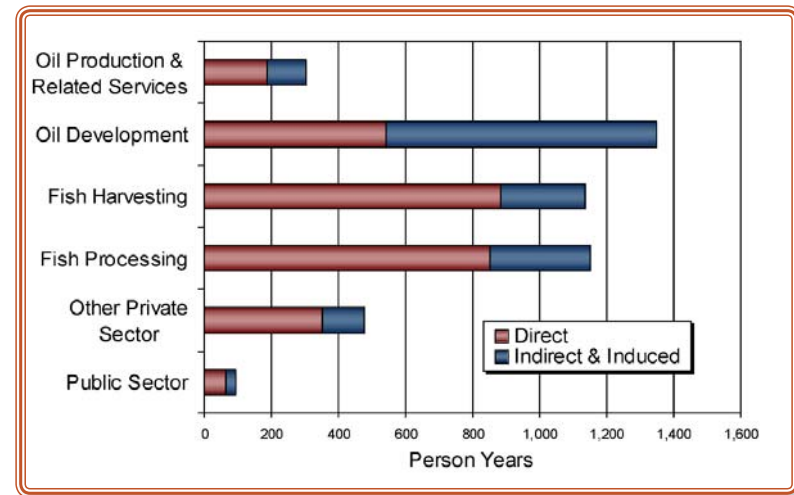
2.3 Employment Impact

The direct employment (as measured in person years) impact of oceans-related activity in the Placentia Bay region averaged about 2,900 from 2001 to 2004 or 29.1 percent of total employment in the region. Including direct, indirect and induced effects, oceans-related employment in the Placentia Bay region averaged about 4,500 over this

Labour Income Impacts



Employment Impacts



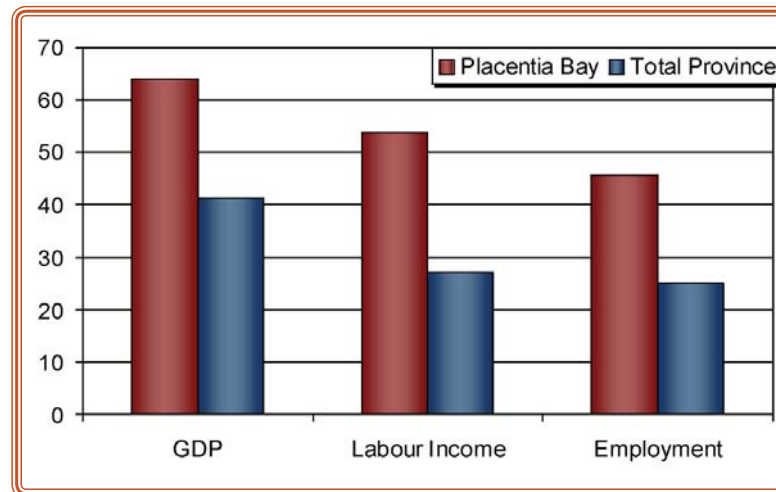
period, or 45.6 percent of total employment in the region. The comparable total oceans related employment share for the entire province was 25.0 percent.

The most significant private sector industries included in this study, in terms of total employment impact, were the fishery (harvesting and processing) at 23.1 percent and offshore oil activity (production and development) at 16.7 percent. The employment contribution from the fishery (23.1 percent) was greater than its GDP contributions (11.0 percent). This reflects, in part, the labour intensive nature of this industry. Public sector oceans-related activity contributed 0.9 percent of employment in the Placentia Bay region. Once again, Fisheries and Oceans Canada accounted for the largest portion of the public sector contribution.

2.4 Comparison to Provincial Estimates

The Placentia Bay area has a larger portion of its economy linked to oceans related activity compared to the province as a whole, as illustrated in the accompanying chart. The region's share of oceans related GDP, labour income and employment is significantly higher than the province as a whole. Oceans related activity comprises 63.9 percent of the Placentia Bay area's GDP compared to 41.3 percent for the province as a whole. Similarly, oceans related activity accounts for 53.8 percent of labour income and 45.6 percent of employment in the Placentia Bay area compared to 27.2 percent and 25.0 percent respectively for all of Newfoundland and Labrador. The heavier reliance on oceans related activity in the Placentia Bay area is due to the fact that these communities are directly adjacent to the ocean and as such, their economies naturally developed a higher dependence on oceans related industries. In addition, during the 2002 to 2004 period a large portion of provincial activity associated with the White Rose oil project was concentrated in the Placentia Bay area.

**Contribution of Oceans Sector to
Placentia Bay and Provincial Economies**





3.0 CONCLUSIONS

The economy, environment and social fabric of the Placentia Bay area are intrinsically linked to the Atlantic Ocean and its resources. During the 2001-04 period, ocean related activities in the region contributed, on average, \$454 million or 63.9 percent to the area's GDP. In addition, 53.8 percent of the area's labour income and 45.6 percent of its employment were linked to ocean-related activities.

Like the province as a whole, two industries, oil and the fishery, dominated the Placentia Bay area's oceans sector over the four year reference period. Combined, these two industries accounted for, on average, 57.3 percent of GDP (including indirect and spin-off impacts), 48.2 percent of labour income, and 39.8 percent of employment.

The contribution of oceans-related activity from other private sector industries, such as tourism, transportation, and ship building, were also important, contributing, on average, about 5.8 percent of GDP, 4.3 percent of labour income and 4.8 percent of employment.

With the continued development of the offshore oil and gas industry and further growth in other industries like tourism, the economic value of the oceans sector should continue to grow in both Newfoundland and Labrador as a whole and within the Placentia Bay area.



*Estimating the Value of the Marine, Coastal and Ocean Resources of Newfoundland and Labrador
- Regional Breakout for the Placentia Bay Area*



Appendix 1 - Economic Impacts

Table A2.1
The Oceans Sector in Placentia Bay Area
Direct Economic Impacts, Average of 2001-2004

	GDP		Employment		Labour Income	
	\$M	Percent of Total GDP	PYs	Percent of Total Employment	\$M	Percent of Total Labour Income
Private Sector						
Oil Production & Support Services	\$231.0	32.5%	186	1.9%	\$12.6	3.6%
Oil Development	\$39.4	5.5%	542	5.5%	\$39.4	11.1%
Fish Harvesting	\$28.2	4.0%	884	8.9%	\$22.3	6.3%
Fish Processing	\$24.8	3.5%	853	8.6%	\$21.9	6.2%
Other Private Sector	\$30.2	4.2%	351	3.6%	\$11.0	3.1%
Federal Public Sector						
Fisheries and Oceans Canada	\$3.4	0.5%	56	0.6%	\$3.4	1.0%
Other Federal Government	\$0.4	0.1%	6	0.1%	\$0.4	0.1%
Total Federal Government	\$3.8	0.6%	62	0.6%	\$3.8	1.1%
Provincial Public Sector						
Fisheries and Aquaculture	\$0.2	<0.1%	3	<0.1%	\$0.2	<0.1%
Other Departments	\$0.0	0.0%	0	0.0%	\$0.0	0.0%
Marine Institute/MUN	\$0.0	0.0%	0	0.0%	\$0.0	0.0%
Total Provincial Government	\$0.2	<0.1%	3	<0.1%	\$0.2	<0.1%
Total Oceans Sector	\$358	50.3%	2,882	29.1%	\$111	31.4%
Total Economy (Placentia Bay)	\$711	100.0%	9,887	100.0%	\$354	100.0%

Table A2.2
The Oceans Sector in Placentia Bay Area
Total Economic Impacts, Average of 2001-2004⁸

	GDP		Employment		Labour Income	
	\$M	Percent of Total GDP	PYs	Percent of Total Employment	\$M	Percent of Total Labour Income
Private Sector						
Oil Production & Support Services	\$238.8	33.6%	304	3.1%	\$17.0	4.8%
Oil Development	\$90.6	12.7%	1,347	13.6%	\$90.6	25.6%
Fish Harvesting	\$36.9	5.2%	1,137	11.5%	\$28.3	8.0%
Fish Processing	\$41.4	5.8%	1,151	11.6%	\$34.8	9.8%
Other Private Sector	\$41.4	5.8%	478	4.8%	\$15.3	4.3%
Federal Public Sector						
Fisheries and Oceans Canada	\$4.2	0.6%	80	0.8%	\$4.2	1.2%
Other Federal Government	\$0.5	0.1%	8	0.1%	\$0.5	0.1%
Total Federal Government	\$4.7	0.7%	88	0.9%	\$4.7	1.3%
Provincial Public Sector						
Fisheries and Aquaculture	\$0.3	<0.1%	5	0.1%	\$0.2	0.1%
Other Departments	\$0.0	0.0%	0	0.0%	\$0.0	0.0%
Marine Institute/MUN	\$0.0	0.0%	0	0.0%	\$0.0	0.0%
Total Provincial Government	\$0.3	<0.1%	5	0.1%	\$0.2	0.1%
Total Oceans Sector	\$454	63.9%	4,510	45.6%	\$191	53.8%
Total Economy (Placentia Bay)	\$711	100.0%	9,887	100.0%	\$354	100.0%

⁸ Total includes direct, indirect and induced economic impacts.

*Estimating the Value of the Marine, Coastal and Ocean Resources of Newfoundland and Labrador
- Regional Breakout for the Placentia Bay Area*



Appendix 2 - Data Sources

*Estimating the Value of the Marine, Coastal and Ocean Resources of Newfoundland and Labrador
- Regional Breakout for the Placentia Bay Area*



A list of the industries included and the sources of provincial level data follows.

Oil Production and Related Services: Provincial level GDP data for 2001 comes from Statistics Canada. GDP data for remaining years estimated based on value of oil production. Employment data for production was provided by the CNLOPB and related services data comes from Statistics Canada's Labour Force Survey.

Oil Development: GDP data for 2001 to 2004 was developed using expenditures from CNLOPB. Employment data was provided by the CNLOPB. Labour income was estimated by the Department of Finance using employment data and an estimate of average annual earnings.

Primary Fishing: GDP data for 2001 was taken from Statistics Canada for the industry "Fishing and Trapping Industries". (Trapping constitutes only a very small portion of GDP in this industry in Newfoundland and Labrador.) The 2002 to 2004 data was developed using the value of fish landings. Employment data comes from Statistics Canada's Labour Force Survey. Labour income was estimated using the value of fish landings and data from the Labour Income division of Statistics Canada.

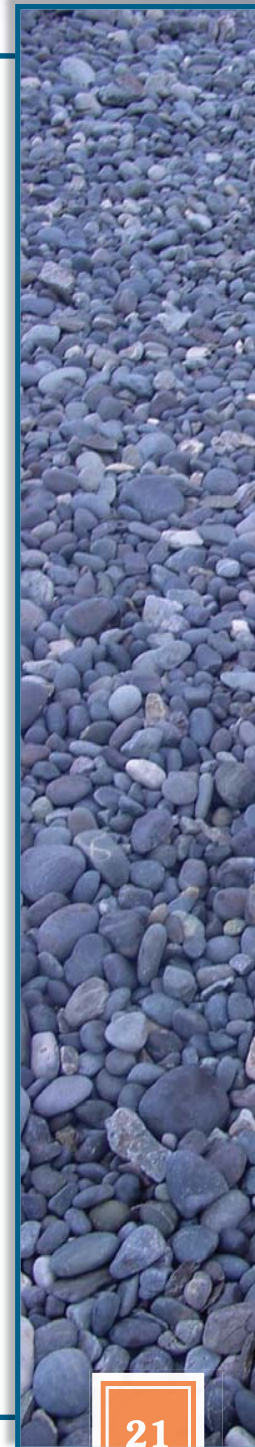
Fish Processing: GDP data for 2001 was taken from Statistics Canada for the "Fish Products Industry". The 2002 to 2004 data was developed using the production value of fish products, as supplied by the Department of Fisheries and Aquaculture. Employment data comes from Statistics Canada's Labour Force Survey. Labour Income was estimated using data from the Labour Income division of Statistics Canada and data from Statistics Canada's Survey of Employment Payrolls and Hours.

Aquaculture: 2001 to 2003 GDP, employment and labour income was obtained from Statistics Canada's Canadian Aquaculture Industry Survey. 2004 data estimated based on value of aquaculture production.

Ship and Boat Building: 2001 GDP estimates are Statistics Canada estimates for the "Ship and Boatbuilding" industry. All other years were estimated by the Department of Finance. Employment is Survey of Employment Payrolls and Hours data and labour income was estimated with employment and average weekly wage data.

Public Sector: All data collected directly from departments and agencies or from expenditure information available in the public accounts.

Water Transportation: Estimates of GDP were calculated in-house by the Department of Finance. Employment data comes from Statistics Canada's Labour Force Survey. Labour income was calculated based on the GDP estimates.



Tourism: Estimates of GDP, employment and labour income were estimated in-house by the Department of Finance using annual estimates of resident and non-resident tourism spending and information from the Department of Tourism, Culture and Recreation's 1997 air and auto exit surveys for non-resident activity and the Canadian Travel Survey (Statistics Canada) for resident activity.⁹

Regional industry shares used to estimate industry level data for the Placentia Bay area were developed using:

- Detailed employment by industry data from the 2001 Census
- Fish landings by species and region from the provincial Department of Fisheries and Aquaculture
- Detailed regional employment data for oil development activity from the Department of Natural Resources and the Canada-Newfoundland and Labrador Offshore Petroleum Board.

⁹ The exit surveys include four activities which were identified as being oceans related: boat touring, whale watching, iceberg viewing and sea kayaking. Estimates indicate that about 47 percent of non-resident auto visitors and 36 percent of non-residents air visitors engage in oceans related activity.

Appendix 3 - Glossary of Terms



GLOSSARY OF TERMS

Econometrics. An area of economics that combines economic theory and statistical principles/methods in order to develop mathematical estimates of key economic relationships (e.g., an estimate of the relationship between consumer spending and income).

Goods Sector. Is a classification term for those industries that produce goods for local consumers or for export. It includes agriculture; logging and forestry; fishing and trapping; mining; crude petroleum; utilities (electric power, gas and water); construction; and manufacturing. These industries are often collectively referred to as the Good Producing Industries.

Gross Domestic Product (GDP). A measure of the value of all goods and services produced within the province in a given period. GDP measures the size of the economy and whether it is growing. Statistics Canada estimates GDP in two ways. First, GDP at market prices which values GDP by totalling the expenditures required to purchase the goods and services produced. This method is often referred to as GDP from the expenditure side. Second, GDP at factor cost which values GDP by summing the payments made to the owners of the factors used in production (i.e., land, labour and machinery/buildings) inclusive of profit, which is the factor payment to entrepreneurs. This method is sometimes referred to as GDP from the income side. GDP at factor cost equals GDP at market prices less indirect taxes and subsidies.

Multiplier. A number used to determine the impact of an event/project/industry on the economy. The ratio of total change in output or employment to the initial change (or direct change). For example, if an industry were to create 100 new jobs, it would require materials and services from its supplying industries. If this increase in demand created 30 new jobs in the supplying industries, the employment multiplier would be 1.3 [i.e., 100 (direct) + 30 (spinoff)].

Services Sector. Is a classification term for those industries that produce services for local consumers or for export. It includes transportation and storage; communication; wholesale/retail trade; finance, insurance, and real estate; community, business and personal services; and public administration. These industries are often collectively referred to as the Service Producing Industries.

