



ECOSYSTEM/SOCIOECONOMIC OVERVIEW REPORT

Oceans, Habitat and Species at Risk Publication Series, Newfoundland and Labrador Region


Social, Economic and Cultural Overview of the Gulf Region



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Social, Economic, and Cultural Overview
of the Gulf Region


Prepared by

Gaudet, T. and S. Leger¹
Fisheries and Oceans Canada
Gulf Region

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Fisheries and Oceans Canada
Newfoundland and Labrador Region
P.O. Box 5667
St. John's, NL A1C 5X1

¹ 343 University Avenue P.O. Box 5030, Moncton, New Brunswick, E1C 9B6



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Preface

This publication is part of a multi-volume assessment of the social, economic and cultural features of the Gulf of St. Lawrence Large Ocean Management Area. Responsibility for oceans management in this area is shared among three DFO administrative regions (Quebec, Gulf, and Newfoundland and Labrador). Each of these regions prepared their own social, economic and cultural assessment, while a synopsis of all three assessments was also completed. The three assessments and the synopsis comprise the four volumes in this series. These publications were published in both English and French.



1.0 Introduction

1.1 Mandate

Canada's *Oceans Act* provides a framework for current and future coastal and ocean management initiatives using the approach of Integrated Management (*Oceans Act 1996*). Integrated management is an ecosystem-based approach to coastal and ocean management that brings together environmental, social, economic, and cultural considerations (DFO 2002). The Oceans Action Plan (DFO 2005a) defines Integrated Management as a comprehensive way of planning and managing human activities such as they do not conflict with one another and that all factors are considered for the conservation and sustainable use of marine resources and shared use of oceans spaces while continuing to respect existing regulatory and decision making authorities and processes.

With the announcement of the Oceans Action Plan in May 2005, the Government of Canada identified five priority Large Ocean Management Areas (LOMAs) as the primary focus for the initial efforts for the development and implementation of Integrated Management plans. The Gulf of St. Lawrence was identified as one of the priority LOMAs. The LOMA encompasses the entire Gulf of St. Lawrence and its estuary, including five provinces and multiple First Nations groups. The southern portion of the LOMA aligns closely with the Gulf Region of Fisheries and Oceans Canada.

To implement integrated management effectively, the Gulf of St. Lawrence Integrated Management (GOSLIM) initiative will require baseline information on a wide range of social, economic, and cultural features as well as human activities. This information will be combined with existing ecological data in order to form a comprehensive picture of the Gulf of St. Lawrence LOMA.

The purpose of this report is to present pertinent existing information about the major social, economic, and cultural features of the Gulf Region portion of the LOMA, as well as, the significant human activities that occur there. The report does not include an assessment of impacts associated with those activities.

Social, economic, and cultural data as well as descriptions of human activities are presented based on available information from government publications and unpublished data updates, scientific literature, technical reports, planning documents, and the world-wide-web.

The information contained in this report is intended for use by Fisheries and Oceans Canada (DFO) as lead agency in the GOSLIM initiative and collaborating agencies. Working in collaboration with other government agencies, industry, and stakeholder groups, DFO will use these data for determining appropriate indicators, setting operational objectives, and planning action strategies.

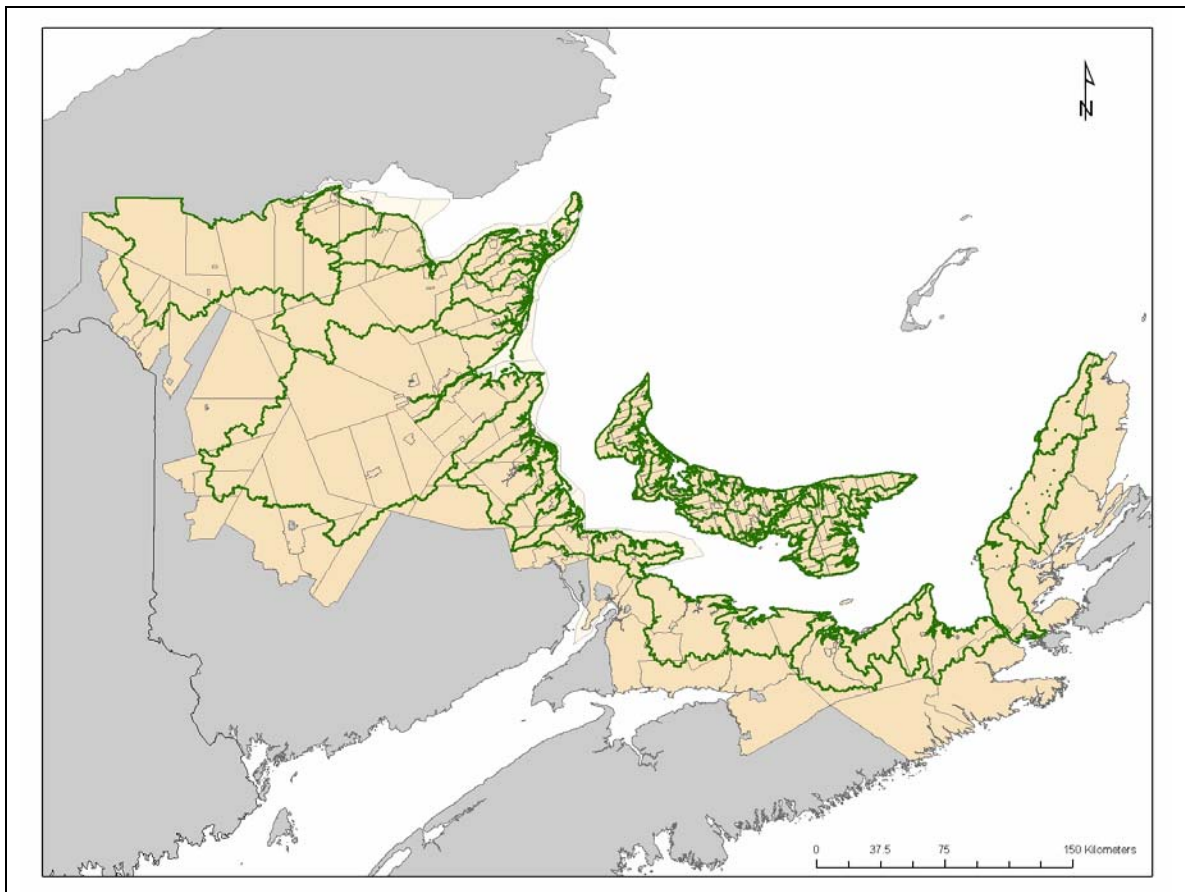
Information from this document and others will be combined to produce an overview and planning document suitable for use by stakeholders engaged in planning and informed decision-making about integrated coastal zone and ocean management.

1.2 Study Area Defined


The Gulf of St. Lawrence's watershed from the provinces of New Brunswick, Nova Scotia and Prince Edward Island is the study area for this report. The use of the term Gulf Region in this report refers to the watershed area and not of DFO's description of the Gulf Region administrative region. The Gulf Region portion of the GOSLIM LOMA is an area of 72,851 square kilometres offering a variety of coastal ecosystems that range from rocky shores, extensive mudflats, sandy and cobblestone beaches to coastal bogs, barrier beaches and vast salt marshes. The interior or forested areas are part of the Acadian forest ecoregion.

It was deemed preferable to define the study area based on a watershed basis given that any activities undertaken within this area could ultimately affect the GOSLIM LOMA ecosystem.

Figure 1: Gulf Region Portion – Gulf of St. Lawrence Watershed.



Source: DFO, Oceans Division, 2009.



The study area as seen in Figure 1 is limited by the Gulf of St. Lawrence watershed line depicted in green. However, much of the socio-economic data is based on Statistics Canada's definition of sub-division as used in the 2006 Census, shown in pale yellow. Therefore any sub-divisions for which any part crosses the Gulf of St. Lawrence's watershed line were included in the calculations for data originating from Statistics Canada. An effort is made to align as closely as possible Statcan data and the study area, but for the purposes of this report, exact reporting on the study area is not possible with the noted constraints.

1.3 Methodology


This document provides a broad-based overview of existing information pertaining to social, economic, and cultural features and human activities of the Gulf region relevant to the GOSLIM. The report organizes topical information according to the three general themes: social, economic, and cultural. Section 1 on social building blocks includes population dynamics and structure. Section 2 on economic components, features information on the opportunities available in the study area and the resulting benefits from their exploitation. Section 3 on cultural features includes information on protected and historically significant areas. Also included in Section 3 are Aboriginal communities and peoples.

Governance content was excluded from the Regional text for inclusion in the section common to the GOSLIM LOMA in order to mitigate repetition. Only when deemed critical within individual elements of the report were discussions of governance included.

Wherever possible, data was organized in 5 geographic areas that represented geographical, political, and social differences that become self-evident throughout the report. These 5 geographic areas are; New Brunswick North, New Brunswick South, Prince Edward Island, Nova Scotia North Shore, and Nova Scotia Cape Breton as defined in Section 1.1.1.

When using Statcan Census data multi-year comparisons were tabulated where possible. However, three items affecting trend analysis should be noted.

- In many cases Census data was not compiled in the same groupings from year to year and therefore straight comparison would not have been representative and were thus omitted. (Example, Table 13)
- Some of the data acquired from Statcan in support of this report was not consistent year to year. For example, Total Income distributions (see Table 12) were included in the available 2006 Census data but not in the 2001 Census data.
- 1991 and 1996 Census Subdivisions are not consistent with 2001 and 2006 Census Subdivisions and so establishing equivalent regions for comparison between these proved impossible.



Only, when necessary, was data presented according to other geographical categories such as, Health Regions and Zones, and Counties with Gulf of St. Lawrence waterfront. Whole provincial data was used in the report when a more representative scale was unavailable.

Fisheries landings and values data were identified by principal species, while data for the seal hunt are presented separately.

1.4 Sources

Many sources of information were used to create this report. Internet available data was the primary tool used in the compilation of data. Applicable websites sourced included; Statistics Canada, Fisheries and Oceans Canada, the Atlantic Canada Opportunities Agency, among others.

Additionally, information was drawn from governmental reports, annual reports by industry, strategic plans, government surveys, and statistical databases. Most of the information contained in the report originated from sources of this nature. Direct communication with experts by telephone, e-mail, or in person contributed to the completeness of the report.

The authors of the report make no claim of having exhausted every possible source of information in any part of the report. Omissions of data are noted where appropriate. Appendix 21 provides a list of elements of significance, worthy of inclusion but not presented in this report. A justification for exclusion is provided in Appendix 21.

2.0 Social

The social elements in this report serve to identify the state of the current population and its circumstances. Demographic elements including, population size, density, gender, age structure, immigration and ethnicity will develop a representation of the type of community experience offered in the Gulf Region. Educational and health indicators help in identifying the opportunities or challenges faced by the population when seeking to contribute to the livelihood of their families and communities.

2.1 Demographic

Data for the following demographic elements originate from the 2006 and 2001 censuses. The goal is to present the current state of affairs and short term trends where appropriate.

2.1.1 Demographic Overview

Gulf Region defined.


Obtained Census data for this report are at the subdivision level as defined by Statistics Canada. The area of inquiry is comprised of census subdivisions in the provinces of New Brunswick, Nova Scotia, and Prince Edward Island who touch on the Gulf of St. Lawrence watershed.

The total population for the study area, as defined above, was 628,024 in 2006. This represents 35.3% of the total population of the Maritime Provinces. This 35.3% of the population occupies 54.1% of the Maritimes' land mass, this fact takes into account that 3 major urban centres, namely Halifax, Saint John, and Fredericton, lie outside our area of interest. Population totals for the study area have remained static, in contrast, Canada as a whole experienced 9.6% population growth over the same period.

Table 1: Demographic Overview

Geographic Area	Land Area (km ²)	Population Density 2006 (per km ²)	Total Population		Percentage Change 2001-2006
			2001	2006	
NB Gulf Watershed	44,972	7.4	334,256	334,003	-0.1%
% of NB	63.0%		45.8%	45.8%	-0.0%
NS Gulf Watershed	22,194	7.1	161075	158170	-1.8%
% of NS	41.9%		18.2%	17.3%	-0.9%
P.E.I.	5,683	23.9	135,294	135,851	+0.4%
Gulf Region	72,851	8.6	630,625	628,024	-0.4%
Canada	9,017,698	3.5	30,007,094	31,612,897	+5.4%

Source: Statcan, Census 2001 & 2006.



The New Brunswick watershed has been divided into North and South for illustrative purposes. North is defined as all subdivisions in the counties of Northumberland, Gloucester, Restigouche, and subdivisions in Madawaska, Victoria, and Carleton Counties located predominantly above 46.5°N latitude with water draining to the Gulf. South is defined as all Kent County subdivisions and subdivisions of Westmorland, Sunbury, York, and Carleton Counties located predominantly below Latitude 46.5°N and with water draining to the Gulf

Nova Scotia is divided between the North Shore and Cape Breton, a natural geographic division is provided by the Canso Strait. The North Shore is comprised of Census subdivisions within the counties of Colchester, Cumberland, Pictou, Antigonish, and Guysborough with watershed that transit to the Gulf of St. Lawrence. The Cape Breton portion of Nova Scotia's Gulf watershed is comprised of Census subdivisions from the counties of Inverness, Victoria, and Richmond.

The data for the province of Prince Edward Island is considered in its' entirety throughout the report.

The population of the study area as a whole remained relatively stable from 2001 to 2006; however, we can see fluctuations when we narrow our focus. Though certainly not accountable for all migration from NB North, Table 2 illustrates a movement of people from the less densely populated North NB region to NB South. This would be similar to a general trend towards urbanization witnessed not only in Canada, but also worldwide.

The Gulf Region portion of Nova Scotia experienced population contraction from 2001 to 2006. Again the out-migration is more pronounced from the lower density area, with Halifax or other Regions of Canada being the migration target. Prince Edward Island and NB South area experienced population growth over the same time period.

Table 2: Regional Demographic and Language Structure.

Variable	NB Gulf Watershed		NS Gulf Watershed		P.E.I.	Gulf Region (Weighted when averages)	Canada
	NB North	NB South	NS North Shore	NS Cape Breton			
Population							
Total Population in 2006	172,754	161,160	128,495	29,675	135,851	628,024	31,612,897
% Variation – 2001-2006	-5.9%	+7.0%	-1.3%	-4.0%	+0.4%	-0.4%	+5.4%
Population Density (per km²)	5.3	12.8	8.3	4.2	23.9	8.6	3.5
Language spoken at home (%)							
English Only	39.6%	56.1%	98.8%	91.2%	97%	76.2%	65.9%
French Only	58.6%	41.6%	0.3%	7.5%	2.0%	22.4%	21.2%
English & French	1.0%	1.0%	0.06%	0.2%	0.1%	0.5%	0.3%
Others (non official language only or with English or French)	0.8%	1.4%	0.9%	1.0%	0.9%	1.0%	12.7%

Source: Statcan, Census 2001 & 2006.

The data for language spoken at home exemplifies why New Brunswick is Canada's only officially bilingual province. In the northern portion of New Brunswick 58.6% of the 172,754 residents speak French at home. In the NB South are 41.6% of 161,160 residents identify as primarily French at home. For

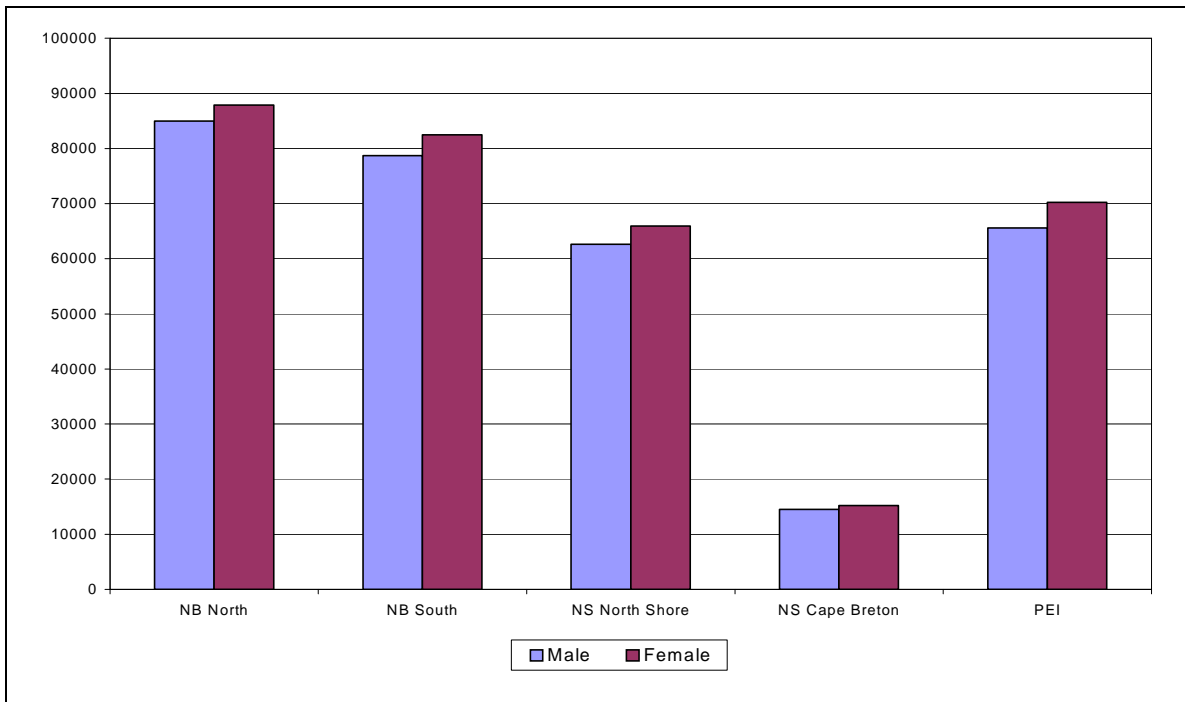
PEI and the Gulf portion of NS (Mainland and Cape Breton) more than 90% of the identify as English speaking at home.

Most strikingly, 12.7% of the Canadian population report primarily speaking languages other than French and English at home. This demographic is clearly not present in the same concentration in the Gulf Region.

2.1.2 Gender Structure

Gender distribution for the Gulf Region mirrors the National average. No discernable trend in gender specific settlement currently exists within the Gulf Region.

Figure 1: Population Gender Structure for the Gulf Region¹



Source: Statcan, Census 2006.

¹ Source: Statcan, Census 2006.

Table 3: Population Gender Structure for the Gulf Region and Canada (2001-2006).

Region	Data	2001	2006
NB North	Male (%)	49.5%	49.2%
	Female (%)	50.5%	50.8%
NB South	Male (%)	48.9%	48.8%
	Female (%)	51.1%	51.2%
NS North Shore	Male (%)	49.0%	48.7%
	Female (%)	51.0%	51.3%
NS Cape Breton	Male (%)	49.1%	48.8%
	Female (%)	50.9%	51.2%
PEI	Male (%)	48.6%	48.3%
	Female (%)	51.4%	51.7%
Gulf Region	Male (%)	48.8%	48.6%
	Female (%)	51.2%	51.4%
Canada	Male (%)	49.0%	49.0%
	Female (%)	51.0%	51.0%

Source: Statcan, Census 2001-2006.

2.1.3 Age Structure

Of the Gulf Region population over the age of 65, the range for all areas is between 14.4% and 18.2%, this differs from the Canadian average of 6% of total population over the age of 65 (Table 4). This impacts indicators related to participation rate (Table 11) and composition of income (Table 13), among others.

Table 4: Age Distribution

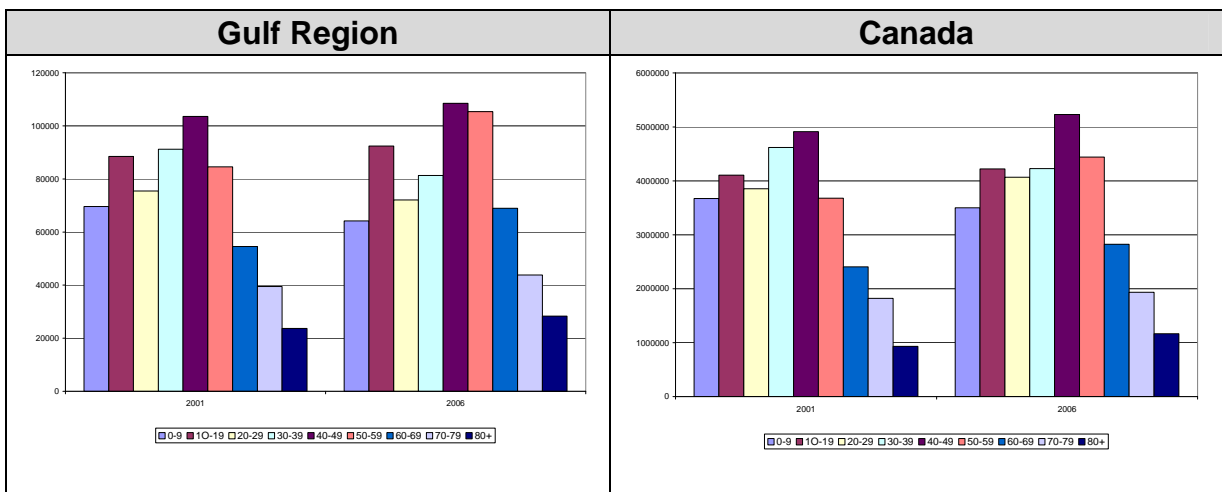
Variable (Age)	NB Gulf Watershed		NS Gulf Watershed		P.E.I.	Gulf Region	Canada
	NB South	NB North	NS North Shore	NS Cape Breton			
% < 15	15.5%	14.9%	16.2%	15.1%	17.7%	15.9%	17.7%
% 15 to 64	70.1%	69.4%	67.4%	66.7%	67.5%	68.6%	76.3%
% > 65	14.4%	15.7%	16.4%	18.2%	14.8%	15.4%	6.0%

Source: Statcan, Census 2006.

Discrepancies in age distribution between the areas within the Gulf Region are slight. NS Cape Breton has the largest proportion of population over the age of 65 at the rate of 18.2%, approximately 3 times the National average. Meanwhile Prince Edward Island has the largest proportion of population below 15 years old which is equal to Canada's rate of 17.7% for this segment of the population.

Comparisons with the Canadian average indicate that the population of the Gulf Region has a substantially lower percentage of people in their working years (15-64), with the proportion of 76.3% versus 68.6%. Certainly this places more economic strain on the 15 to 64 demographic within the Gulf Region than what is commonly found across the country.

Figure 2: Population Histogram.



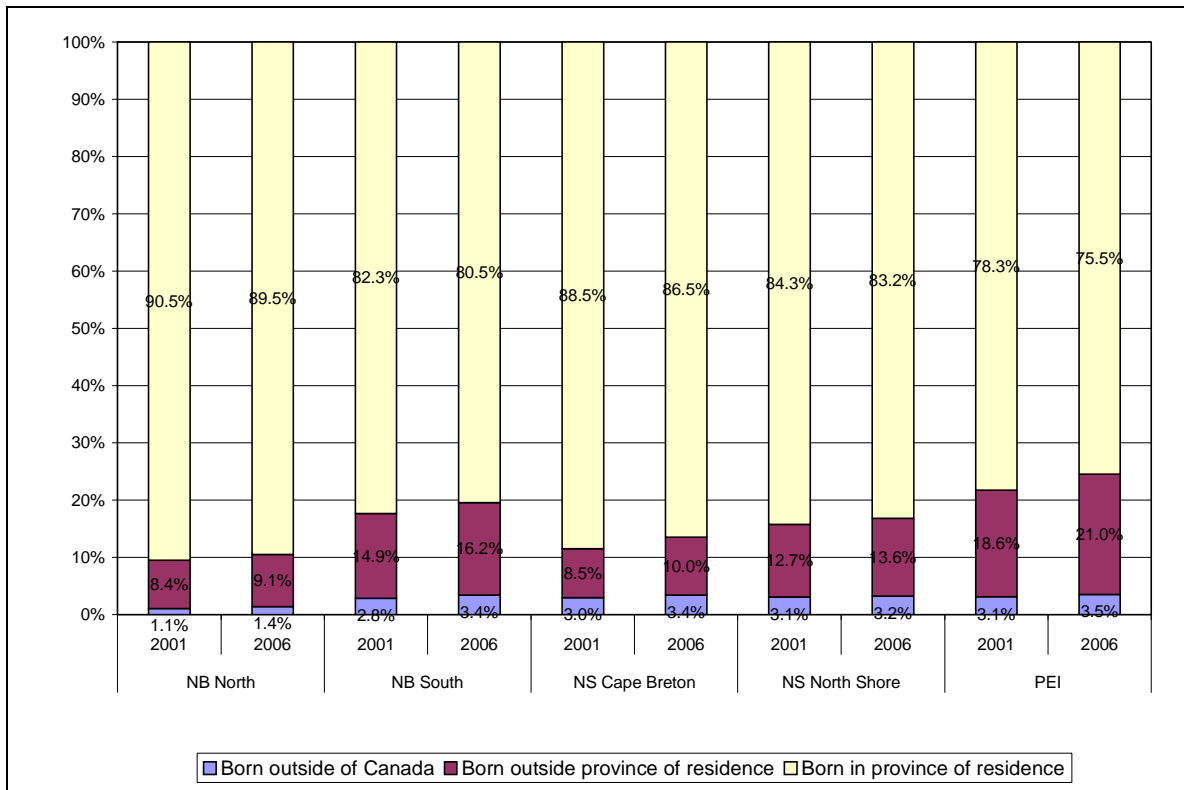
Source: Statcan, Census 2001 & 2006.

2.1.4 Population Origins

The population of the study area is composed predominantly of people who were born within their province of residence. The next most numerous portion of population were born in other Canadian provinces. Only a very small proportion of immigrants born outside of Canada have chosen to settle in the Gulf, as seen in Figure 4.

The study area has experienced a decrease in the proportion of their population born within the province of residence but this change has not been rapid. Essentially, this is to say that the proportion of inhabitants originating from outside their province of current residence is getting relatively larger. Both immigrants from outside the country and those born outside the province in which they now reside have demonstrated growth from 2001 to 2006. NB South is unique amongst the areas as the change in immigrants was 0.1% larger than the change of those born outside the province of residence.

Figure 3: Population Origins by Region.



Source: Statcan, Census 2001 & 2006.

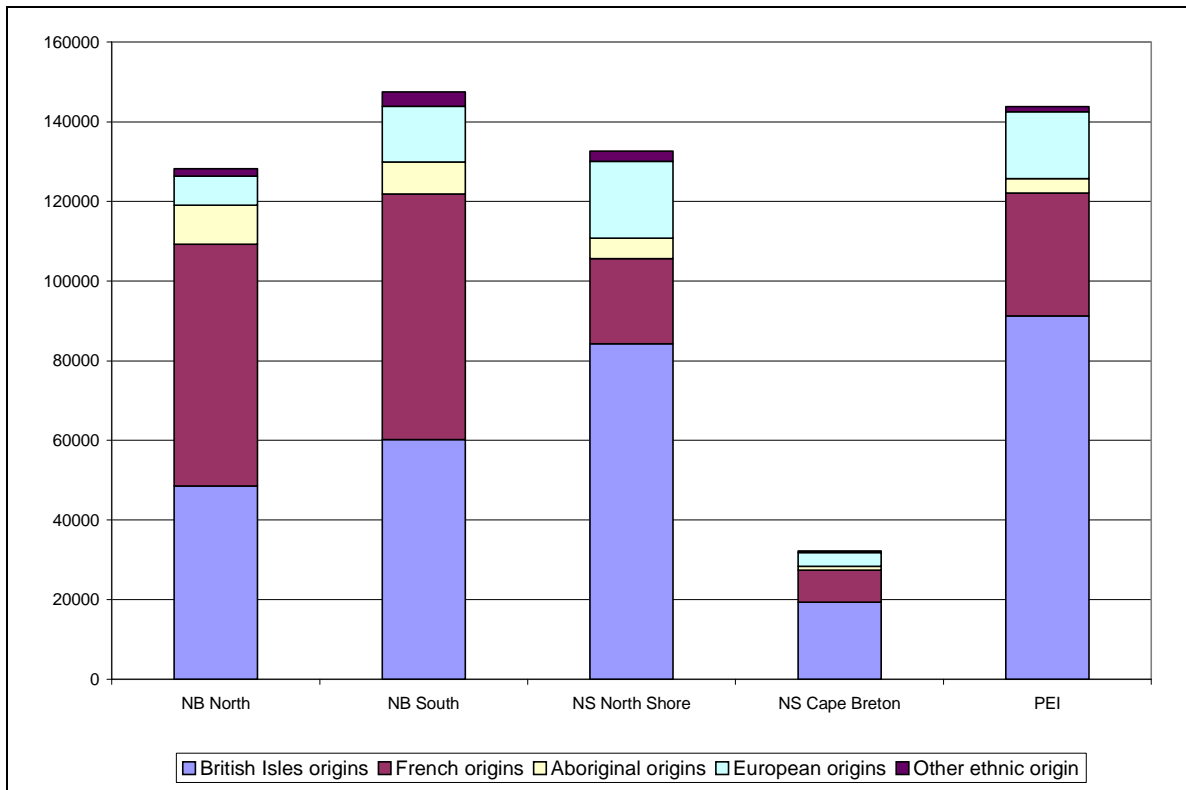
2.1.5 Ethnicity

The ethnic structure of the study area reveals limited ethnic diversity. An inability to attract new immigrants to the Maritime Provinces, for many different reasons, will continue to highlight the challenges faced by a society accentuated by an aging population.

Though not as diverse as the Canadian average the Gulf Region does feature many different ethnic backgrounds. While Figure 4 is adequate for illustrative purposes it should be noted that each of the categories found in the figure is comprised of numerous subgroups.

Though singularly included in the demographic section of this report ethnic origins certainly contribute to the cultural element as well. The heritage and numerous traditions attached to each individual ethnicity as well as the historic interaction between people of different descent contribute to the complexity of the cultural element.

Figure 4: Population Ethnicity*.



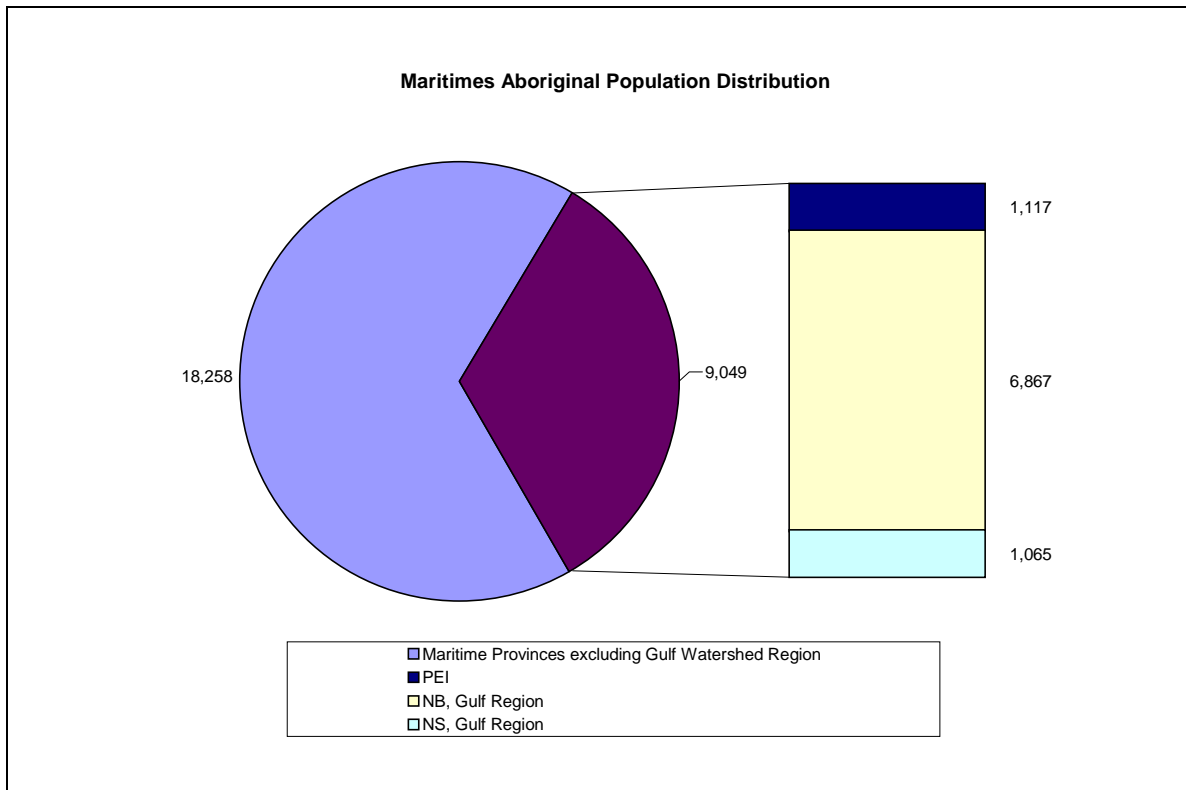
Source: Statcan, Census 2006.

*The sum of declared ethnic origin is greater than total recorded population because a person may report more than one ethnic origin.

2.1.6 Aboriginal Demographic

The Aboriginal population plays a key role in the Gulf Region and it is important to analyze this population’s demographics structure. Figure 5 illustrates the Aboriginal population distribution across the Maritimes Provinces and the Gulf Region. Approximately one third of the Aboriginal population of the Maritimes resides in the Gulf Region and slightly more than three quarters of those reside in the NB portion of the Gulf Region.

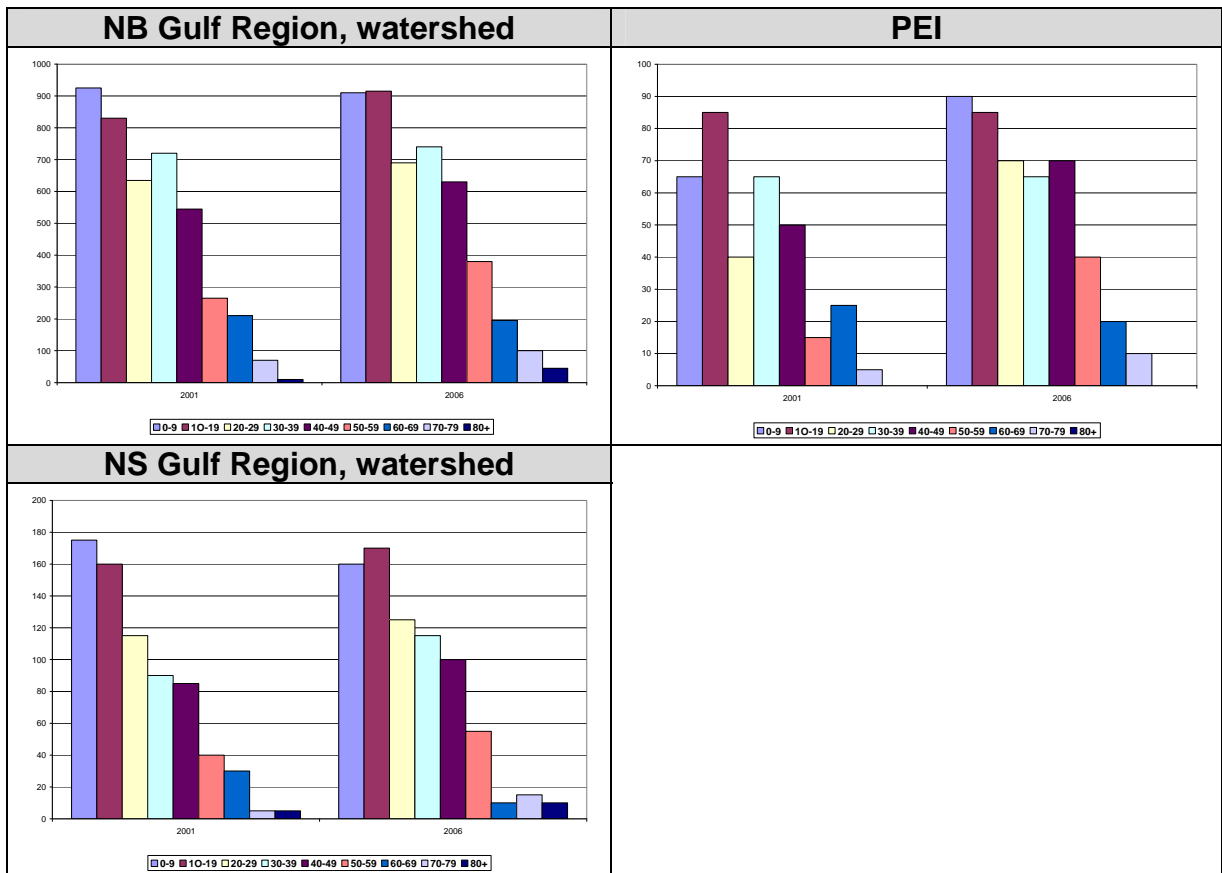
Figure 5: Aboriginal Population Distribution for the Maritime Provinces.



Source: Statcan, Census 2006.

The histograms below are substantially different from those presented earlier for Canada and the Gulf Region totals. Contrary to the latter, the Aboriginal population is getting progressively younger. This points towards an increase in the potential work force in future years. The other striking characteristic to be observed is the dramatic drop in population over the age of 50 and even more so over the age of 70. This trend suggests that life expectancy within the Aboriginal population lags behind other demographic groups within the Gulf Region. Speculation of cause lies beyond the scope of this report.

Figure 6: The Gulf Regions' Aboriginal Population Histogram



Source: Statcan, Census 2001-2006

2.2 Education

The Gulf Region houses or neighbours quality educational facilities many of which who offer marine related content. The rural nature of the study area often requires displacement from some of the more isolated communities to access these facilities and some of the more specific programs on offer. However given the transportation infrastructure and relatively small land mass that comprises the Gulf Region these obstacles should not prove insurmountable.

2.2.1 Educational Attainment by Region

The Gulf Region is below the Canadian average in term of educational attainment as illustrated in Table 5. NB North provides the most substantial gap from our region to the Canadian average. Previously we mentioned the existence of a migration from NB North to NB South. It is supposed that the largely French population from NB North is migrating to NB South were the largest French university east of Quebec resides, namely the Université de Moncton.

Subsequently many of the migrants remain in the urban centre of Moncton and thus the remaining population in NB North have a relatively lower educational attainment.

Table 5: Educational Attainment Overview for the 25-64 Year Old Demographic.

Variable	NB Gulf Watershed		NS Gulf Watershed		P.E.I.	Gulf Region	Canada
	NB North	NB South	NS North Shore	NS Cape Breton			
% Without Certificate, Diploma, or Degree	30.9%	20.7%	21.2%	21.1%	18.7%	25.2%	15.4%
% With Bachelor's Degree or Higher	10.2%	17.2%	14.5%	14.2%	17.5%	12.7%	22.9%

Source: Statcan, Census 2006.

We can observe a general decrease in the percentage of the population between 25 and 64 that lack a degree, certificate, or diploma. This is likely mostly due to the modern educational system in place across the country necessitating children to attend public school. So while most 25 year olds may have attained a certificate, diploma or degree level of education the demographic of 65 years of age or above have not necessarily attained this level of education. This demographic was not subject to the same educational norms that are in place today.

Table 6 indicates that trade or college certificates, etc. remain more prevalent than university level achievement but the latter is growing at a faster rate.

Table 6: Detailed Educational Attainment (25-64 years old) and Percent Change (2001-2006).

Region	Educational Attainment	2001	2006	% change
NB North	No degree, certificate or diploma	41.2%	30.9%	-24.9%
	High school graduation certificate	19.7%	22.8%	15.7%
	Trade or College certificate or diploma and University certificate or diploma below bachelor level	30.0%	35.9%	19.6%
	University with Bachelor's or above	9.2%	10.2%	11.2%
NB South	No degree, certificate or diploma	30.7%	20.7%	-32.6%
	High school graduation certificate	21.5%	24.4%	13.3%
	Trade or College certificate or diploma and University certificate or diploma below bachelor level	33.0%	37.7%	14.2%
	University with Bachelor's or above	14.8%	17.2%	16.2%
NS North Shore	No degree, certificate or diploma	33.3%	21.2%	-36.2%
	High school graduation certificate	16.1%	21.9%	35.9%
	Trade or College certificate or diploma and University certificate or diploma below bachelor level	38.6%	42.3%	9.6%
	University with Bachelor's or above	12.0%	14.5%	21.1%
NS Cape Breton	No degree, certificate or diploma	33.6%	21.1%	-37.3%
	High school graduation certificate	15.5%	20.8%	34.1%
	Trade or College certificate or diploma and University certificate or diploma below bachelor level	40.0%	43.7%	9.4%
	University with Bachelor's or above	10.9%	14.2%	30.4%
PEI	No degree, certificate or diploma	31.2%	18.7%	-40.1%
	High school graduation certificate	18.0%	23.7%	31.1%
	Trade or College certificate or diploma and University certificate or diploma below bachelor level	36.3%	40.2%	10.7%
	University with Bachelor's or above	14.5%	17.5%	20.6%
Canada	No degree, certificate or diploma	24.6%	15.4%	-37.3%
	High school graduation certificate	22.0%	23.9%	8.6%
	Trade or College certificate or diploma and University certificate or diploma below bachelor level	33.7%	37.7%	12.0%
	University with Bachelor's or above	19.7%	22.9%	16.4%

Source: Statcan, Census 2001 & 2006.

2.2.2 Educational Opportunities

Many educational opportunities related to the marine environment are offered in the region. Many of these offer hands on experience with ready access to the coastal and marine environments that are subject to the educational programs. The marine environment presents a wide variety of challenges and opportunities and the educational institutions of the region demonstrate sensitivity to these with the programs they offer.

Table 7: Educational Programs within the Gulf Region Relating to Fisheries and Oceans.

Institution	Location	Program(s)	Course Examples
NBCC (New Brunswick Community College) ²	Acadian Peninsula	Aquaculture Maritime Navigation Fish Farming Shellfish Culture	Aquaculture production principals Chart utilization and Pilotage Study of the reproduction, ranching, cultivation and handling of fish and other aquatic resources. Intervention at sea
Holland College ³	Charlottetown, PEI	Marine Training	Marine Navigation Marine Engineering Bridge Resource Management / Engine Room Resource Management Tug Training
NSCC (Nova Scotia Community College) ⁴	Stellarton, NS	Fishing Master Certification Marine Engineering Certification	Propulsion Plant Simulation General Seamanship Restricted Operator's Certificate - Maritime Commercial
	Port Hawkesbury, NS	Deck Officer Certification Basic Marine Engineer Basic Marine Navigation	Chartwork and Pilotage Level Ship Construction and Stability Navigation Safety
Mount Allison University ⁵	Sackville, NB	B.A. in Geography B.A. in Environmental Studies B. Sc. in Environmental Science	Natural Resources Management Geographic Information Systems (GIS) Natural Resource Economics Canadian Environmental Planning and Management
St. Francis Xavier University ⁶	Antigonish, NS	B.Sc. Environmental Sciences - Climate & Water interdisciplinary program in aquatic resources B. Sc. Earth Sciences	Introduction to Aquatic Resources I: Natural Science Applications Introduction to Aquatic Resources II: Social Science Applications Geographic Information Systems (GIS) Marine Pollution
University of Moncton ⁷	Campus de Moncton	B. Sc. Geography Masters in Environmental Studies Certificate, Tourism Management and Planning	Natural Ecosystems Environmental Law Marine Geography Adventure and Eco-Tourism
	Campus de Shippagan	Bachelor's in Integrated Management of Coastal Zones	Coastal Communities and population Coastal development. Management of Halieutic Resources. Coastal Recreation and Tourism

2 http://www.ccnb.nb.ca/college/campus/peninsule_acadienne/index.aspx, visited 29/01/2009.

3 http://www.hollandc.pe.ca/admissions/full_time_programs/, visited 29/01/2009.

4 <http://www.nsc.ca/marine/main.html>, visited 29/01/2009.

5 <http://www.mta.ca/calendar/index.html>, visited 29/01/2009.

6 http://www.stfx.ca/academic/aquatic_resources/, visited 29/01/2009; <http://envsciences.stfx.ca/>, visited 29/01/2009.

7 <http://www.umoncton.ca/etudiants/programmes>, visited 29/01/2009.

University of Prince Edward Island ⁸⁹	Charlottetown, PEI	B.A. and/or B. Sc. Environmental Studies B. Sc. Biology Canadian Aquaculture Institute	Field Coastal Ecology Mollusc Health and Disease Management Aquaculture and Fish Health Aquaculture Diagnostic Services
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2.3 Health and Security

The following geographic outlines pertain to sections 1.3.1, 1.3.2, and 1.3.3.

New Brunswick* consists of NB Health Regions 1,4,5,6, and 7. Although Health Region 3 is also partially located within the Gulf Watershed we chose not to include it in this discussion due to the relatively small portion of region 3 that falls into our watershed and it is also sparsely populated. To include Region 3 in our discussion would only diminish the accuracy with which the Gulf Region is represented in this context.

Nova Scotia** is comprised of Nova Scotia Health Regions (Zones) as defined by Statistics Canada. Zones located, at least partially in the Gulf Watershed, include Zone 3, 4, and 5. Increased precision in terms of delimitation was not available for this data.

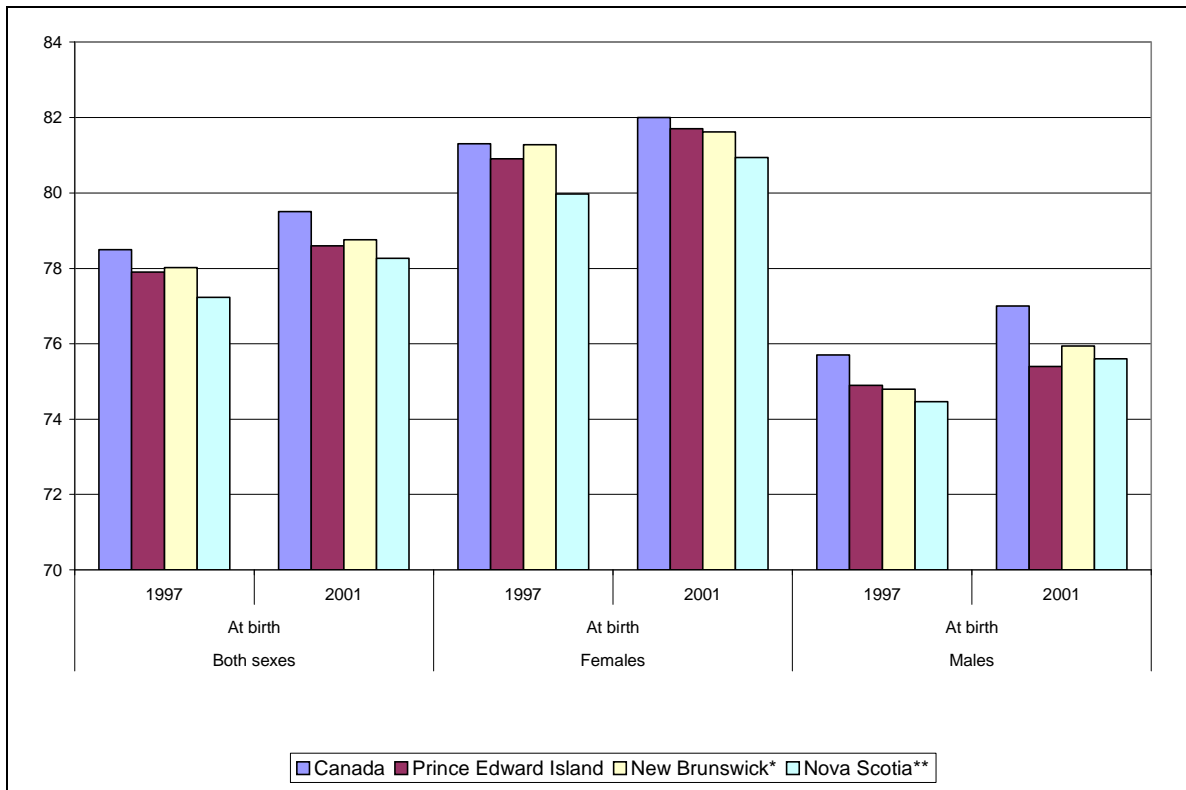
Prince Edward Island here is considered in it's entirety for this section as elsewhere in this report.

2.3.1 Life Expectancy

Generally life expectancy continues to rise for all groupings noted in Figure 7 from 1997 to 2001. Life expectancy for the Gulf Region however remains below the Canadian average.

⁸ <http://upei.ca/lifelonglearning/cai/>, visited 29/01/2009; http://www.upei.ca/registrar/programs_by_faculty, visited 29/01/2009.

Figure 7: Life Expectancy at Birth in Years.

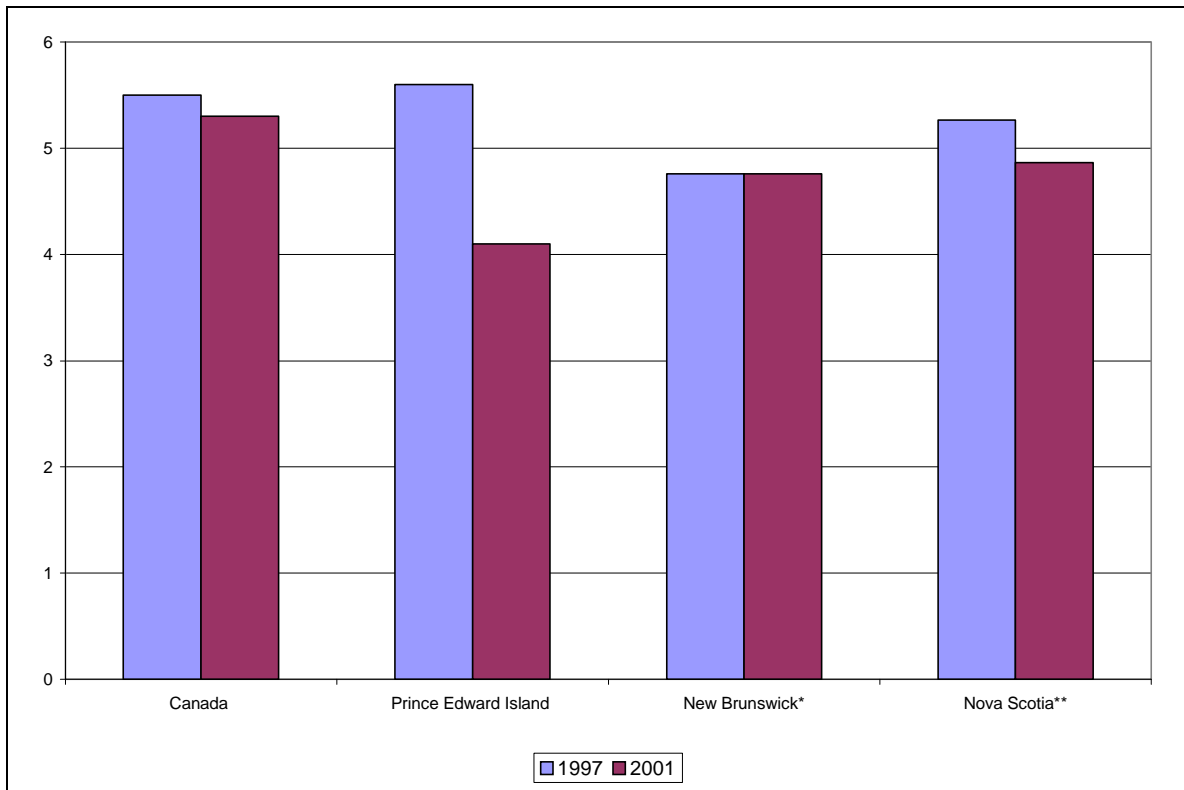


Source: Statcan, Cansim Table 102-0218.

2.3.2 Infant Mortality

Infant mortality rates are below the National average for 2001 in all provinces of the Gulf. Only New Brunswick* recorded no improvement in the rate from 1997 to 2001 remaining stable for the period.

Figure 8: Infant Mortality, Deaths per 1,000 live Births.



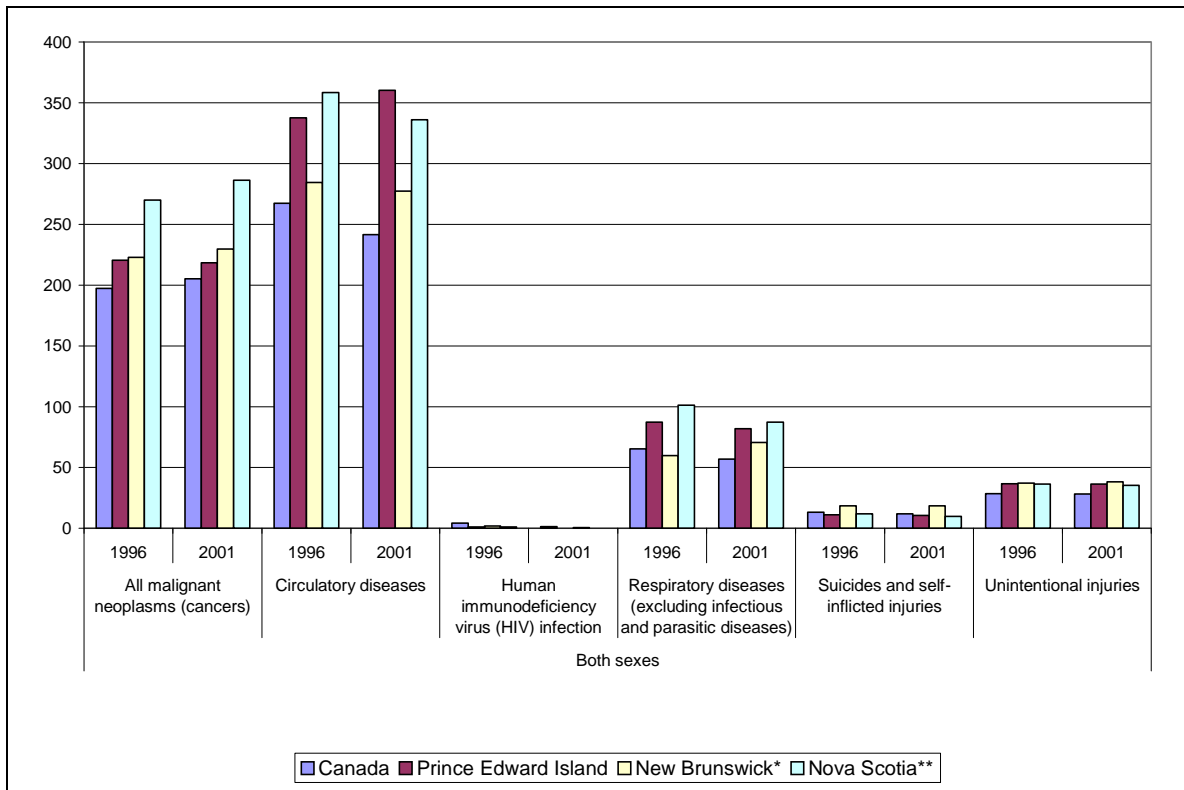
Source: Statcan, Cansim, Table 102-0207.

2.3.3 Mortality by Cause of Death

Similarly to the Canadian average the two major causes of death for the Gulf Region relate to circulatory diseases and cancers. The Gulf Nova Scotia area seems to have more instances of fatal cancers, circulatory and respiratory diseases than the average. Islanders join Gulf Nova Scotia's in having higher rates of mortality due to circulatory and respiratory diseases than the National average.

Instances of death due to HIV, is the only category were all areas of the Gulf Region experience death at a lesser rate than Canada on average though the level is relatively low for both.

Figure 9: Mortality by Cause of Death, Deaths per 100,000 in Population.



Source: Statcan, Cansim, Table 102-0003.

2.3.4 Wastewater Disposal & Treatment

Much effort was devoted to the retrieval of data to include in this section. Unfortunately at the time of this report no comprehensive source of data was found. Further attempts should be made in this area for subsequent editions of this report.

Table 8: Legislation Pertaining to Municipal Wastewater Effluents in Canada

Area	Legislation
New Brunswick	<i>Clean Environment Act, Clean Water Act</i>
Nova Scotia	<i>Environment Act</i>
Prince Edward Island	<i>Environmental Protection Act</i>
Canada	<i>Fisheries Act, Canadian Environmental Protection Act, Canadian Environmental Assessment Act</i>

Source: Canadian Council of Ministers of the Environment¹⁰

¹⁰ Development of a Canada-wide Strategy for the Management of Municipal Wastewater Effluent Discussion Document. (2004). http://www.ccme.ca/assets/pdf/mwwe_dscsnppr_may5_e.pdf.

2.3.5 Coast Guard Fleet Composition

The Maritime Region is responsible for providing Coast Guard services for the Gulf Region. Headquarters are located in Dartmouth, NS with bases at Saint John, NB, Dartmouth, NS, and Charlottetown, PEI.

2.3.6 Pollution and Waste

Many sites in the Gulf Region pose or are likely to pose a hazard to the environment or to human health. Often contamination of these sites is the result of past activities. The legacy of such environmental consequences were not well understood when the activity occurred. Presently in Canada, the government promotes a polluter pays approach to remediation.

The Federal government, for example, is responsible for land it owns or leases and it has established the Federal Contaminated Sites Action Plan (FCSAP) to manage these sites. One of the FCSAP's mandates is to reduce human health risks and ecological risks at specific highest risk federal sites. Table 9 lists the sites that are eligible under the FCSAP in the Gulf Region.

Table 9: Number of FCSAP (Federal Contaminated Sites Action Plan) Sites in the Gulf Region (by department and by province).

Department	NB	NS	PEI
AAFC (Department of Agriculture and Agri-Food)	1	0	2
CSC (Correctional Service of Canada)	2	2	0
DND (Department of National Defence)	0	0	1
INAC (Department of Indian Affairs and Northern Development)	17	0	0
DFO (Department of Fisheries and Oceans)	43	42	60
EC (Environment Canada)	1	1	0
PC (Privy Council)	0	0	0
PWGSC (Public Works and Government Services Canada)	0	0	3
RCMP (Royal Canadian Mounted Police)	26	9	7
NRCan (Natural Resources Canada)	1	0	0
Provincial Totals	91	54	73
Gulf Region Totals	218		
% DFO Projects	67%		

Source: DFO, Gulf Region, Oceans and Habitat Division, 22/01/2009.

3.0 Economic

3.1 Performance

Economic performance will be evaluated based on an economies ability to provide the population with employment opportunities and a wage that allows for a decent quality of life. The Canadian average will act as the baseline data for comparison and declarations of relative success or failures for the different economic factors explored in the section to follow.

3.1.1 Industry and Work Force

Table 10 illustrates the percentage of the workforce allocated by economic sector. Industries other than the two elaborated on below do not deviate greatly from the Canadian average.

The most important difference between the Gulf region and the Canadian average in terms of workforce distribution is that for Resource Based Industries. NB North, NS Cape Breton, and PEI lead in the percentage of the work force dedicated to resource based industries such as; Fisheries, Forestry, and Agriculture. On average the Gulf Region has 4.2% more of its workforce dedicated to resource based industries than does Canada. This gap would be wider if not for the existence of Moncton, the Regions largest urban centre, located in NB South.

Finance and real estate industry is well supplied in NB South with a higher percentage of the work force dedicated to this industry than the Canadian average. The balance of the Gulf Region has approximately half the percentage of their work force dedicated to this industry that does NB South and Canada on average.

Table 10: Work Force Distribution by Industry.

Variable	NB Gulf Watershed		NS Gulf Watershed		P.E.I.	Gulf Region	Canada
	NB North	NB South	NS North Shore	NS Cape Breton			
Resource-Based Industries (e.g. fisheries, agriculture, forestry)	11.5%	4.2%	8.7%	14.3%	12.3%	9.4%	5.2%
Manufacturing and Construction	20.2%	17.6%	20.8%	15.9%	15.8%	18.4%	17.9%

Wholesale and Retail Trade	14.3%	15.8%	16.6%	13.1%	12.9%	14.8%	15.5%
Finance and Real Estate	3.0%	6.7%	2.6%	3.0%	3.6%	4.1%	5.8%
Health and Education	18.6%	16.9%	18.0%	17.1%	15.6%	17.3%	16.7%
Business Services	13.8%	15.5%	14.0%	19.4%	16.6%	15.2%	18.0%
Other Services	16.2%	23.1%	17.5%	15.1%	22.3%	19.6%	19.2%

Source: Statcan, Census 2006.

3.1.2 Employment

The employment data in Table 11 shows high levels of unemployment in the Gulf Region and low levels of employment. Both are key indicators of the health of an economy and of society more generally¹¹. The Gulf Regions' participation rate is 3.6% off the National average. The discrepancy in the participation rate represents an additional percentage of the population aged 15 and over who are not working or actively looking for work.

Those not accounted for in the participation rate may be discouraged workers or those physically unable to pursue employment. A high rate of unemployment and the generally higher levels of critical disease illustrated in section 1.3.3 serve to support the above noted possibilities.

The employment figures for the Region from 2001 to 2006 have mostly improved. Though still below the National average the Gulf has improved relatively faster than the National average with the most notable changes occurring in the unemployment rate. The study areas of NB North and NS Cape Breton remained behind NB South, PEI, and to a lesser extent NS North Shore in all employment indicators.

Table 11: Employment Structure of Population >15 years old.

Variable		NB Gulf Watershed		NS Gulf Watershed		P.E.I.	Gulf Region	Canada
		NB North	NB South	NS North Shore	NS Cape Breton			
Participation Rate (%)	2001	57.6%	66.2%	60.3%	57.6%	69.0%	62.6%	66.4%
	2006	58.3%	66.5%	61.4%	59.6%	68.2%	63.2%	66.8%
Employment Rate (%)	2001	47.2%	58.0%	52.3%	44.0%	59.9%	53.4%	61.5%
	2006	49.6%	60.4%	55.5%	48.9%	60.7%	55.9%	62.4%

11 Source: Canadian Economy Online

Unemployment Rate (%)	2001	18.1%	12.3%	13.3%	23.7%	13.2%	14.8%	7.4%
	2006	14.9%	9.1%	9.5%	18.0%	11.1%	11.5%	6.6%

Source: Statcan, Census 2001 & 2006.

3.1.3 Income

Average income in the Gulf Region is equal to 68.9% of the Canadian average though this may be somewhat mitigated by the generally accepted notion that the cost of living is lower in the Gulf Region than more urban areas across the country.

We also see in the table below that the gap is increasing between the Gulf Region and the Canadian average in terms of average income. From 2001 to 2006 the rate of increase was higher for the Canada on average than the Gulf Region by close to 5%. It is interesting to note that discrepancies of even larger amplitude exist between the areas within the Gulf Region itself than between it and the Canadian average. New Brunswick is lagging behind all other areas identified both in terms of average income and its rate of increase.

The percentage of people with incomes below \$15,000 is above the National average. However the fact that the Gulf Regions' population also features a lower percentage of people younger than 15 years old serves to increase the relative impact associated with earnings of less than \$15,000.

Table 12: 2005 Income for Population >15 years old.

Variable		NB Gulf Watershed		NS Gulf Watershed		P.E.I.	Gulf Region	Canada
		NB North	NB South	NS North Shore	NS Cape Breton			
Average Income (\$)	2001	\$19,525	\$19,947	\$21,835	\$22,629	\$23,709	\$21,131	\$29,769
	2006	\$22,357	\$22,215	\$25,943	\$27,248	\$27,769	\$24,461	\$36,301
	% change 2001 to 2006	14.5%	11.4%	18.8%	20.4%	17.1%	15.8%	21.9%
% with Income <\$15,000	2006	36.6%	31.6%	33.3%	32.7%	34.3%	33.2%	30.5%

Source: Statcan, Census 2006.

Not only does the Gulf Region have lower income levels it relies on transfer payments for a significant portion of this income. Transfer payments, for which employment insurance is an element, roughly factor into income at twice the rate in the Gulf Region than they do nationally on average. Canadian Pension Benefits are also present in transfer payments and our high percentage of citizens over the age of 65 relative to the Canadian average (15.4% Gulf Region versus 6.0% Canadian average) moves our percentage of income attributed to transfer payments upward.

Table 13: Income Composition.

Variable	NB Gulf Watershed		NS Gulf Watershed		P.E.I.	Gulf Region	Canada	
	NB North	NB South	NS North Shore	NS Cape Breton				
Composition of Income for all Economic Families.								
Employment Income (%)	2006	62.8%	61.4%	69.8%	65.7%	72.2%	66.0%	78.3%
Transfer Payments (%)	2006	23.9%	21.0%	18.6%	21.3%	16.4%	20.4%	9.9%
Other Sources (%)	2006	8.3%	9.2%	11.7%	13.0%	11.4%	10.1%	11.8%
Composition of Income for Persons 15 Years and Over Not in Economic Families.								
Employment Income (%)	2006	44.9%	47.5%	49.6%	42.6%	56.5%	48.9%	65.7%
Transfer Payments (%)	2006	37.2%	31.8%	33.6%	34.6%	26.2%	32.6%	16.8%
Other Sources (%)	2006	12.7%	12.0%	16.8%	22.8%	17.3%	14.7%	17.5%

Source: Statcan, Census 2006.

3.1.4 Investment and Research & Development

The Atlantic Canada Opportunities Agency (ACOA) has a broad mandate for economic development in Atlantic Canada. Distributing Federal funds to qualifying business and development initiatives is one of the tools used by ACOA to meet its mandate.

Table 14 indicates the level and type of financial assistance provided to projects in which ACOA was implicated. From 2003 to 2008 ACOA has been involved in funding and supporting projects in counties of New Brunswick, Nova Scotia and Prince Edward Island who border the Gulf of St. Lawrence, with a combined cost in excess of 1.36 billion dollars.

Table 14: ACOA Financial Assistance (in thousands of dollars*) to Projects in Gulf Region located in Counties with Gulf Waterfront, 2003-2008

Geographic Area	Amount	Contribution	Grant	Provisionally Repayable Contribution	Repayable Contribution	Grand Total
PEI	Total Sum of ACOA Assistance	173,524	677	30,353	41,907	246,460
	Total Sum of Total Cost	380,378	1,192	51,366	129,913	562,850
NB (Counties with Gulf waterfront only)	Total Sum of ACOA Assistance	117,600	45	14,189	53,562	185,396
	Total Sum of Total Cost	226,074	389	22,784	136,679	385,926
NS (Counties with Gulf waterfront only)	Total Sum of ACOA Assistance	80,834	0	8,407	37,479	126,720
	Total Sum of Total Cost	199,374	0	16,035	196,022	411,431
Total Study Area	Total Sum of ACOA Assistance	371,957	722	52,949	132,948	558,577
	Total Cost	805,827	1,581	90,184	462,614	1,360,207

Source: <http://pub.acoa-apec.ca/atip/e/content/>

*Amounts rounded to nearest thousand.

ACOA has a dozen different programs (see below) which allow them to be more efficient in assigning their expertise. Recent initiatives funded by ACOA that may be relevant to the marine environment include; \$2.46 million to the University of Prince Edward Island's (UPEI's) Atlantic Veterinary College for "Healthy fish, healthy environment, healthy food", and Atlantech Engineering & Associates Incorporated received \$1.59 million to work on advancing water recirculation and effluent treatment technology for the land-based salmon aquaculture industry. These are but a few examples from approved Atlantic Innovation Fund (AIF) projects in 2009.

Detailed Example of Marine Related AIF Program Funding.

The Coastal Zones Research Institute Inc. (CZRI) is a private non-profit institution affiliated with the University of Moncton, Shippagan Campus (New Brunswick). The CZRI was born of the merger of three research and development centres from New Brunswick's Acadian Peninsula: The Peat Research and Development Centre; the Marine Products Research and Development Centre, and the aquaculture research teams of the New Brunswick Department of Agriculture, Fisheries and Aquaculture at the New Brunswick Aquarium and Marine Centre.¹²

CZRI, in February 2009, announced a financial contribution from ACOA's AIF in the amount of \$3 million. This contribution is funding research focused on increasing value and marketing marine co-products¹³.

The recent stimulus package announced by the Federal Government places an emphasis on infrastructure development as a means to create jobs and stimulate the economy. The Building Canada Fund is one of the avenues being used to distribute money from the stimulus package. Funding priorities for Prince Edward Island include water and wastewater projects in Tyne Valley, Crapaud, and Montague. New Brunswick has identified green infrastructure projects for its unincorporated areas, projects which include water, wastewater and other infrastructure developments. Priorities in Nova Scotia include additional highway twinning and moving towards 100% internet access which should aid tourism and productivity.

The IBDA (see table below) is a funding agreement, 70% Federal Government contribution and 30% from the Atlantic Provincial Governments. It has identified 12 key industries as its focus for export development including fish and aquaculture technology, ocean industries, and food (agrifood and seafood). The IBDA has supported Atlantic companies' presence at the 2006 European Seafood Exposition and the 2006 Seafood Processing America Show to name but a few.

The Innovative Communities Fund (ICF) invests in strategic projects that build the economies of Atlantic Canada's communities. Working in partnership with Atlantic communities and stakeholders, ICF builds on the strengths of communities and provides the tools needed to identify opportunities available for their sustainable economic growth. ICF focuses on investments that lead to long-term employment and economic capacity building in rural communities. Urban

12 CZRI : http://www.irzc.umcs.ca/flash_content/anglais/apropos_apercu.html, 18/02/2009.

13 CZRI. (2009, February). A well deserved announcement. *La voix des affaires*, pp. 30.

initiatives that stimulate the competitiveness and vitality of rural communities may be considered on a selective basis.¹⁴

Table 15: ACOA Investment Programs

Program	Description
Atlantic Innovation Fund (AIF)	Encourages partnerships among private sector firms, universities, colleges and other research institutions to develop new or improved products and services.
Atlantic Trade and Investment Partnership	Includes five initiatives to help Atlantic Canada promote international trade and attract investors.
Building Canada Fund	Provides funding for municipal infrastructure projects, particularly in smaller communities. It focuses on improving infrastructure in areas such as water, wastewater, culture and recreation.
Business Development Program (BDP)	Help in setting up, expanding or modernizing your business. It can also provide financing to develop your innovative ideas and improve your competitiveness.
Canada Small Business Financing Program	Helps new and expanding small businesses access financing for land, buildings and equipment.
Canada/Atlantic Provinces Agreement on International Business Development (IBDA)	Helps established exporters expand their activities into new and more diversified markets. It also helps new exporters get started.
Innovative Communities Fund (ICF)	Invests in strategic projects that build the economies of Atlantic Canada's communities.
Sector Export Strategies	Support the development of export development for specific industries in Atlantic Canada.
Seed Capital Program	If you're over 35 years of age you can apply for a loan to start up a business. Under 35, you can also apply for funding to expand or improve an existing business.

¹⁴ ACOA, Investing in Communities, Innovative Communities Fund, http://www.acoa-apeca.gc.ca/English/publications/FactSheetsAndBrochures/Documents/Innovative_Communities_Funds.pdf, visited 03/04/2009.

Trade Education & Skills Development	Helps entrepreneurs in small- and medium-sized companies acquire the export skills and knowledge they need to export profitably.
Young Entrepreneur Development Program (YEDI)	Offers financial support to not-for-profit business organizations, colleges and universities and municipalities for business skills training and financial support to Atlantic Canadian entrepreneurs less than 35 years of age.
Women in Business Initiative (WBI)	Provides financial support to not-for-profit business organizations to then help women entrepreneurs find the resources they need to grow their businesses and compete.

Source: <http://www.acoa-apec.ca>, website consulted 03/04/2009.

ACOA continues to provide the investment mechanism and proper support required to develop and improve the economic situation in the Atlantic Provinces. A record of cross departmental collaboration exists in supporting projects though ACOA does not normally fund government projects.

The NRC (National Research Council Canada) also contributes to research and development (R&D) in the region as well as providing support for SMEs (Small and Medium-sized Enterprises). It regularly partners with ACOA, provincial governments and other groups including local Universities to better serve its mandate and clients. This department of the Government of Canada supports the building of technology clusters. Technology clusters are a significant concentration of innovative companies around a nucleus of R&D facilities¹⁵.

NRC Institutes can act as a catalyst for clusters and 2 such institutes have been established in the Gulf Region. One is based outside the Gulf Region, in Fredericton, NB, but has offices in Moncton, NB. Its focus is Information Technology and e-Business. The second is based in Charlottetown, PEI and concerns itself with Nutrisciences and Health.

NRC supported projects include Atlantech Engineering & Associates Incorporated which was mentioned earlier in this section. NRC provided them with technical and research assistance through the IRAP (Industrial Research Assistance Program) program. IRAP also assisted; Diversified Metal Engineering from Charlottetown which developed a solution for seafaring smoke stacks; APACK Canada also out of Charlottetown have developed biodegradable packaging; Preferred Environment in Moncton recycles paint and minimize the harmful effect of paint and paint containers in landfills. They were able to hire a chemical engineer with the help of NRC; Ovatek Inc. based in Bas-Caraquet,

¹⁵National Research Council Canada Website. http://www.nrc-cnrc.gc.ca/clusters/index_e.html

with research and development support from NRC, build self righting rigid life rafts.

3.1.5 Housing Market

The Gulf Region’s housing market, as was the case for income, is below the Canadian average not only in its measure in dollars but in its rate of change as well. The average value of a home in NB North represented 30.1% of the National average in 2006 and was slower in its rate of growth exacerbating the discrepancy. This state of affairs may be a contributing factor to the relative immobility of the Gulf Regions’ inhabitants because the amount of equity one is able to accumulate in ones home is substantially lower and slower to grow than in other regions across the country. This hinders the ability to accumulate the wealth required to establish oneself in regions with higher housing valuation.

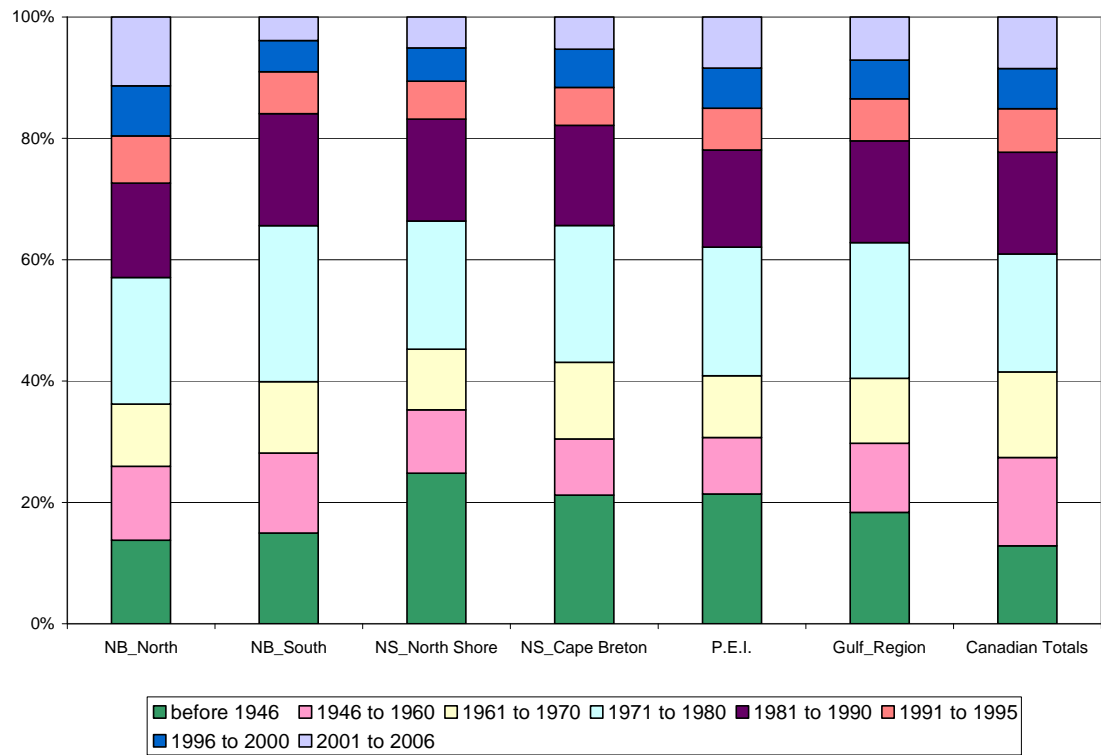
Table 16: Average Value of Dwellings.

Region	2001	2006	% change
NB North	64,405	79,265	+23.1%
NB South	74,365	112,182	+50.9%
NS North Shore	75,415	115,105	+52.6%
NS Cape Breton	83,157	121,460	+46.1%
PEI	90,088	135,715	+50.6%
Gulf Region Total	78,727	112,365	+42.7%
Canada	162,709	263,369	+61.9%

Source: Statcan, Census 2001 & 2006.

Perhaps counter intuitively NB North has the highest percentage of dwellings constructed in the last 15 years and the fewest built before 1961. Otherwise the distribution of dwelling construction by decade is fairly distributed and likewise between the regions illustrated in Figure 10.

Figure 10: Period of Construction for Occupied Dwellings, Non-Farm and Non-Reserve Dwellings.
 (Note: The 3 most recent periods depicted in this figure represent 5 year periods.)



Source: Statcan, Census 2006.



3.2 Fisheries

3.2.1 Commercial Fishing

3.2.1.1 Background

The significance of the commercial fishing industry is reflected through a long history of coastal settlement along the Gulf of St. Lawrence, where marine fisheries have been the primary economic drivers since European immigrants began settling here more than five hundred years ago. The commercial fishing industry has evolved immensely over this period with the most significant changes and challenges occurring over the past 30 years or so. More efficient diesel driven fleets employing side and stern trawls replaced sail and steam driven fleets. More efficient fishing practices and over fishing resulted in a need for stringent resource management practices. The following graphs will show that a shift has occurred in the distribution of landed value from the groundfish to the crustacean's fishery, mainly lobster and snow crab. The significance of the commercial fishery to coastal communities along the Gulf Region cannot be overstated. Most of these communities evolved from the commercial fishing industry and many still are one-industry communities, supported by current fisheries. In 2007p¹⁷, the value of the landings in the Gulf Region was close to \$350 million (included aquaculture data for mussels).

3.2.1.2 Government/Governance

On behalf of the Government of Canada, DFO is responsible for developing and implementing policies and programs in support of Canada's scientific, ecological, social and economic interests in oceans and fresh waters.

The Department's guiding legislation includes the *Oceans Act*, which charges the Minister with leading oceans management and providing coast guard and hydrographic services on behalf of the Government of Canada, and the *Fisheries Act*, which confers responsibility to the Minister for the management of fisheries, habitat and aquaculture. The Department is also one of the three responsible authorities under the *Species at Risk Act*.¹⁶

3.2.1.3 Trends

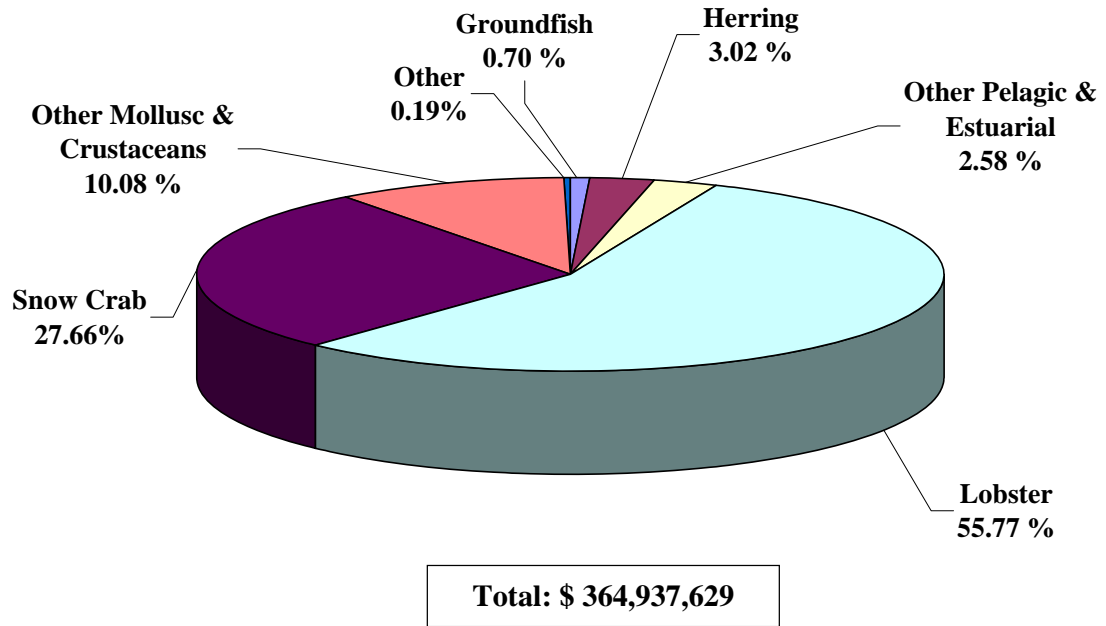
The first graph will show the relative importance of the main species group for the Gulf Region in 2007 and the three following graph will demonstrates the same information but for each of the administrative regions within the Gulf Region. For

¹⁶ <http://www.dfo-mpo.gc.ca/us-nous/vision-eng.htm>

¹⁷ 2007p refers to preliminary data.

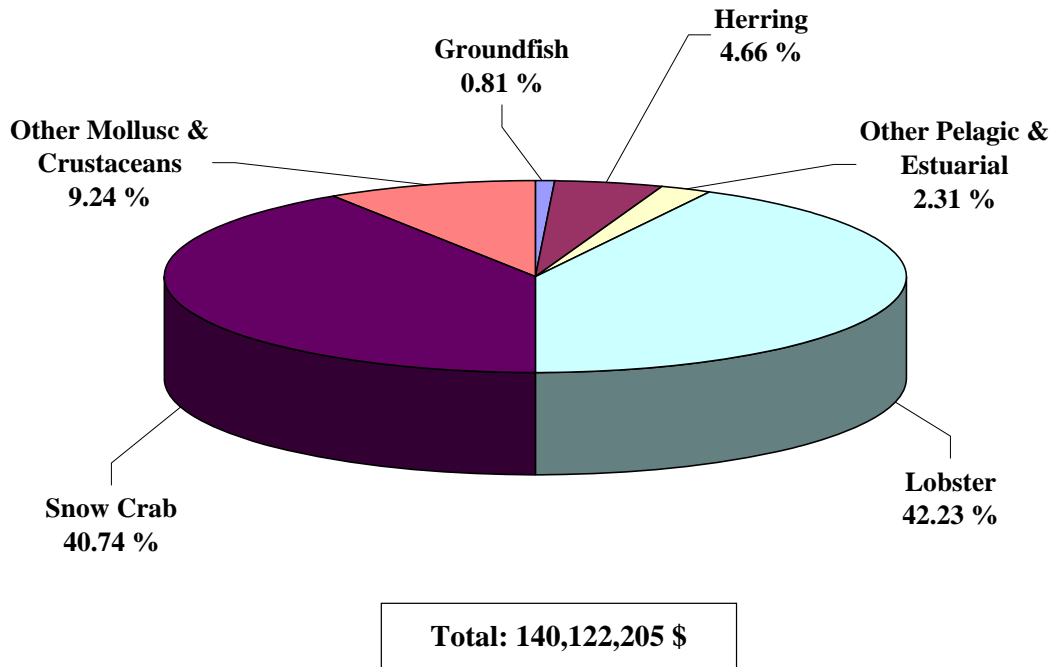
a complete data set of volumes and values be species see appendices 4 though 11.

Figure 11: Breakdown of Value by Species, Gulf Region, 2007p



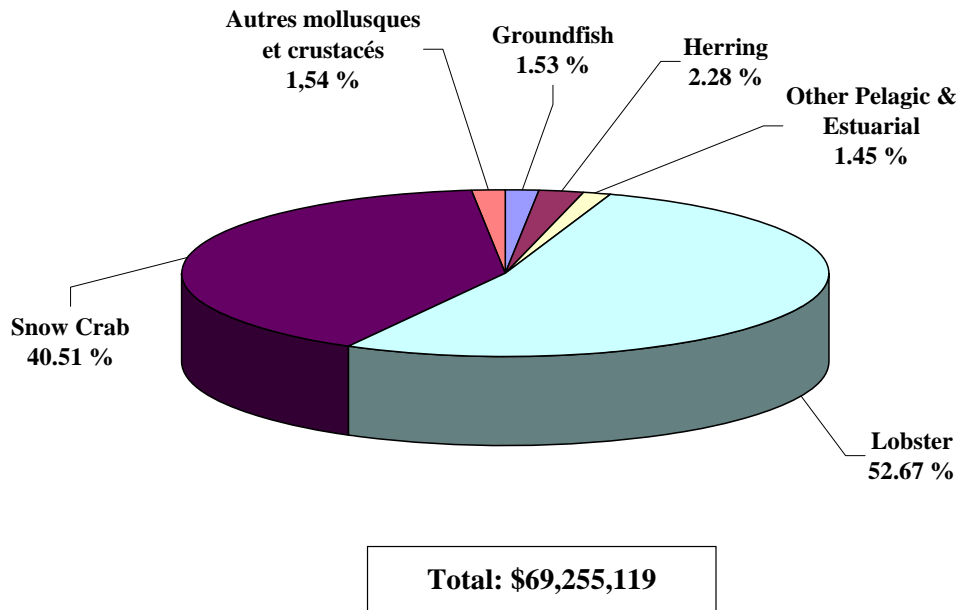
Source: Policy and Economics Branch, DFO-Gulf Region

Figure 12: Breakdown of Value by Species, Gulf New-Brunswick, 2007p



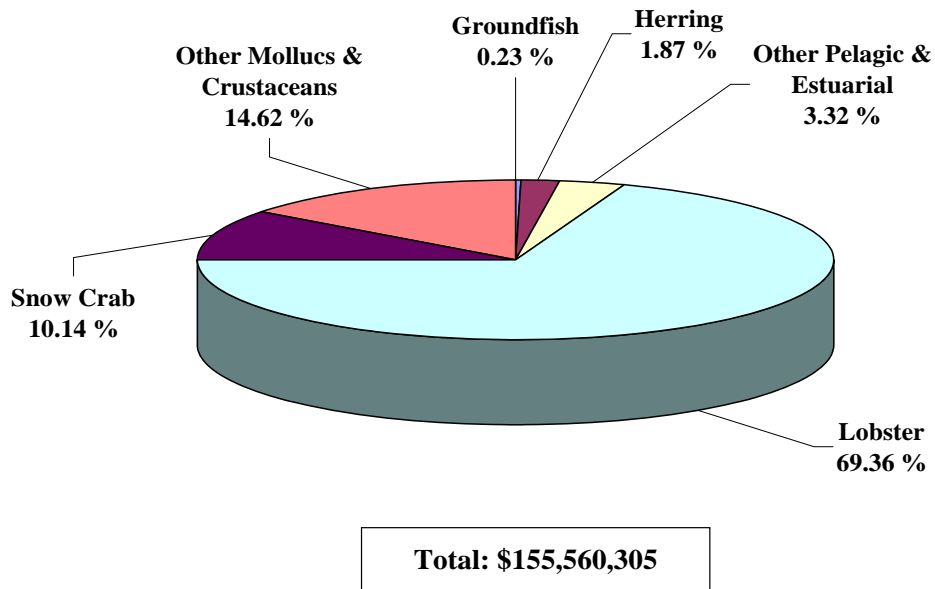
Source: Policy and Economics Branch, DFO-Gulf Region

Figure 13: Breakdown of Value by Species, Gulf Nova-Scotia, 2007p



Source: Policy and Economics Branch, DFO-Gulf Region

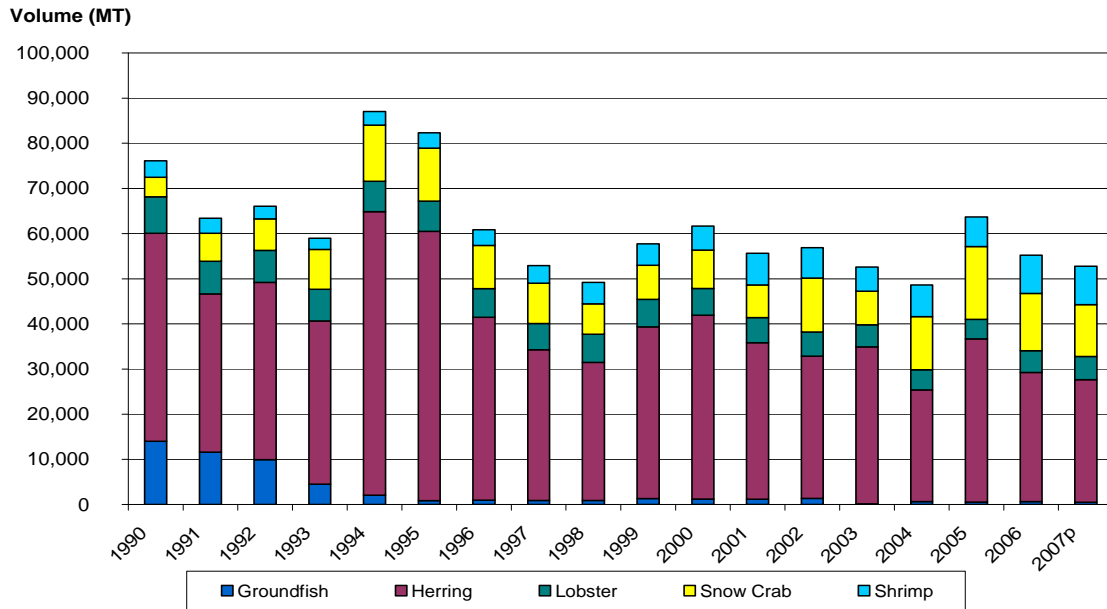
Figure 14: Breakdown of Value by Species, Prince Edward Island, 2007p



Source: Policy and Economics Branch, DFO-Gulf Region

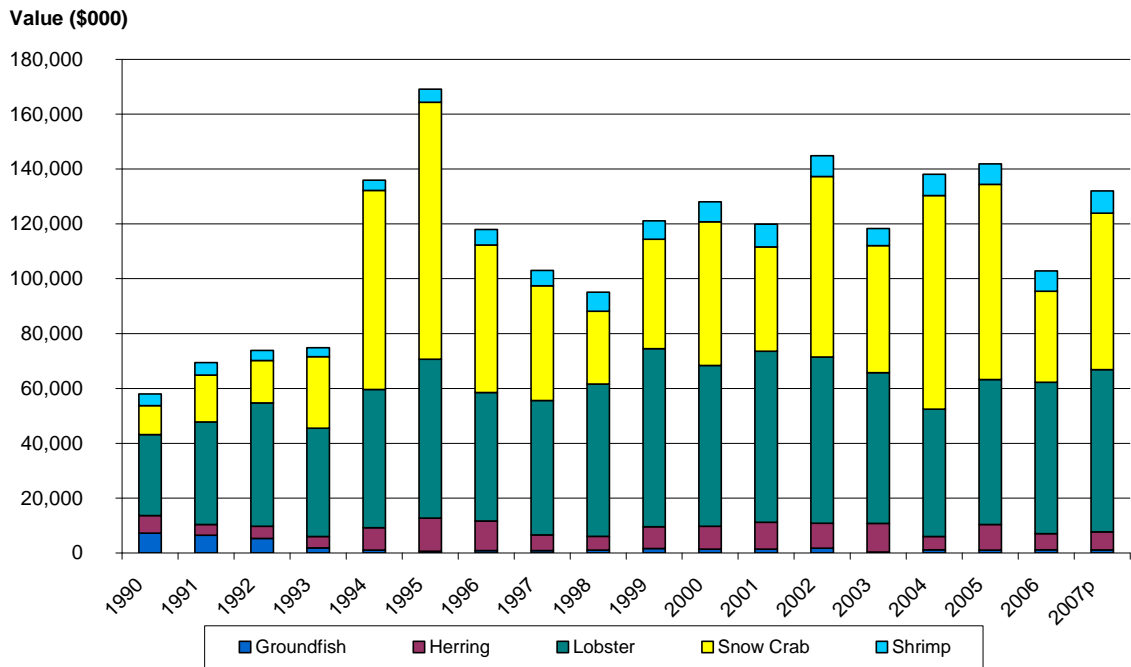
The following graphs represent fish landings (volume and value) from 1990 to 2007p by administrative sector for the Gulf Region, i.e. Gulf New Brunswick, Gulf Nova Scotia and Prince Edward Island. This data will give a sense for the value of the fishery over that time period.

Figure 15: Breakdown of Volume by Major Species, Gulf New Brunswick, 1990-2007p



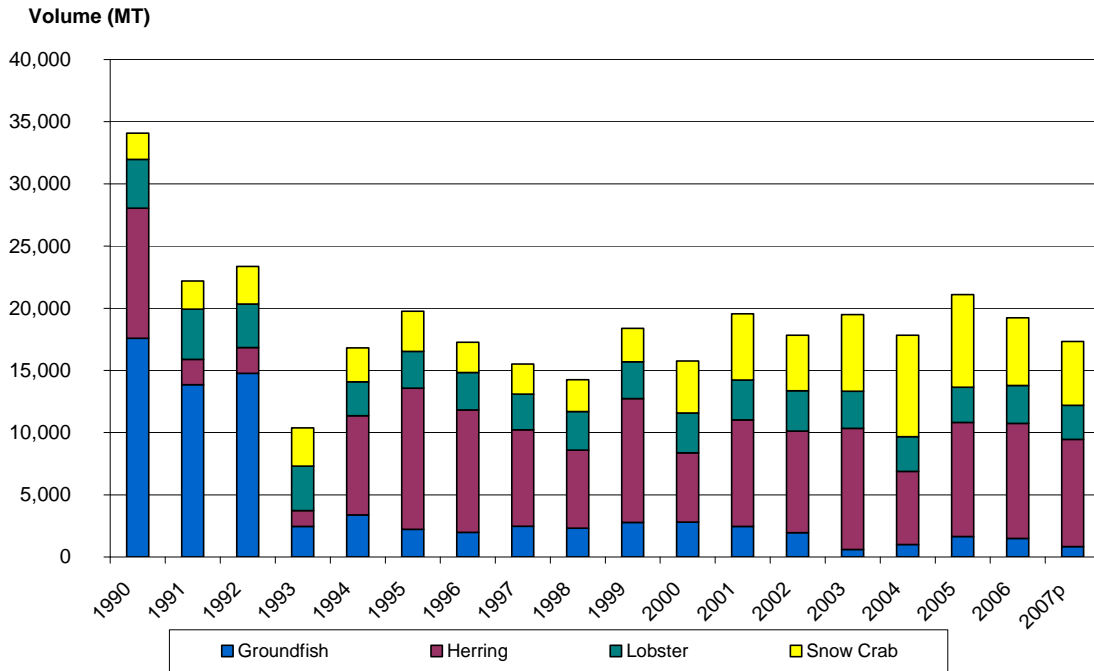
Source: Policy and Economics Branch, DFO-Gulf Region

Figure 16: Breakdown of Value by Major Species, Gulf New Brunswick, 1990-2007p



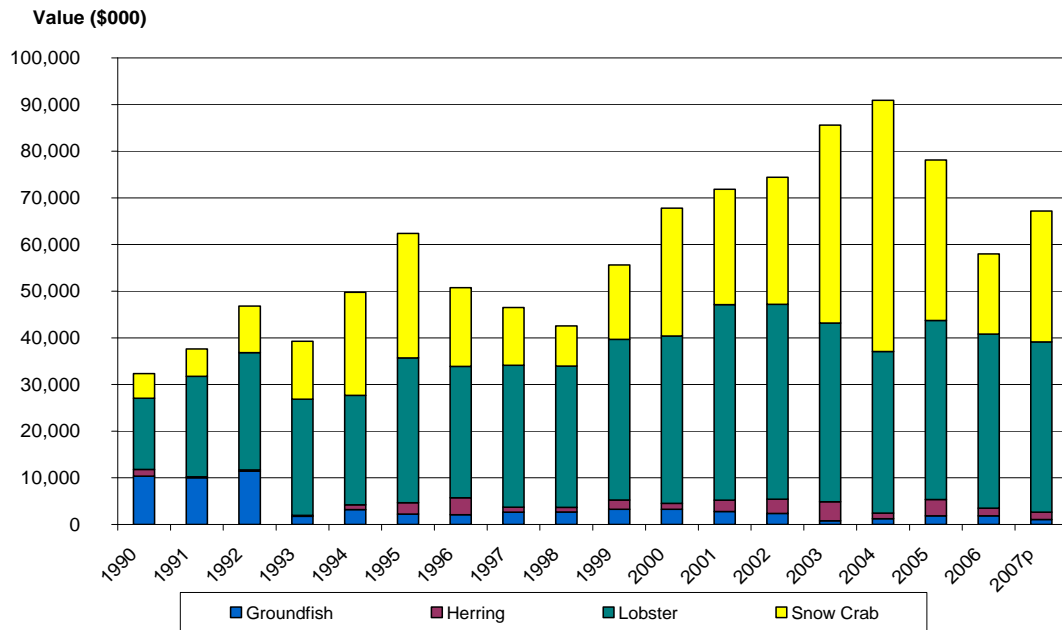
Source: Policy and Economics Branch, DFO-Gulf Region

Figure 17: Breakdown of Volume by Major Species, Gulf Nova Scotia, 1990-2007p



Source: Policy and Economics Branch, DFO-Gulf Region

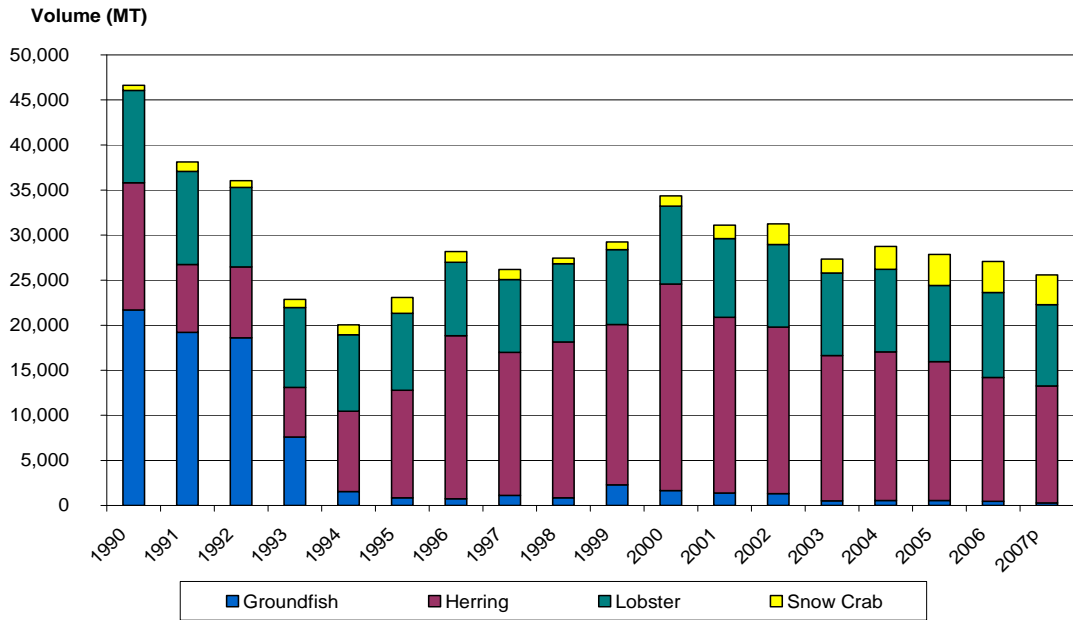
Figure 18: Breakdown of Value by Major Species, Gulf Nova Scotia, 1990-2007p



Source: Policy and Economics Branch, DFO-Gulf Region

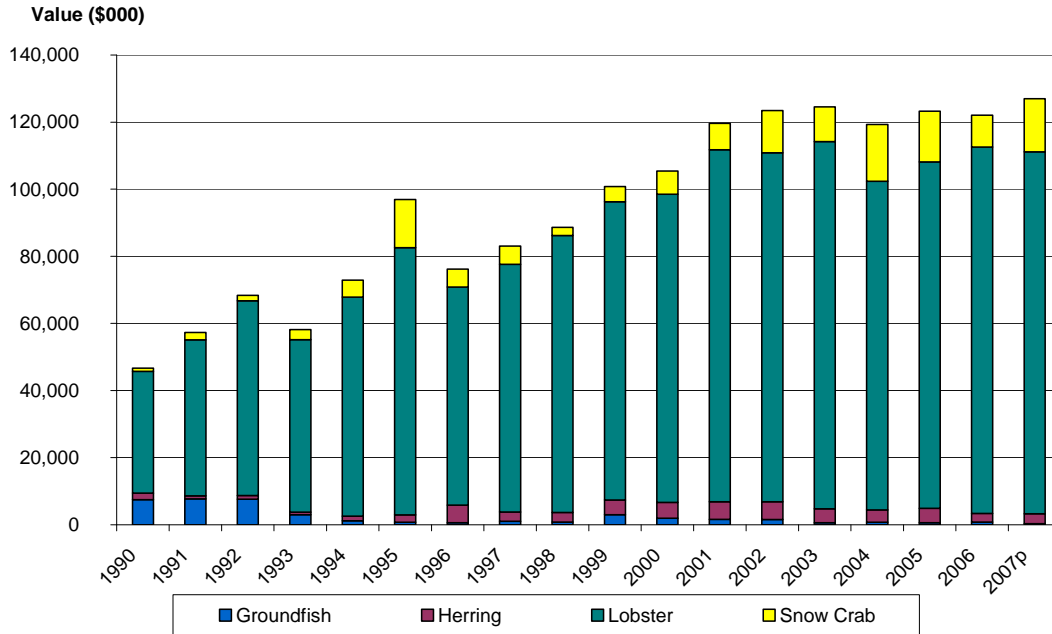
Figure 19: Breakdown of Volume by Major Species, Prince Edward Island, 1990

2007p



Source: Policy and Economics Branch, DFO-Gulf Region

Figure 20: Breakdown of Value by Major Species, Prince Edward Island, 1990-2007p



Source: Policy and Economics Branch, DFO-Gulf Region

Groundfish species have historically been one of the most exploited species in the Gulf Region. In 1990, total landings for all groundfish were 53,265 mt, in comparison, during the period from 2000 to 2007p in average the total landings for all groundfish was 3,211 mt. The commercial cod fishery was placed under moratorium in 1992-1996 but reopened to a limited fishery in 1997-2001 and 2002 but closed again 2003 due to slow stock growth. Since 2003, it's reopened but with a very limited fishery.

From 1990-2007p, landings of pelagic species averaged 72,655 mt and were valued at over \$22 million. Herring and mackerel are presently the most important species in the pelagic group, contributing 93.5% of the total landings in 2007p. Total annual pelagic landings are relatively stable, total landed value ranged from \$11 million to \$31 million between 1990-2007p.

The downturn in groundfish fisheries has generated new interest in the shellfish industry, especially for snow crab. In 2007p, lobster and snow crab together contributed close to 60% of all shellfish landings and represented approximately 90% of the total landed value of the shellfish in the Gulf Region.

Participants

In the Gulf Region, there was close to 12,000 commercial fish harvesters in 2007 of which 5,965 are licence holders. The following table shows the number of fish harvesters for 2007 per category (the definition for each category is available in Appendix 12).

Table 17: Commercial Fish Harvesters, Gulf Region, 2007

Category	Golf New Brunswick	Golf Nova Scotia	Prince Edward Island	Grand Total
COASTAL	1,062	171	1,341	2,574
CORE	1,268	653	1,316	3,237
ESTUARIAL	3	-	7	10
FULL TIME	15	-	-	15
NON-CORE	43	12	10	65
NOT APPLICABLE	23	11	30	64
REGISTERED COMMERCIAL FISHER	2,333	1,517	2,078	5,928
Grand Total	4,747	2,364	4,782	11,893

Source: Licensing Unit, DFO-Gulf Region

The number of vessels registered in the Gulf Region was 3,956 in 2007. The following table shows the number of vessels length and by administrative sector for the Gulf Region.

Table 18: Number of Registered Vessels in the Gulf Region, 2007

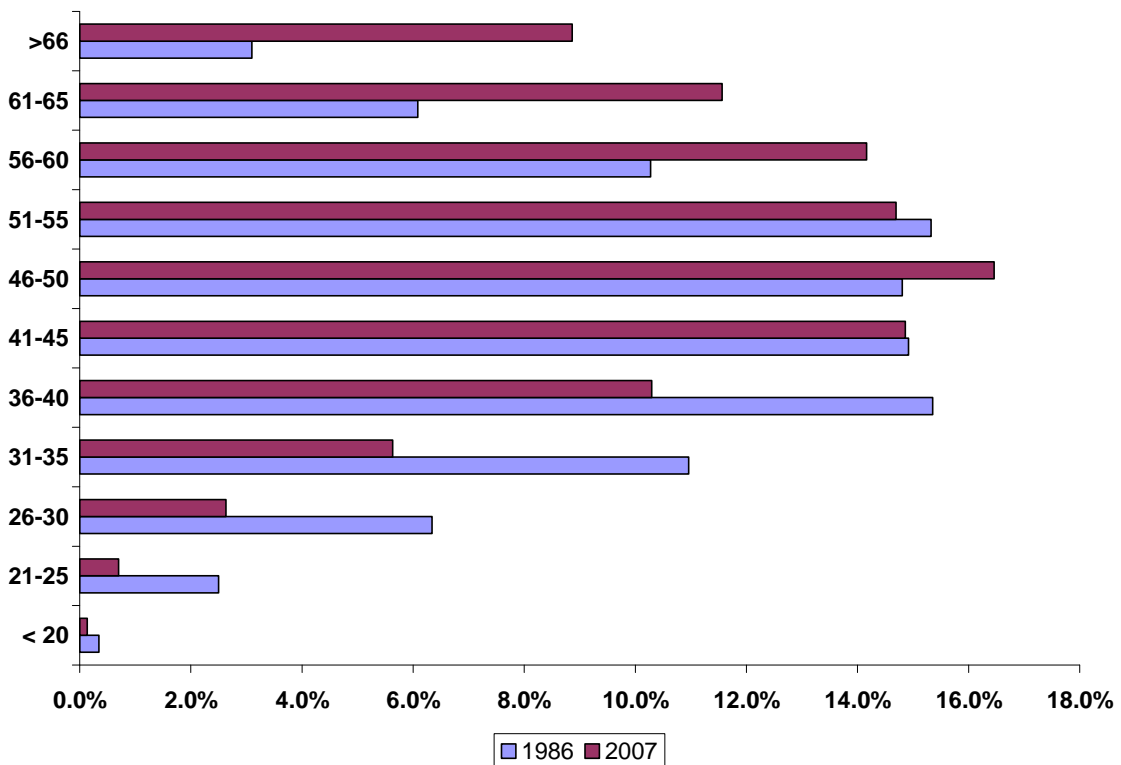
Category	Gulf NB	Gulf NS	PEI	Total
000'01" - 019'11"	435	62	49	546
020'00" - 024'11"	106	12	1	119
025'00" - 034'11"	100	151	7	258
035'00" - 039'11"	126	174	85	385
040'00" - 044'11"	983	347	1,197	2,527
045'00" - 049'11"	9	1	1	11
050'00" - 054'11"	6	0	0	6
055'00" - 059'11"	8	1	1	10
060'00" - 064'11"	65	3	0	68
065'00" - 099'11"	23	0	0	23

100'00" +	3	0	0	3
Total	1,864	751	1,341	3,956

Source: Licensing Unit, DFO-Gulf Region

It is interesting to now take a look at the age structure of the core fisher harvester in the Gulf Region. The next figure show that the largest number of fish harvester are in the 46 to 50 age category and represent 16.5% of the participant, while the under 30 only represent 3.5% of the total. One of the factors limiting the entry of young people in the fishery is the investment required to purchase a fishing enterprise.

Figure 21: Age Structure – Core Fish Harvesters, Gulf Region, 2007



Source: Policy and Economics Branch, Special Compilation, DFO-Gulf Region

3.2.1.4 Seal Hunt

There are two species of seal hunted in the Gulf Region, the grey seal and the Greenland seal.

The grey seal hunt usually takes place between mid-February and mid-March in the southern portion of the Gulf of St. Lawrence on the islands off the coast of Cape Breton. The allocation dedicated to the southern Gulf and southern Nova

Scotia stood at 12,000 seals in 2008. The grey seal hunt is a competitive type fishery.

The hunt for the Greenland seal normally occurs from late March to mid-April. The hunt takes place on the ice and so the exact location of the hunt may vary from year to year. Though generally speaking, the hunt takes place in the southern portion of the Gulf of St. Lawrence off the coast of Cape Breton. This fishery is managed in a competitive manner.

The commercial allotment of Greenland seals for the Gulf and Maritime Regions was 1,399 animals in 2008. This represented 2% of the entire quota for Eastern Canada. The portion dedicated to the Aboriginal hunt in the Gulf and Maritime Regions stands at 1,620 seals. The Aboriginal hunt is managed by individual quota, approximately 300 animals per Aboriginal community.

Table 19: Number of Seal Licences Issued in 2007 for the Gulf Region.

Province	Professional	Assistant
Gulf New Brunswick	<u>2</u>	<u>5</u>
Gulf Nova Scotia	<u>21</u>	<u>21</u>
Prince Edward Island	<u>23</u>	<u>15</u>
Total	<u>46</u>	<u>41</u>

Source: Licensing Unit, Moncton, Gulf Region, DFO

3.2.1.5 Native Fisheries

The Supreme Court of Canada released its decision in the *Marshall* case in the fall of 1999. In essence, the court said that Treaties signed in 1760 and 1761 by Mi'kmaq and Maliseet communities include a communal right to hunt, fish and gather in pursuit of a 'moderate livelihood'.

To address the *Marshall* decision, Fisheries and Oceans Canada set out to negotiate interim fishing agreements that would give First Nations the opportunity to succeed in the commercial fishery.¹⁷

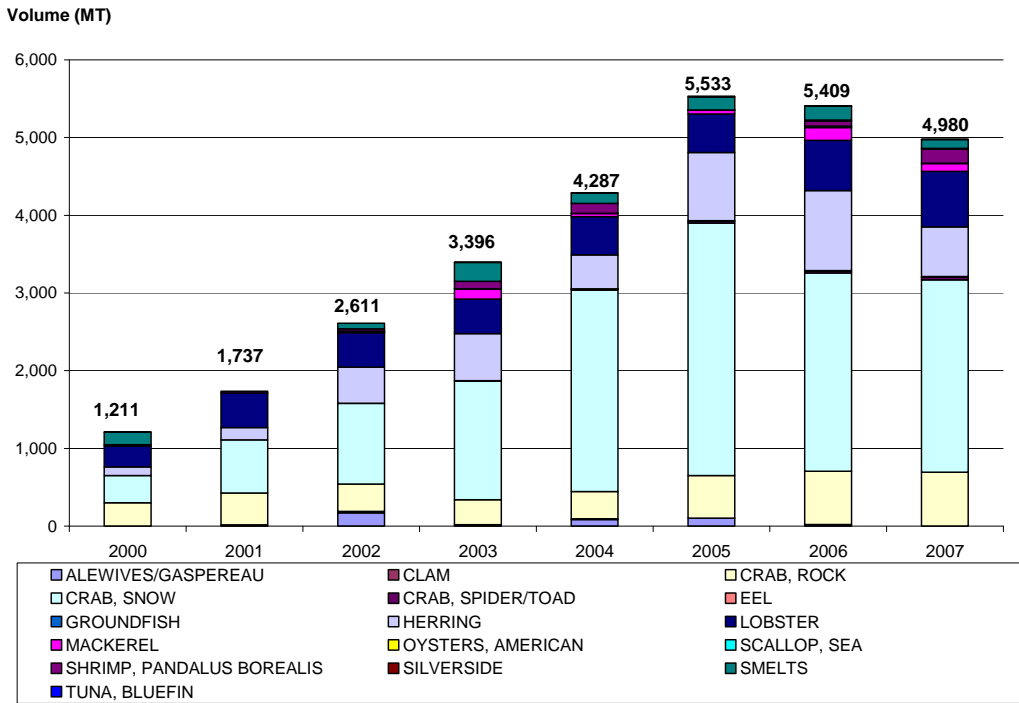
In regard to the number of licences held by the First Nations, it is important to distinguish the Communal Fishing Licences for food, social and ceremonial purposes from the Communal Commercial Fishing Licences which allow for the sale of the fish. The Sparrow decision confirmed the Aboriginal People the right to fish for food, social and ceremonial purposes.

However, with the Marshall Decision, the First Nations were provided with increased access to the commercial fishery. We should note that even before the Marshall Decision, some reserves already held Communal Commercial Fishing

18 http://www.dfo-mpo.gc.ca/communic/Marshall/Fish_Agreement/index_e.htm

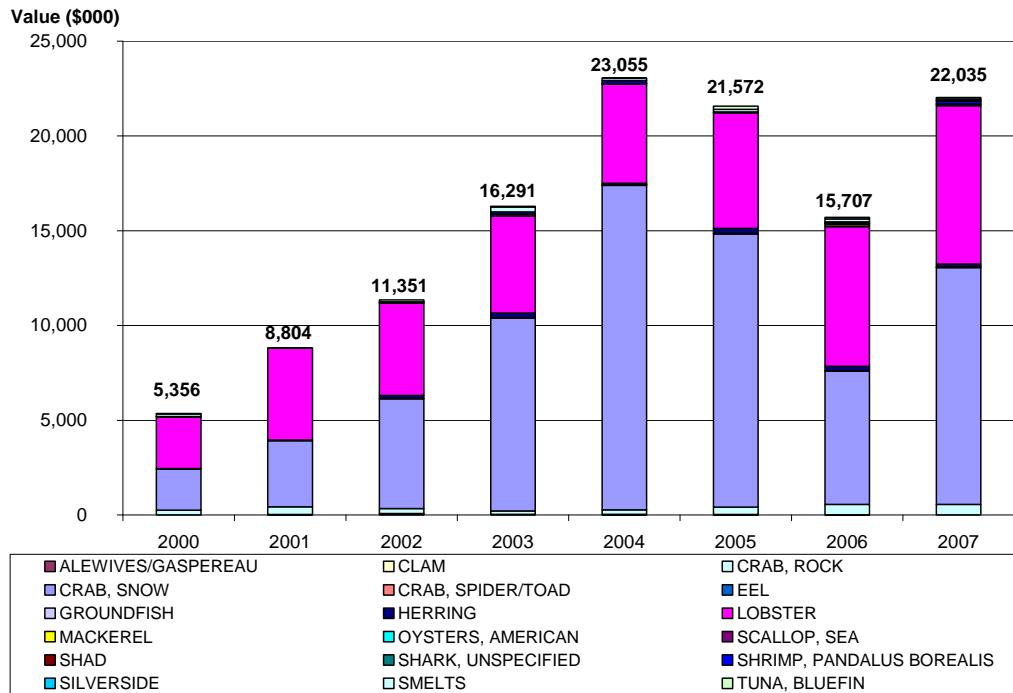
Licences. After that decision, Fisheries and Oceans Canada implemented a buy-back program to provide additional access for the Aboriginal People. The following graph represents the landings from the Communal Commercial Fishing Licences.

Figure 22: Breakdown of Volume by Species, Gulf First Nations, 2000-2007p



Source: Policy and Economics Branch, DFO-Gulf Region

Figure 23: Breakdown of Value by Species, Gulf First Nations, 2000-2007p



Source: Policy and Economics Branch, DFO-Gulf Region

As shown in figure 23, Aboriginal group fishing revenues come mainly from the lobster and snow crab (38% and 57% respectively). The other important species in terms of value are rock crab, shrimp, herring, bluefin tuna and mackerel.

3.2.1.6 Transformation

In 2008, the Gulf Region conducted a study to draw a profile of the processing sector in the Gulf Region for 2008. In order to do this profile, we collected information on the number of employees by plant and by species from the 108 plant processing in the Gulf Region. The following table shows the profile for the Gulf Region for 2008.

Table 20: Number of Plants and Employees, Gulf Region, 2008.

Number of Plants and Employees in the Fish Transformation Industry by Principal Species in the Gulf Region.		
Species	Number of Transformation Plants	Maximum Number of Employees per Species
Groundfish	4	56
Pelagics and Estuarial		
Herring	42	2495
Mackerel	7	116
Molluscs and Crustaceans		
Lobster	48	4406
Snow Crab	16	2177
Common Crab	9	640
Shrimp	3	136
Oysters	19	161
Mussels	11	180
Scallops	5	47
Gulf Total	112	8325

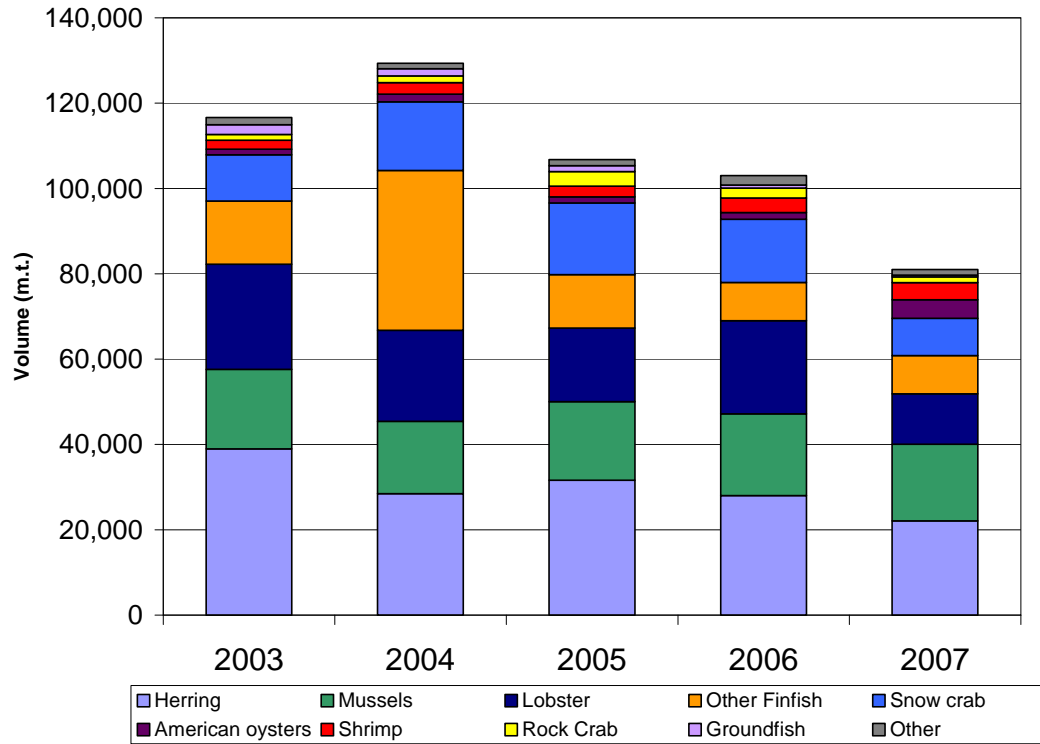
Note # 1 : Total number of plants and number of employees do not necessarily add up as employees of certain plants may process more than one species within the same plant.

Note # 2 : The above table is based on the results of a survey submitted to the transformation plants in 2008.

Source : Policy and Economics Branch, Gulf Region, DFO, Moncton (Date of latest revision: May 2009)

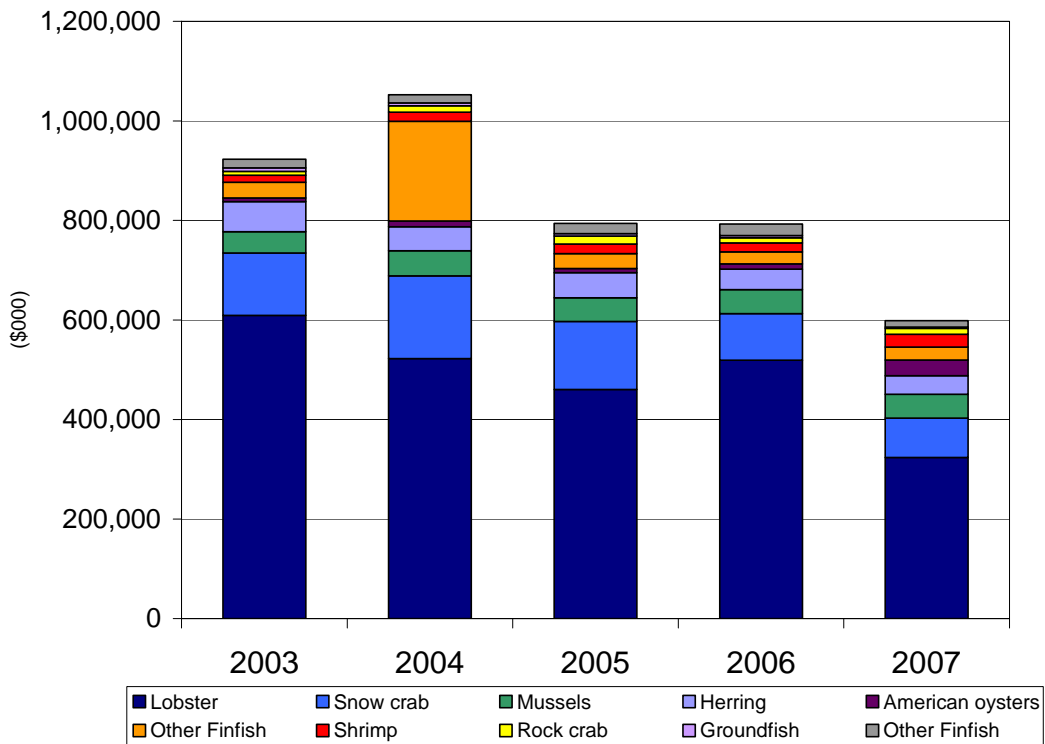
The most important products in terms of volume for the Gulf Region in 2007 were derived from the herring, mussel, lobster, other finfish (all except herring) and snow crab. The total volume was 81,012 t. In terms of value, the important species are: lobster, snow crab, mussel, and American oysters. The total value was \$598,582,000.

Figure 24: Plant Production Volume, Gulf Region, 2003-2007



Source: Plant production Data DFO Gulf Region

Figure 25: Plant Production Value, Gulf Region, 2003-2007

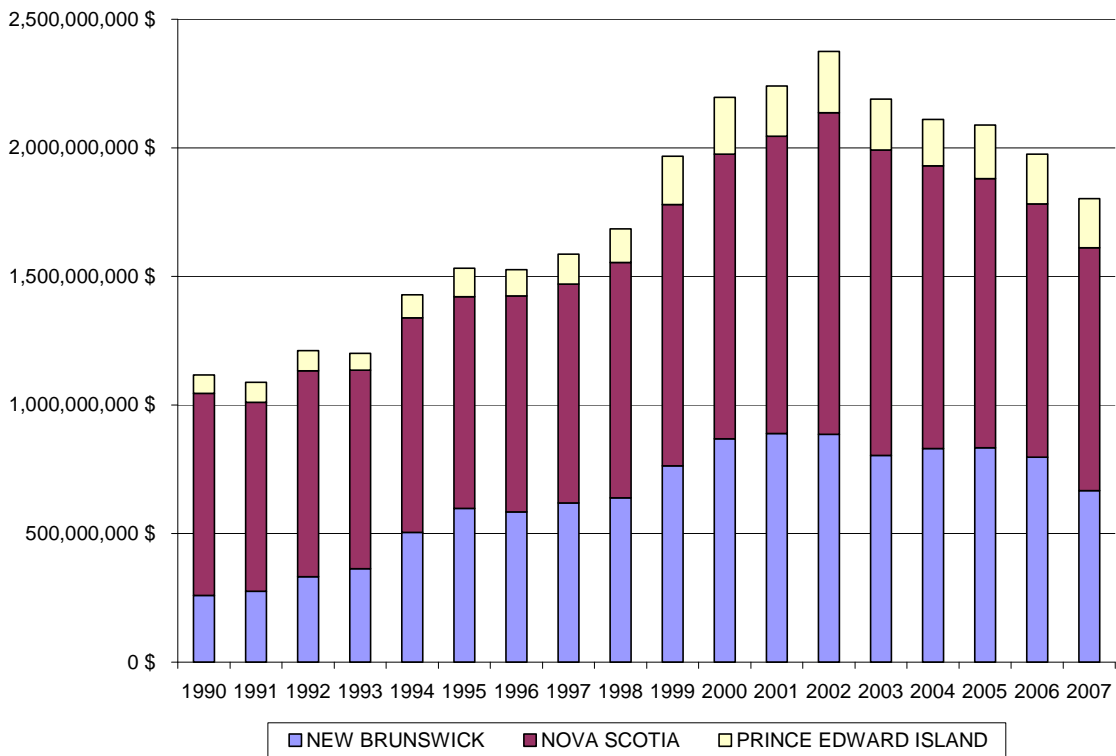


Source: Plant production Data DFO Gulf Region

3.2.1.7 Exports

Exportation data are only available on a provincial basis, so the next graph will show the exports by province from 1990-2007p. The majority of the exportations are from New Brunswick and Nova Scotia. In 2007p, from a total export of \$1,802 million for the Maritimes provinces 52% was from Nova Scotia, 37% from New Brunswick and 11% from Prince Edward Island. The exports are mainly from lobster, snow crab and herring for the Gulf Region. In terms of value in 2007p, 70% of exports from the Maritimes were shipped to the United States, 6% to Japan, and 3% to Denmark and France respectively.

Figure 26: Breakdown of Value of Exports, By Province, 1990-2007p



Source: Fisheries and Oceans Canada, Statistical Division, Ottawa

3.2.1.8 Trends in Transformation, Imports and Exports

Given the importance of exports, it is essential that the industry be very familiar with consumer preferences in the various markets. This industry, particularly higher end product like lobster and snow crab, is very sensitive to economic fluctuations. A slowdown of the economy in a specific market translates into a drop in demand. Similarly, fluctuations in the exchange rate of the American dollar versus Canadian dollar have significant repercussions, given the high percentage of exports from the Maritime Provinces destined for the United States. Fluctuations in the Euro and yen also have a serious impact. In an

industry that depends greatly on foreign markets to sell its product, fluctuations in exchange rates can very quickly affect industry flexibility, both positively and negatively.

The enterprises must also adapt to the economic changes we are currently experiencing, i.e. they have to deal with free trade and economic globalization. In addition, they have to adopt the latest technologies, if possible, so they can compete as effectively as possible. All in all, globalization offers new opportunities for the industry, but also increases the level of competition and the number of trade regulations that have to be followed (e.g. packaging, format, production description, traceability, certification, etc.)

3.3 Aquaculture

3.3.1 Background

The aquaculture industry in the Gulf Region is strong and vibrant and has become a significant contributor to a diverse economy. The industry, which was almost non-existent, a decade ago, has experienced relatively rapid growth due to technological innovations and a growing demand for seafood. The depletion of a growing number of commercially important species continues to stimulate the aquaculture industry.

3.3.2 Governance/Government

The industry is regulated by both federal and provincial legislation including the federal *Fisheries Act*, *Oceans Act*, *Fish Inspection Act*, *Navigable Waters Protection Act*, *Canadian Environmental Assessment Act* and various Provincial Acts (see section governance). These pieces of legislation require that a lease or licence be acquired to operate any aquaculture facility. With the exception of Prince Edward Island, where Fisheries and Ocean Canada retains authority, the other provinces of the Gulf Region are responsible for their own aquaculture leasing and licensing. This came about in the late 1980's when the Government of Canada, the four Atlantic Provinces and Quebec signed a Memoranda of Understanding (MOU) whereby the lead authority for aquaculture development was transferred to the Provinces. Lead authorities are responsible for administering their respective legislation for aquaculture development and overseeing the licensing process including approvals from other provincial and federal agencies.¹⁸

19 Cook, R.H. and F.J. Simpson, 1995. Roles of Government Agencies in Aquaculture Development in Atlantic Canada: Regulations and Incentives. In Boghen (ed.), *Cold Water Aquaculture in Atlantic Canada*. Institut Canadien de recherche sur le développement régional, Université de Moncton, pp. 506-536.

In the Gulf Region, a number of government and non-government committees and associations have also been established to focus on strategic development and to set standard practice for the industry.

Table 21: Aquaculture Committees and Associations.

Province	Aquaculture Committees and Associations
Gulf Region	Gulf Region Aquaculture Coordination Committee , Gulf and Maritimes Regions Aquaculture Innovation and Market Access Program Committee , Aquaculture Collaborative Research and Development Program Committee
New Brunswick	NB Introduction and Transfer Committee , Canada-NB Aquaculture MOU Management Committee , Canada-NB Aquaculture MOU Coordinating Committee, Trout & Freshwater Development Committee, Shellfish Development Committee, Research & Development Shellfish Sub-Committee, Shellfish Aquaculture Environmental Coordinating Committee, Marine Finfish Development Committee, Marine Finfish Aquaculture Environmental Coordinating Committee, Fish Health & Bio-security Advisory Committee, NB Shellfish Working Group (currently inactive)
Nova Scotia	Canada-NS MOU Aquaculture Management Committee, Gulf NS Shellfish Working Group (re-activated Spring 2009), NS Development Fund Committee
Prince Edward Island	PEI Introduction and Transfer Committee , PEI Aquatic Invasive Species Committee , Introductions & Transfers Tunicate Subcommittee, PEI Aquaculture Leasing Referral Committee , PEI Leasing Management Board , Canada-PEI MOU Aquaculture Development Management Committee

3.3.3 Trend

There are 1,687 active aquaculture sites (2008) are distributed throughout the Gulf Region. Prince Edward Island has the largest amount of aquaculture activity with approximately 1,100 sites¹⁹ distributed throughout nearly every bay and estuary. In New Brunswick, 70% of the sites are located between Caraquet Bay and Miramichi Bay along the Province’s northeast coast.²⁰ In Nova Scotia,

20 Government of Prince Edward Island, Dept. of Fisheries and Oceans, Fisheries and Aquaculture Management Branch (Aquaculture and Recreational Fisheries Division)

21 Government of New Brunswick. Personal contact : Robert Dupuis, Officer of Leasing and Licensing Unit, Department of Agriculture, Fisheries and Aquaculture (2004)

aquaculture activity along the north shore occurs from Pugwash to St. Georges Bay.²¹

Table 22: Active Shellfish and Finfish Aquaculture Sites in the Gulf of St. Lawrence.

Province	Shellfish	Finfish	Total Sites
Gulf NB	540	0	540
Gulf NS	43	10	53
PEI	1,094	0	1,094
Total	1,677	10	1,687

3.3.4 Shellfish

Table 23: Shellfish Aquaculture Sites Licensed by Province*

Province	Blue Mussel	Oyster	Sea Scallop	Bay Scallop	Quahaug	Clams (Soft Shell, Bar, Surf, Razor Clam)	Sea Urchin	Total
Gulf NB	29	535	43	12	94	113	1	769
Gulf NS	6	32	0	4	18	3		65
PEI	286	703	5	-	54	31	--	1,095
Total	321	1,270	48	16	166	147	1	1,929

*A number of aquaculture sites contain more than one species, and may be accounted for in more than one column of the table.

3.3.5 Production and Value

Production and value data presented below are from all three Maritime Provinces for 1997, 2002, and 2007. However, this data was available only for the Provinces as a whole, thus it was impossible to extract data for the Gulf Region alone. New species introduced to the aquaculture industry are initially produced by a few or single operations. Production and value data for several minor species are often grouped together for confidentiality purposes.

New Brunswick's aquaculture industry has mainly focused on 4 species; salmon, trout, oysters and blue mussels. Salmon continues to lead in both value and production by a large margin over the other species and enjoys continued growth as well. However, there are no New Brunswick salmon farms located within the Gulf Region due to the presence of ice during the winter months. Oysters and blue mussels are the primary aquacultural species of importance within the Gulf Region in New Brunswick. Oyster production has exploded with growth over 1300% from 1997 to 2007. Meanwhile blue mussel production has had a threefold increase over the same period but has contracted from its peak in 2002.

22 Government of Nova Scotia, Department of Agriculture and Fisheries, Aquaculture Division : Aquaculture mapping site <http://142.176.62.105/fishery/>

Blue mussel's value is growing at a faster rate than its production in tonnes. This would suggest growing demand and/or concentration on high quality blue mussels.

Table 24: Aquaculture Production and Value for New Brunswick, 1997-2002-2007.

Species	Data	Year			% change 1997 to 2007
		1997	2002	2007	
Salmon	Production (tonnes)	18,585	38,900	39,000	109.8%
	Value (000's of dollars)	139,016	194,500	288,210	107.3%
Trout	Production (tonnes)	550	550	300	-45.5%
	Value (000's of dollars)	6,000	6,100	3,000	-50.0%
Oysters	Production (tonnes)	265	1,235	3,900	1371.7%
	Value (000's of dollars)	567	1,173	4,100	623.1%
Blue Mussels	Production (tonnes)	137	637	550	301.5%
	Value (000's of dollars)	108	801	600	455.6%
Other Species	Production (tonnes)	0	0	0	-
	Value (000's of dollars)	0	0	0	-
Sum of Production (tonnes)		19,537	41,322	43,750	123.9%
Sum of Value (000's of dollars)		145,691	202,574	295,910	103.1%

Source: Statcan catalogue No. 23-222-X.

The aquaculture industry in Nova Scotia is growing rapidly for all species save oysters. Salmon, trout, and blue mussels are all enjoying significant growth both in terms of production and value. The Other Species category is obviously focused on high value species with production in tonnage decreasing by 27% from 1997 to 2007 while value has increased by 205% over the same period.

Table 25: Aquaculture Production and Value for Nova Scotia, 1997-2002-2007.

Species	Data	Year			% change 1997 to 2007
		1997	2002	2007	
Salmon	Production (tonnes)	1,112	1,951	6,936	523.7%
	Value (000's of dollars)	6,356	12,504	39,209	516.9%
Trout	Production (tonnes)	33	0	118	257.6%
	Value (000's of dollars)	164	0	1,084	561.0%
Oysters	Production (tonnes)	288	349	199	-30.9%
	Value (000's of dollars)	1,030	1,076	821	-20.3%
Blue Mussels	Production (tonnes)	577	1,073	2,476	329.1%
	Value (000's of dollars)	819	2,288	3,461	322.6%

	dollars)				
Other Species	Production (tonnes)	621	824	452	-27.2%
	Value (000's of dollars)	2,758	3,767	8,414	205.1%
Sum of Production (tonnes)		2,631	4,197	10,181	287.0%
Sum of Value (000's of dollars)		11,127	19,635	52,989	376.2%

Source: Statcan catalogue No. 23-222-X.

Prince Edward Island's aquaculture industry has not included salmon and trout up to this point. The focus has been on the shellfish species and growth is generally strong though it has slowed from 2002 to 2007 as compared with the 1997 to 2002 period. In a similar trend to what is observed in Nova Scotia, PEI's Other Species category is gaining in value while decreasing production weight. Once again this suggests increased focus on high quality, high value species.

Table 26: Aquaculture Production and Value for Prince Edward Island, 1997-2002-2007.

Species	Data	Year			% change 1997 to 2007
		1997	2002	2007	
Salmon	Production (tonnes)	0	0	0	-
	Value (000's of dollars)	0	0	0	-
Trout	Production (tonnes)	0	0	0	-
	Value (000's of dollars)	0	0	0	-
Oysters	Production (tonnes)	1,428	2,736	2,812	96.9%
	Value (000's of dollars)	3,181	5,727	6,700	110.6%
Blue Mussels	Production (tonnes)	9,974	16,785	17,052	71.0%
	Value (000's of dollars)	12,096	22,202	21,800	80.2%
Other Species	Production (tonnes)	94	33	14	-85.1%
	Value (000's of dollars)	851	892	1,700	99.8%
Sum of Production (tonnes)		11,496	19,554	19,878	72.9%
Sum of Value (000's of dollars)		16,128	28,821	30,200	87.3%

Source: Statcan catalogue No. 23-222-X.

Aquaculture operations throughout the provinces in the Gulf Region produced 73,809 tonnes of products, valued at nearly \$380 million in 2007. Salmon and trout grow-out sites accounted for most of the production for the Maritimes provinces, but the majority of that production is based outside of the Gulf Region. Shellfish (mainly mussel and oyster) accounted for close to 10% of the value of the aquaculture production. The major production areas are centered on Prince Edward Island and eastern NB.

Table 27: Aquaculture Production and Value for Maritime Provinces, 1997-2002-2007.

Species	Data	Year			% change 1997 to 2007
		1997	2002	2007	
Salmon	Production (tonnes)	19,697	40,851	45,936	133.2%
	Value (000's of dollars)	145,372	207,004	327,419	125.2%
Trout	Production (tonnes)	583	550	418	-28.3%
	Value (000's of dollars)	6,164	6,100	4,084	-33.7%
Oysters	Production (tonnes)	1,981	4,320	6,911	248.9%
	Value (000's of dollars)	4,778	7,976	11,621	143.2%
Blue Mussels	Production (tonnes)	10,688	18,495	20,078	87.9%
	Value (000's of dollars)	13,023	25,291	25,861	98.6%
Other Species	Production (tonnes)	715	857	466	-34.8%
	Value (000's of dollars)	3,609	4,659	10,114	180.2%
Sum of Production (tonnes)		33,664	65,073	73,809	119.3%
Sum of Value (000's of dollars)		172,946	251,030	379,099	119.2%

Source: Statcan catalogue No. 23-222-X.

3.3.6 Outlook

The future potential of the industry is considered to be good but requires large investment in research and development in terms of technology. Understanding and controlling potential environmental impacts (such as invasive species) and learning to co-exist with other human uses of the marine environment are further challenges to be addressed by the industry.

The Government of Canada announced a \$70 million investment over five years in Budget 2008 to create the conditions for a successful and sustainable aquaculture industry across Canada. DFO's Sustainable Aquaculture Program is comprised of four pillars: Governance and Regulatory Reform, Regulatory Science, Innovation and, Certification and Market Access. The newest grants and contributions to the Innovation and Market Access Program (AIMAP) total \$23.5 million over the next five years. These funds are made available for innovation and market access projects contributing to the following objectives: increased sustainable production, increased diversification and promotion of green technology. During fiscal year 2008-2009, six projects totaling \$2.12 million have been approved, of which 36% came from AIMAP and the remaining 64% from provincial, private or other federal partners.

3.4 Marine Transportation

3.4.1 Traffic

The Gulf Region has one major port, which is located in Charlottetown, PEI. However the large majority of ship traffic in our region continues towards the St. Lawrence River for distribution of its cargo to major centres along the Seaway²².

Two ferries service one route from Wood Islands, PEI to Caribou, NS. NFL Ferries provides up to 9 departures per day from each side serving approximately 475,000 passengers annually²³.

3.4.2 Pollution

Under the *Canada Shipping Act*, Ballast Water Control and Management Regulations are being created to address the growing problem of aquatic species that may be carried in ships' ballast water, including bacteria and other microbes, micro-algae, and various life stages of aquatic plant and animal species. Ships travelling in Canadian waters carry thousands of tonnes of ballast water annually, making Canada vulnerable to the introduction of alien species from the ballast water discharged.²⁴

Under the current Canadian voluntary guidelines, all ships entering Canadian waters are expected to exchange ballast water outside of the Exclusive Economic Zone. If offshore exchange is not feasible for safety reasons such as heavy seas or storms, current Canadian guidelines and proposed regulations would allow for exchange in alternate exchange zones located off the East and West Coasts, and seasonally in the Laurentian Channel of the Gulf of St. Lawrence.²⁵

3.5 Tourism and Recreational Activities

The geographical situation of the Gulf Region provides it with opportunities pertaining to marine based tourism and recreational activities. The fact that the region is situated in a cold climate means that these opportunities mostly occur

23 Seaway definition: <http://www.greatlakes-seaway.com/en/seaway/index.html>, 11/03/2009.

24 NFL Ferries information, <http://www.peiferry.com/the-ship/>, 11/03/2009.

25 Transport Canada:

<http://www.tc.gc.ca/marinesafety/oep/environment/sources/ballastwater.htm>, 18/02/2009.

26 Transport Canada:

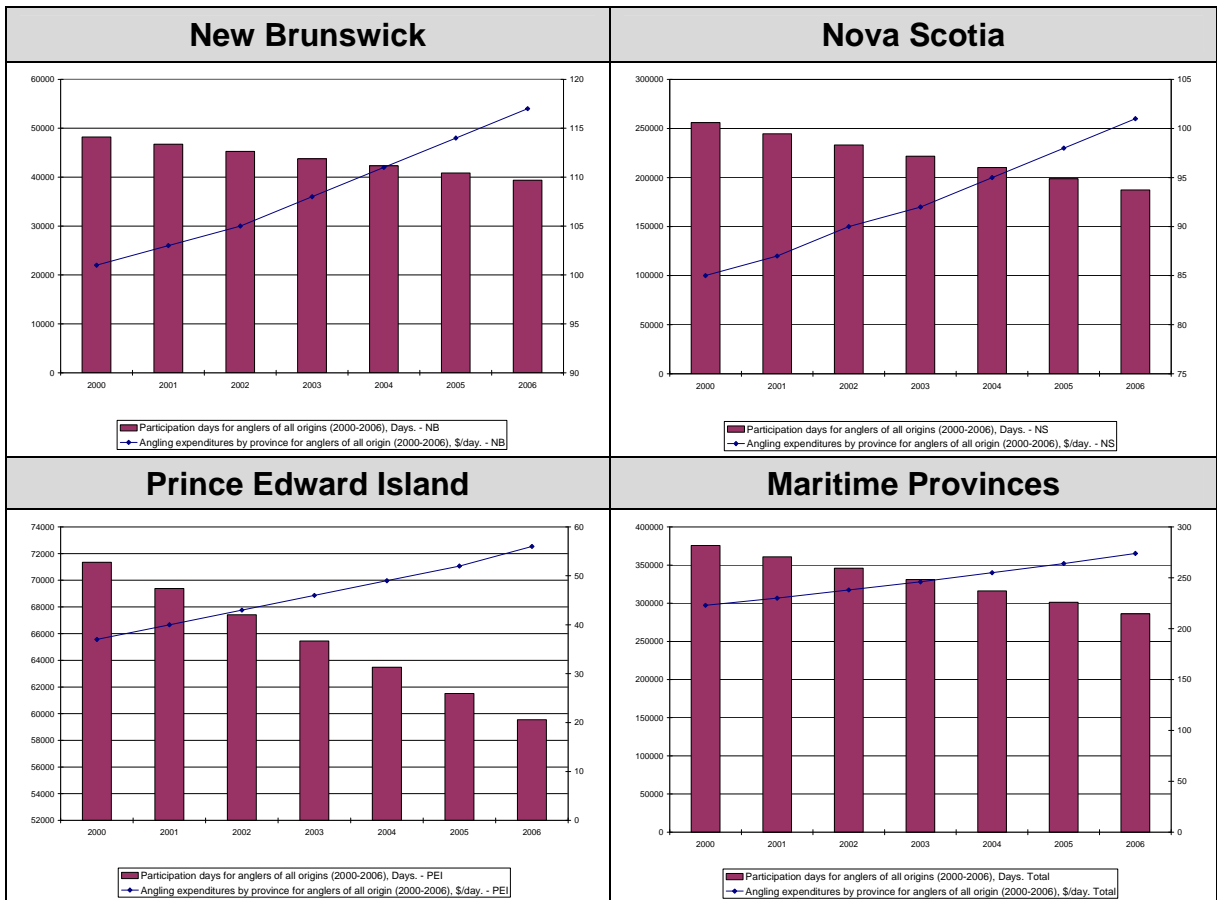
<http://www.tc.gc.ca/marinesafety/oep/environment/ballastwater/management.htm>, 18/02/2009.

during the warmer seasons and thus creates seasonal type revenues and work for dependants of this industry.

Recreational fishing or angling, cruise travel, and tourist travel data is presented for the Provinces of New Brunswick, Nova Scotia and Prince Edward Island in their entirety unless otherwise noted.

3.5.1 Recreational Fishing

Figure 27: Total Days Angling and Total Expenditures per Angling Day.



Source: Gardner Pinfold (2009). "Economic value of marine related activities in Canada". Draft Report, Fisheries and Oceans Canada, Ottawa, January 2009.

From 2000 to 2006 the Maritime Provinces has experienced a decline in the total number of days spent fishing by anglers, down 23.8%, while the total expenditures per day associated to angling have increased, 22.9%.

- NS: 26.8% decrease in participation days with an 18.8% increase in angling expenditures per day.
- NB: 18.4% decrease in participation days with a 15.8% increase in angling expenditures per day.

- PEI: 16.4% decrease in participation days with a 51.4% increase in angling expenditures per day.

In Nova Scotia this represents a decrease of 13.3% in total angling expenditures from 2000 to 2006. For the same period New Brunswick's result is a 2.7% decrease while Prince Edward Island reversed the trend with a 22.9% increase. Overall this means an 8.7% decrease for the Maritime Province combined.

For 2006, PEI's expenditure per day level was 52.1% and 44.6% below NB and NS levels respectively. One major factor in this discrepancy in license fees as illustrated in the table below with the example of salmon fishing license fees.

Table 28: Cost of Seasonal Salmon License.

Province	Type	Cost
Prince Edward Island ²⁶	Resident and non-resident (2 Tags)	\$11.30
Nova Scotia ²⁷	Resident (4 tags)	\$38.19
	Non-resident (4 tags)	\$142.96
New Brunswick ²⁸	Resident (8tags)	\$33.90
	Non-resident (8 tags)	\$158.20

3.5.2 Cruise Ship Generated Tourism

Charlottetown, PEI is the only port found in the Gulf region which BREA²⁹ acknowledges in its report as a cruise destination port. Data for New Brunswick and Nova Scotia were omitted here because cruise ship ports in these provinces are located exclusively outside the study area.

Form 1997 to 2007 the Charlottetown Seaport welcomed an average of 19 ships annually. On September 25th, 2007 a new pier and cruise welcome centre opened for business. Subsequently, 36 ships docked in Charlottetown in 2008 up from 16 in 2007. This represents a 202% increase in the number of passengers a

27 <http://www.gov.pe.ca/photos/original/08fishsummary.pdf>, 26/02/2009.

28 <http://www.gov.ns.ca/fish/sportfishing/angling/09AG06.pdf>, 26/02/2009.

29 <http://app.infoaa.7700.gnb.ca/gnb/Pub/EServices/ListServiceDetails.asp?ServiceID1=1115&ReportType1=All>, 26/02/2009.

30 BREA: Business Research & Economic Advisors: The Economic Contribution of the

International Cruise Industry in Canada 2007, Executive Summary

total of 57,326 in 2008, up from 19,000 in 2007³⁰. Currently the 2009 schedule lists 41 ships coming to Charlottetown which represent a capacity of 63,073 passengers and 27,844 crew members.

BREA, delineate an Atlantic region it includes ports at Charlottetown, PEI, Saint John, NB, Halifax and Sydney, NS, as well as Corner Brook and St. John's, NL. BREA estimates that at any given port call approximately 95% of passengers disembark the vessel and approximately 60% of the crew will disembark as well. For 2007 the average expenditure calculated by BREA was \$60.68 per passenger³¹ and \$41.80 per crew member which approximately represents \$3.3 million in passenger expenditures and \$736 thousand from crew expenditures³².

3.5.3 Marine Related Tourism, Excluding Cruise and recreational Fishing

The graphs below have one commonality, an increase in the number of trips with marine related activities in 2002. The illustration representing the Gulf Region as a whole reflects this increase along with the relative importance of the Nova Scotian contribution as it closely follows Nova Scotia's graph. The following four years return to numbers similar to those experienced in 2000 and 2001.

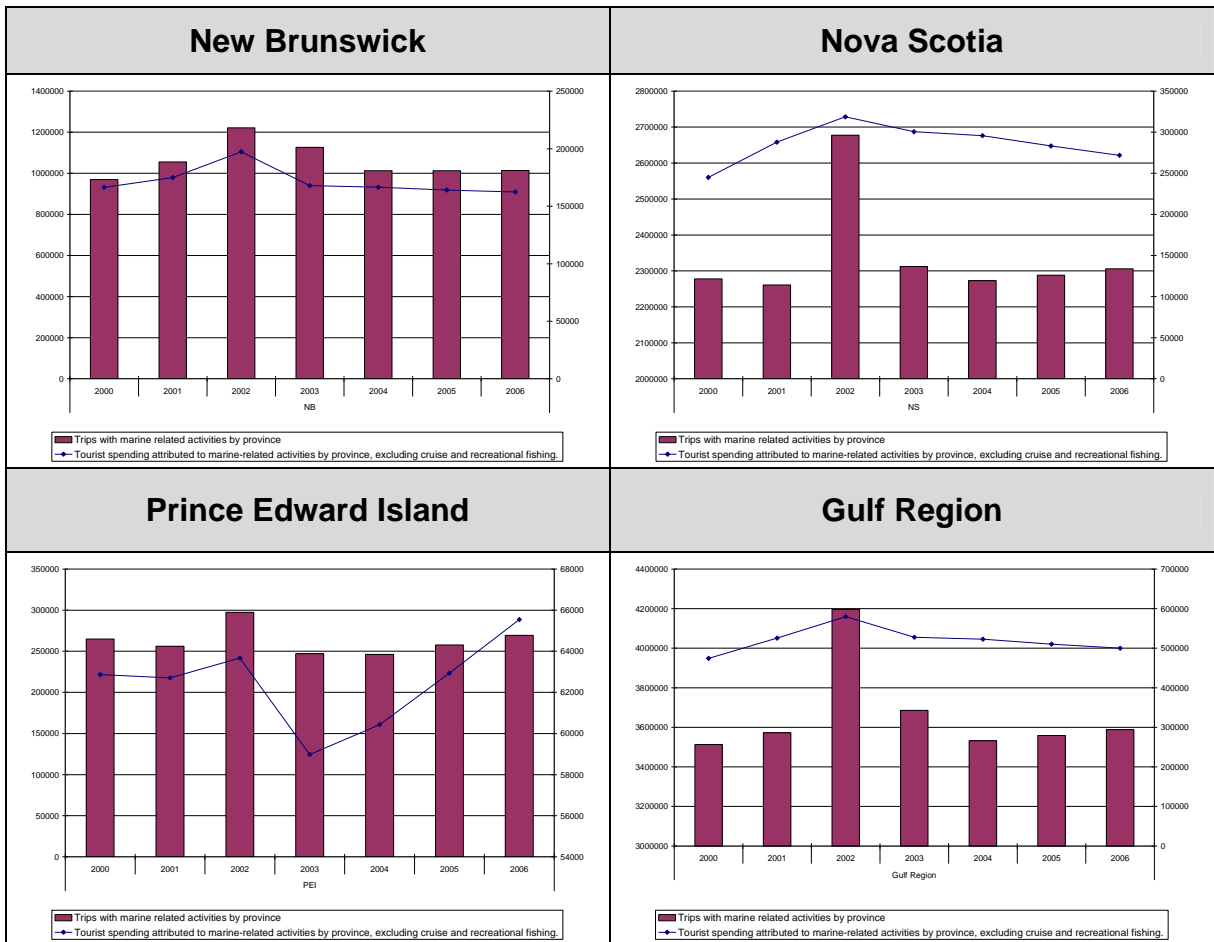
The last 3 years addressed in these graphs would suggest a pattern of moderate growth emerging for the number of trips. Spending meanwhile is decreasing for all Provinces except PEI who enjoyed average annual growth of 3.6% from 2003 to 2006.

31 <http://www.historiccharlottetownseaport.com/cruiseships/>, 25/02/2009.

32 Note: Gardner Pinfold estimated that 2007 passenger expenditure for PEI at \$67 based on the BREA findings, thus the use of the Atlantic average of \$60.68 for passenger expenditure may be on the conservative side for PEI.

33 Note: These figures were calculated using Atlantic port 2007 average expenditure for passenger and crew, as defined by BREA. 95% of the actual reported number of passengers, and 60% of the crew capacity for the ships that called to port in 2008, as per the Charlottetown Harbour Authority, were used to calculate the total figures.

Figure 28: Number of Trips with Marine Related Activities and Tourist Spending (in 000's) Attributed to Marine-Related Activities, Excluding Cruise and Recreational Fishing.



Source: Gardner Pinfold (2009). "Economic value of marine related activities in Canada". Draft Report, Fisheries and Oceans Canada, Ottawa, January 2009.

3.6 Energy

3.6.1 Wind, Hydro, Fossil Fuels, Nuclear

Nova Scotia (NS Power - Emera)

One thermal power generation plant and several wind energy farms exist in NS's Gulf Watershed. The thermal plant is located in Pictou County. The wind farms are located in the Cumberland-Colchester area, Pictou County, Antigonish and Inverness County in Cape Breton. This sector is witnessing rapid growth and installations are appearing in growing numbers in the Region, particularly Gulf Nova Scotia.

New Brunswick (NB Power)

Four thermal and two hydroelectric power generation plants are located in New Brunswick and are within the Gulf watershed. The thermal plants are located in Dalhousie, Belledune, Ste.-Rose, and Millbank, while the hydro plants are found at Nepisiguit Falls and Sisson.

Prince Edward Island (Maritime Electric - Fortis)

On Prince Edward Island there are two thermal power generation plants, one in Charlottetown and the other in Borden. Also there are 2 wind farms, one near Tignish, the other near Souris. The thermal plants are kept on standby and operate as a backup to the energy purchased from New Brunswick which is fed to the Island by way of an undersea transmission line. Most of the power consumed on Prince Edward Island is imported.

The following table shows each Provinces capacity for electrical production.

Table 29: Capacity for Generation of Electricity.

Source	Canada	Prince Edward Island	Nova Scotia	New Brunswick
Megawatt-Hours				
Electric Utilities and Industry				
Hydro	349,469,015	0	1,019,420	3,730,625
Wind and Tidal	2,466,767	36,249	128,679	0
Thermal	240,072,039	6,251	10,305,730	14,473,995
Steam	118,251,518	5,096	10,199,890	8,379,101
Nuclear	92,418,514	0	0	4,366,463
Internal Combustion	3,591,329	32	0	4,897
Combustion Turbine	25,810,678	1,123	105,840	1,723,534
Total Energy Generated	592,007,821	42,500	11,453,829	18,204,620
Percentage of Total for Canada	100%	0%	1.9%	3.1%

Source: <http://www.statcan.gc.ca/pub/57-202-x/2006000/5208580-eng.htm>, 12/02/2009.

3.6.1.1 Outlook

The Gulf Region is in the early stages of developing its wind energy producing capacity. Support from Federal and Provincial Governments and public and private interests are strong. Developing this resource is important for the Region as resources required for hydro are well exploited and fossil fuel based energy produces emission and relies on non-renewable resources. Nuclear is also an option.

Prince Edward Island stands to benefit greatly from wind energy. Currently it purchases most of its energy from its neighbours and lacks the natural resources and topography required to pursue the other energy producing options discussed above.

Table 30 outlines the development initiatives and goals supported by the Federal Government and each Maritime Province for wind energy. A detailed list of wind generating sites for the region is found in Appendix 13.

Table 30: Federal / Provincial Initiatives on Wind Energy ³³

Jurisdiction	Initiative	Status
Federal	Announced the ecoEnergy Renewable Power program in January 2007 to support the deployment of 4,000 MW of renewable energy between 2007 and 2011.	Due to high demand, it is likely that all funding associated with the program will be fully allocated by the end of 2009.
New Brunswick	NB Power seeking 400 MW of wind energy by 2016	96 MW of wind energy contracted – expected to announce 300 MW of additional contracts in Spring 2008.
Nova Scotia	The Renewable Energy Standards (RES) put in place by the Government of Nova Scotia require that 5% of the total Nova Scotia electricity requirement be supplied by new (post 2001) renewable energy sources by 2010, rising to 10% by 2013.	Approximately 60 MW of wind generation has been installed post – 2001. If all wind capacity, the RES will require some 210 MW of additional wind capacity by 2010 and a total of some 510 MW of additional wind capacity by 2013.
Prince Edward Island	Government target of installing 500 MW of wind power by 2013.	72 MW of wind energy already in place. Exploring opportunities to bring more wind energy onto the grid.

Updated May 2008

³⁴http://www.canwea.ca/images/uploads/File/Fed_and_provincial_initiatives_may_2008.pdf, visited 09/02/2009.

3.7 Oil and Gas

Statistics Canada reports Nova Scotia and Nova Scotia Offshore separately. Nova Scotia Offshore is not considered in the Gulf Region discussion of Oil and Gas because most of the Nova Scotia Offshore production is in the Maritimes Region. However please note that Corridor Resources Ltd. of Halifax does hold an exploratory license for an offshore area off western Cape Breton. Seismic surveys were carried out in this area in 2003 and 2004 by the company.

Oil and Gas activity in the Gulf Region is minimal to non-existent. Statistic Canada indicate that Prince Edward Island and Nova Scotia have no active exploratory or development wells for oil or gas nor have any such wells been abandoned or suspended in 2005 or 2006. New Brunswick meanwhile had 2 exploratory gas wells in 2005 and none in 2006. However 2006 featured 8 development wells for gas up from zero the year before. New Brunswick had 5 exploratory and 1 developmental abandoned or suspended in 2005 and none in 2006³⁴. Comparatively the whole of Canada had approximately 5,700 exploratory wells and 16,000 development wells active in 2006.

Some funds are being committed to exploration and development. On Prince Edward Island \$1.8 million was devoted to exploration in 2006 up from \$1.6 million in 2005. In Nova Scotia \$12 million was invested, mainly for exploration, in 2006 up from \$2.1 million in 2005. The focus leans toward development in New Brunswick, 2006 saw \$88.5 million invested approximately \$73.5 million of which were dedicated to development. In 2005 expenditures in New Brunswick totalled approximately \$35 million of which approximately \$20 million was for development.

Despite the above noted investments marketable production is negligible and not substantial enough to be reported in Statistic Canada's provincial breakdown of marketable production.³⁵

3.8 Mining

Mining in the New Brunswick and Nova Scotia has seen a general resurgence since 2002 having enjoyed growth in the value of their production and stable employment numbers. Data for Prince Edward Island was not available from 2002 onward due to the confidentiality requirements of Statistics Canada.

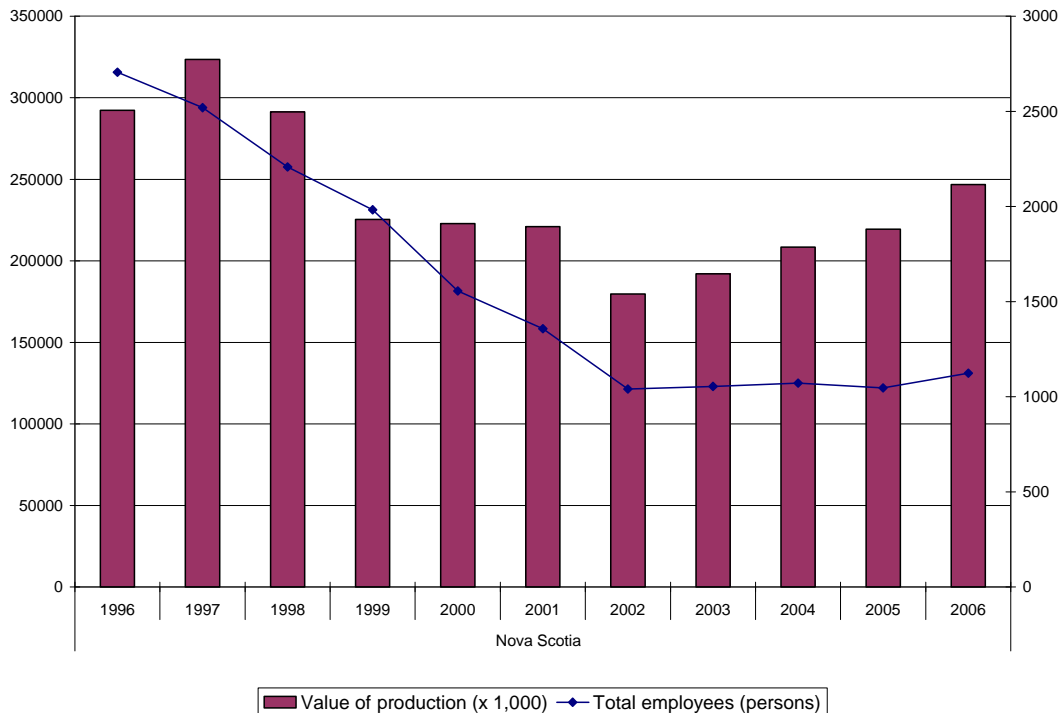
³⁵ Statcan, Publication 26-213-X *Oil and Gas Extraction*, Table 2.

³⁶ Statcan, Publication 26-213-X *Oil and Gas Extraction*, Table 5.2.

3.8.1 Nova Scotia

The 3 principal minerals extracted from Nova Scotia mines are Gypsum, Crushed Stone, and Salt accounting for 82.4% of Primary production value in 2006³⁶. From 1996 to 2002 both employment and value of production decreased in the mining industry. Since 2002 we can see a steady climb in terms of value while employment has remained stable at over 1,000 jobs.

Figure 29: Value of Production and Total Employees Attributed to the Nova Scotia Mining Industry.



Source: Statcan, Table 152-0003

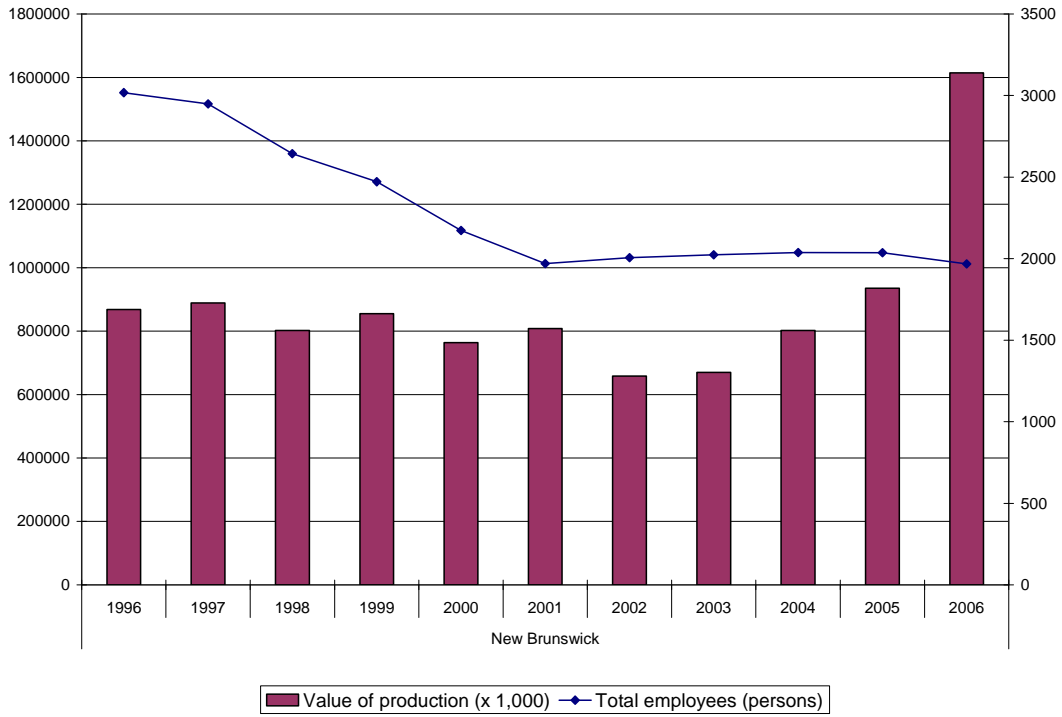
3.8.2 New Brunswick

New Brunswick consistently remained the most important of the 3 Maritime Provinces in terms of value of production and employment from 1996 to 2006. Employment has stabilized since 2001 after having contracted steadily the previous 5 years. Production value has increased yearly since 2002 with an abnormal spike in value for the year 2006 attributed by the industry to a dramatic rise in metal prices worldwide and the strength of the Canadian Dollar over the

37 Gardner, M., Pinfold, T. (2008) Economic Impact of the Mineral Industry in Nova Scotia 2006. Retrieved 12/03/2009 from www.gov.ns.ca, The official site of the Government of Nova Scotia:
<http://www.gov.ns.ca/natr/meb/pdf/08ofr01/08ofr01.pdf>

period. Prior to 2002 production value was slowly trending downward from approximately \$868 million in 1996 to a low of \$658 million in 2002.

Figure 30: Value of Production and Total Employees Attributed to the New Brunswick Mining Industry.

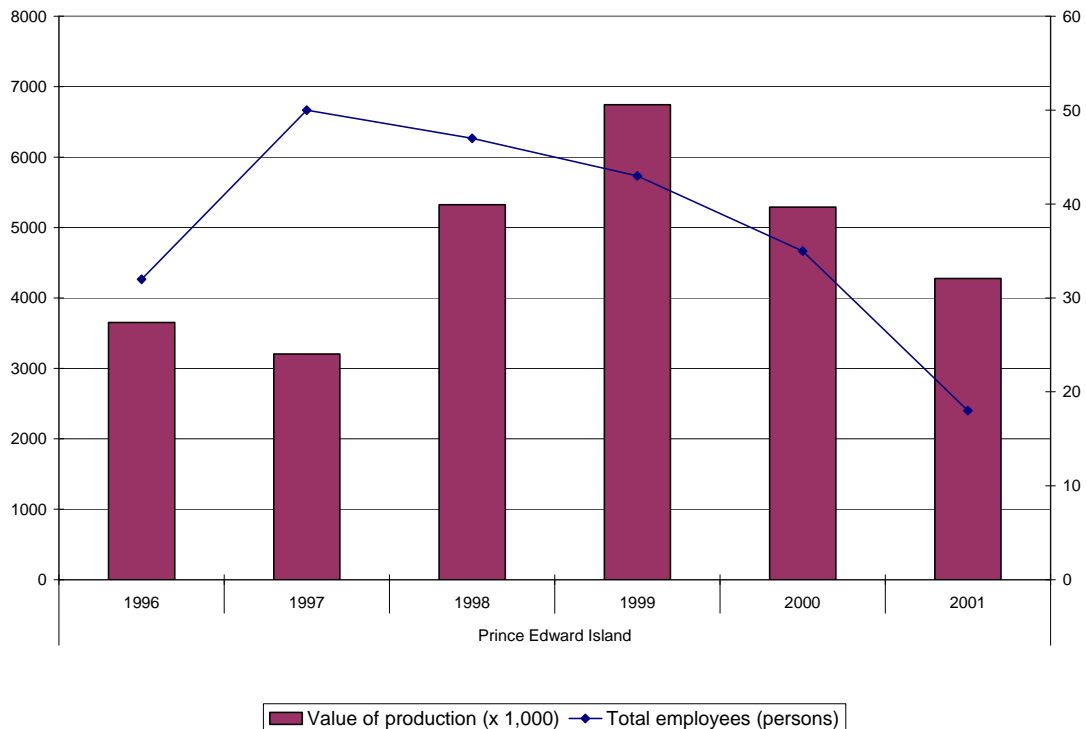


Source: Statcan, Table 152-0003

3.8.3 Prince Edward Island

Prince Edward Island has a small mining industry which creates data acquisition problems due to confidentiality. We can say that in the final 3 years for which we were able to obtain data both value of production and employment were trending downwards.

Figure 31: Value of Production and Total Employees Attributed to the Prince Edward Island Mining Industry.



Source: Statcan, Table 152-0003

3.9 Agriculture

3.9.1 Nova Scotia

The Department of Agriculture, Fisheries and Aquaculture is the lead agency for agriculture in Nova Scotia. Agriculture associations supporting the interests of the agricultural industry include the Nova Scotia Federation of Agriculture, Nova Scotia Cattlemen's Association, and the Dairy Farmers of Nova Scotia. Census Divisions, 10 (Colchester), 11 (Cumberland), 12 (Pictou), 14 (Antigonish), and 15 (Inverness) account for 36% of all farm acreage in the Gulf Region and approximately 50% of farm acreage within the Province.³⁷ The Annapolis Valley

38 Statistics Canada, 2006 Census of Agriculture, Farm Data and Farm Operator Data, catalogue no. 95-629-XWE

and central Nova Scotia are the major areas for agriculture activity, accounting for 31% and 30% of farms respectively. In 2006, Statistics Canada reported fruit production, beef farming, and Christmas tree production as the most common agricultural activities in Nova Scotia. Farm cash receipts for Nova Scotia's agricultural industry totalled \$473 million in 2006.

Table 31: Number and Total Area of Farms within Nova Scotia Counties Bordering the Gulf of St. Lawrence.

Geographic name (Geographic level)	Total area of farms	
	Farms reporting	Hectares
Nova Scotia	3,795	403,044
Agricultural Region 3 (CAR)	1,149	137,903
Colchester County (CD-10)	442	50,600
Cumberland County (CD-11)	553	73,025
Agricultural Region 4 (CAR)	589	70,344
Pictou County (CD - 12)	273	30,002
Antigonish County (CD – 14)	226	29,024
Agricultural Region 5 (CAR)	291	32,291
Inverness County (CD – 15)	138	17,971

Source: Statistics Canada, 2006 Census of Agriculture, Farm Data and Farm Operator Data, catalogue no. 95-629-XWE

Land inputs which include the use of irrigation, commercial fertilizer, herbicides, insecticides, and fungicides have all decreased for the whole of Nova Scotia. The areas of interest for the Gulf Region as specified in Table 31 do not mirror the same across the board decreases in inputs. Slight variations both positive and negative are present in the areas of interest as detailed in Appendix 14. No trend is readily identifiable for land inputs in the area of interest.

3.9.2 New Brunswick

The Department of Agriculture and Aquaculture is the authority for agricultural activity in New Brunswick. Census Divisions, 14 (Restigouche), 15 (Gloucester), 9 (Northumberland), 8 (Kent), and 7 (Westmorland) account for approximately 19% of farm acreage along the Gulf Region and 27% of the farm acreage within the Province. Beef farms, fruit operations (mainly blueberries) and dairy farms are the most common agricultural operations throughout the region. Farm cash receipts throughout the province totalled \$459 million in 2006.

Table 32: Number and Total Area of Farms within New Brunswick Counties Bordering the Gulf of St. Lawrence.

Geographic name (Geographic level)	Total Area of Farms	
	Farms Reporting	Hectares
New Brunswick	2,776	395,228
Agricultural Region 3 (CAR)	633	78,683

Westmorland County (CD-7)	357	46,240
Kent County (CD-8)	163	19,141
Agricultural Region 4 (CAR)	384	42,854
Northumberland County (CD - 9)	100	10,006
Restigouche County (CD – 14)	92	15,651
Gloucester County (CD – 15)	192	17,197

Source: Statistics Canada, 2006 Census of Agriculture, Farm Data and Farm Operator Data, catalogue no. 95-629-XWE

Land inputs for the province of New Brunswick have mostly remained stable from 2001 to 2006. The largest fluctuation coming in the increase of fungicide use with 30,291 hectares exposed in 2006 versus 26,504 hectares in 2001 and this with 34 less farms reporting.

For the New Brunswick agricultural regions on the Gulf of St. Lawrence various changes have occurred in land inputs from 2001 to 2006. A detailed table is found in appendix 15. While the use of irrigation, commercial fertilizers, and herbicides mainly remain stable with regional increases and decreases, the use of insecticides and fungicides have mostly increased in the region.

3.9.3 Prince Edward Island

The Department of Agriculture is the administrative agency for agriculture in Prince Edward Island. Prince Edward Island is divided into three Census Agricultural Regions: CAR 1 (Kings County), CAR 2 (Queens County), and CAR 3 (Prince County). Prince Edward Island has approximately 250,000 hectares of land for agricultural use, accounting for more than one-third of the Province's total land area. Potato production increased to 97,637 acres, accounting for 23% of PEI's total crop production. There are approximately 360 dairy cattle / milk production and 90 hog farms distributed throughout the Province. Beef production accounts for 20% of all farms, with larger feed lots situated in the Kensington – Summerside area. Other major commodities include vegetable and small fruit crops. In 2005, farm cash receipt for Prince Edward Island's agriculture industry totalled \$380 million.

Table 33: Number and Total Area of Farms within Prince Edward Island.

Geographic Name (Geographic Level)	Total Area of Farms	
	Farms Reporting	Hectares
Prince Edward Island	1,700	250,859
Agricultural Region 1 (Kings County)	286	49,773

Agricultural Region 2 (Queens County)	835	101,475
Agricultural Region 3 (Prince County)	579	99,611

Source: Statistics Canada, 2006 Census of Agriculture, Farm Data and Farm Operator Data, catalogue no. 95-629-XWE

Appendix 16 provides a detailed account of land inputs for Prince Edward Island and its agricultural regions. PEI has increased irrigated hectares by 140% from 2001 to 2006, 1,771 hectares now benefit from irrigation. Prince County the Islands most westerly county accounts for 84.4% of the Islands' total irrigated lands.

The use of commercial fertilizers has increased slightly overall on the Island from 2001 to 2006. However hectares exposed to herbicides, insecticides, and fungicides has all decreased over the same period with the exception of fungicide use in Agricultural Region 2 (Queens County).

3.10 Forestry

The forest industry in Atlantic Canada is undergoing a period of fundamental change³⁸. Increasing energy costs and global competition are some of the challenges causing the Maritimes forestry industry to adapt and change.

We can observe from the table below a net loss of 3,400 jobs in the industry. The loss of employment could have been more significant had it not been for the adaptability of the firms and its employees. Their willingness to move to different wood products has mitigated losses in the face of changing global competition and market demand.

Table 34: Forestry Industry Employment (000's).

Region	Category	Year			Change in Number Employed (000's)
		1997	2002	2007	
NB	Primary Forestry	6.3	4.6	4.4	-1.9
	Wood Products	5.5	6.7	7.1	1.6
	Pulp and Paper	6.2	5.2	5	-1.2
NS	Primary Forestry	3.5	3.7	2.5	-1.0
	Wood Products	2.8	3.6	3.2	0.4
	Pulp and Paper	4.1	3.4	2.7	-1.4
PEI	Primary Forestry	0.3	0.3	0	-0.3
	Wood Products	0.3	0.3	0.3	0.0
	Pulp and Paper	0	0	0.4	0.4

Source: APEC³⁹

39 Atlantic Provinces Economic Council (APEC) (2008). « Building Competitiveness in Atlantic Canada's Forest Industries: Strategies for Future Prosperity. », [Electronic Version].

Given the employment shift in New Brunswick from Pulp & Paper and Primary Forestry towards Wood Products and the trend in exports over the 10 year period from 1997 to 2007 I would suggest the following: New Brunswick's strategy revolves around the moving labour resources from less competitive operations to emerging markets.

Nova Scotia has not shifted labour with the same amplitude rather they seem to have a strategy to trim the number of employees outright. This in conjunction with increases in export value for both Paper and Other wood products suggests that companies in the industry have succeeded in increasing their efficiency.

Prince Edward Island remains a small player in the forestry industry with approximately 700 people employed in the industry in 2007. The lumber sector has suffered while advances have been achieved in the areas of paper and other wood production.

Table 35: International Exports of Forest Products, Value in Millions of Dollars.

Region	Category	Year			% change 1997 – 2007
		1997	2002	2007	
NB	Pulp	485.2	499.5	478.5	-1.4%
	Paper	963.9	966.3	862.5	-10.5%
	Lumber	563.1	536.7	305.7	-45.7%
	Other Wood	141.1	349.9	200	41.7%
NB Sum		2,153.3	2,352.4	1,846.7	-14.2%
NS	Pulp	204.5	189.5	171.1	-16.3%
	Paper	279.3	540.6	530.3	89.9%
	Lumber	110.7	212.5	131.9	19.2%
	Other Wood	34.4	79.1	66.6	93.6%
NS Sum		628.9	1,021.7	899.9	43.1%
PEI	Pulp	0	0	0.1	-
	Paper	0.6	0.5	0.9	50.0%
	Lumber	11	13.6	3.8	-65.5%
	Other Wood	0.6	0.6	2.1	250.0%
PEI Sum		12.2	14.7	6.9	-43.4%

Source: APEC⁴⁰

40 Atlantic Provinces Economic Council (APEC). (2008). « Building Competitiveness in Atlantic Canada's Forest Industries: Strategies for Future Prosperity. », [Electronic Version].

41 Atlantic Provinces Economic Council (APEC). (2008). « Building Competitiveness in Atlantic Canada's Forest Industries: Strategies for Future Prosperity. », [Electronic Version].

3.10.1 Pollution⁴¹

In 1992, the Pulp and Paper Effluent Regulations (PPER) under the *Fisheries Act* replaced a 1971 pulp and paper regulation. The Canadian pulp and paper industry has invested billions of dollars towards research and technology aimed at reducing its emissions and improving the quality of their effluent.

Today, most pulp and paper mills in Canada are equipped with at least primary and secondary treatment systems. Although mills have been successful in reducing the toxicity of their effluents, EEM data show that impacts continue in the aquatic environment.

4.0 Cultural

4.1 Museums

Museums keep a record of the happenings in a region. They can help identify how a place, community, or group of people came to be. A people's history and identity can be found in museums across the Gulf Region helping identify a cultural foundation. Seventy-seven museums found in the Gulf Region are identified in Appendix 18.

4.2 Historic Sites

Ten National Historic Sites are located in the Gulf Region many of which relate directly with their marine environment. Initial settlers depended greatly on marine resources much like today. Many of the Historical Sites of the region serve the memory of early settlements and trading posts as well as marine based industry. Appendix 19 contains a list of these historic sites.

4.3 Interpretation Centres

Some interpretation centres may form part of a Federal or Provincial Park or part of a Heritage or Conservation Site. Those are not revisited here.

The New Brunswick Aquarium and Marine Centre is located in Shippagan, NB and forms part of the Coastal Zones Research Institute Inc. (CZRI). It also houses an aquarium and fishing museum. The aquarium features 100 species in

⁴²Environment Canada. 2003. National Assessment of Pulp and Paper Environmental Effects Monitoring Data: A Report Synopsis. National Water Research Institute, Burlington, Ontario. NWRI Scientific Assessment Report Series No. 2. 28 p.: <http://www.ec.gc.ca/eseeeem/2E689B7B-239B-410D-868C-18AFD5C09C67/SynopsisEn.pdf>, 11/03/2009.

special microhabitats and a touch tank where some species can be handled by visitors.

The Metepenagiag Heritage Park⁴² in Red Bank, New Brunswick demonstrates how the Mi'kmaq people lived on the banks of the Miramichi River for nearly 3,000 years. The interpretation centre parallels the Augustine Mound and Oxbow Heritage Sites.

Located in Pictou County, Nova Scotia the Lansdowne Outdoor Recreational Development Association aims to provide specifically the elderly and the handicapped with an opportunity to enjoy the outdoors and activities such as sports fishing and hiking.

The Stanley Bridge Marine Aquarium located near New London, PEI features touch tanks for handling some of the 700 specimens on site. The history of the Malpeque oyster and the shellfish industry are also featured at the aquarium.

4.4 National Parks

Parks Canada Agency protects a number of significant natural and cultural areas around the Gulf of St. Lawrence through the creation of National Parks. Table 36 lists the National Parks found in the Gulf Region.

Table 36: National Parks

Name	Location	Significant Features	Human Activity
Cape Breton Highlands National Park	Northern Cape Breton Island, NS	Coastal, marine, geological, cultural (Acadian)	Camping, hiking, boating, kayaking
Kouchibouguac National Park	Kouchibouguac, NB	Archaeological, coastal, marine (2 nd largest tern colony in North America)	Camping, hiking, swimming, boat tours, recreational boating, bird watching, kayaking
Prince Edward Island National Park	Tracadie Bay to the New London Bay, PEI	Coastal (sand dune and beaches), marine	Camping, swimming, kayaking, hiking, boating, fishing

Source: Parks Canada

43 <http://www.metepenagiagpark.com/>

4.5 Provincial Parks

Provincial Parks and Historic Sites range from camping areas to public beaches and day use areas. Provincial governments are the administrative authorities for their respective Provincial Parks and Historic Sites. The lone Provincial Historic Site is the Acadian Historic Site at Caraquet, NB. Appendix 20 lists provincial parks and provincial historic sites located within the Gulf region.

Table 37: Number of Provincial Parks and Historic Sites within each Province Bordering the Gulf of St. Lawrence.

Province	Provincial Park	Provincial Historic Site
New Brunswick ⁴³	3	1
Nova Scotia ⁴⁴	17	0
Prince Edward Island ⁴⁵	28	0
Total	48	1

4.6 Conservation and Protected Sites

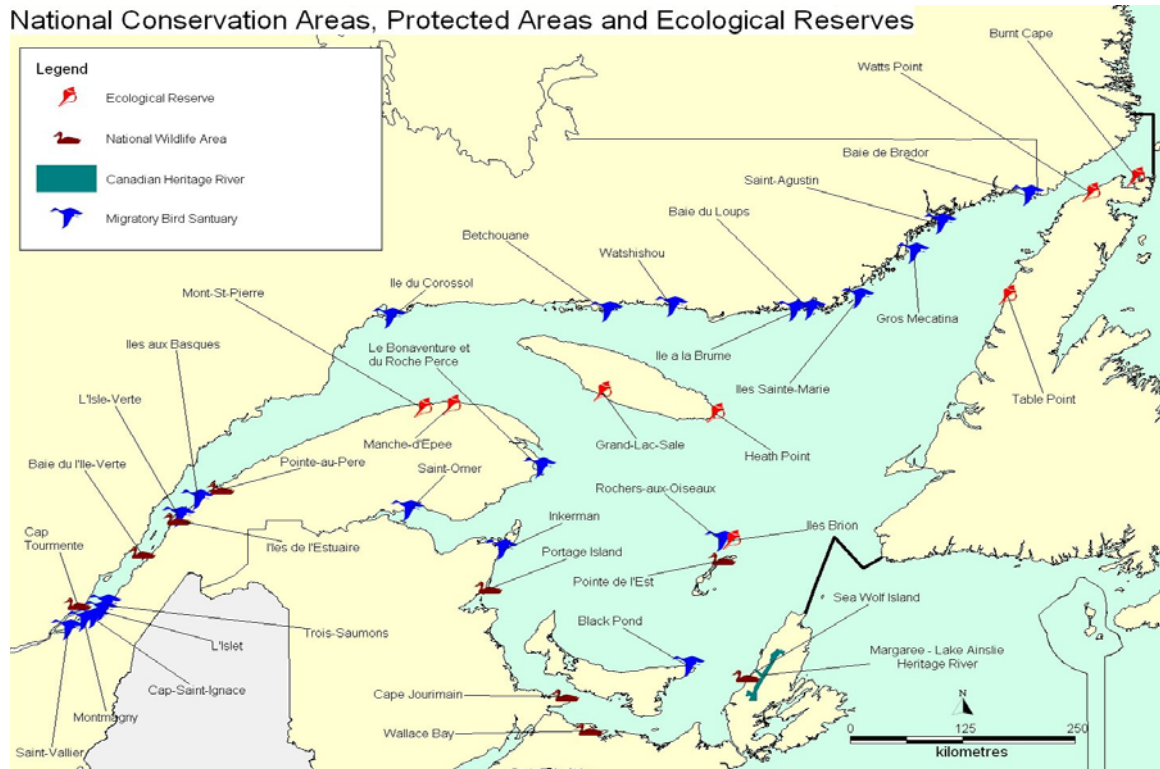
Conservation and protected areas account for more than ten thousand sq km of marine and coastal area within the Gulf of St. Lawrence. These areas include both National (migratory bird sanctuaries, wildlife areas, heritage rivers) and Provincial (ecological reserves, natural/ wildlife / wilderness areas) designated areas (Appendix 17; Table 38). Basin Head off eastern Prince Edward Island is the first marine protected area implemented under the *Oceans Act* within the Gulf of St. Lawrence, with two others proposed (The St. Lawrence Estuary and Manicougan Peninsula). Conservation and protected areas along the Gulf of St. Lawrence are administered at a number of levels including National, Provincial and corporate. Appendix 17 lists conservation and protected areas relevant to the Gulf of St. Lawrence.

44 Government of New Brunswick, The Official Tourism Website of the Province of New Brunswick <http://www.tourismnewbrunswick.ca/en-ca/>

45 Government of Nova Scotia, Natural Resources. Nova Scotia's Provincial Parks <http://parks.gov.ns.ca/>

46 Government of Prince Edward Island. Info PEI <http://www.gov.pe.ca/visitorsguide/index.php3?number=1010978>

Figure 32: Conservation and Protected Areas within the Provinces Bordering the Gulf of St. Lawrence.



Source: Part D⁴⁶

Table 38: Conservation and Protected Areas within the Provinces Bordering the Gulf of St. Lawrence.

Province	Natural/ Wildlife/ Wilderness Areas ⁴⁷	Migratory Bird Sanctuaries ⁴⁸	National Wildlife Areas ⁴⁹	Canadian Heritage River ⁵⁰	Total
New Brunswick	4	1	2	1	8

47 Alexander, D. W., Mullins, C.C., Sooley, D.R., Brennan, J.A., Cabana, A-M., Klvana, I., et al. (2006). Gulf of St. Lawrence Ecosystem Overview Report, Part D: Human Systems and Socio-Economic Components., Department of Fisheries and Oceans, internal document.

48 Government of Nova Scotia. Wilderness Areas – Wilderness Area Protection Act <http://www.chebucto.ns.ca/environment/FNSN/protarea.html>

49 Environment Canada., Migratory Bird Sanctuaries.; Migratory Bird Sanctuary Regulations., <http://collections.ic.gc.ca/sanctuaries/mbsa.htm>

50 Environment Canada (Atlantic Region)., <http://www.atl.ec.gc.ca/wildlife/index.html>

51 The Canadian Heritage Rivers System., <http://www.chrs.ca/>

Province	Natural/ Wildlife/ Wilderness Areas ⁴⁷	Migratory Bird Sanctuaries ⁴⁸	National Wildlife Areas ⁴⁹	Canadian Heritage River ⁵⁰	Total
Nova Scotia	4	0	2	1	8
Prince Edward Island	0	1	0	2	3
Total	8	2	4	4	19

Source: Part D⁵¹

4.7 Native Communities

Many Aboriginal communities located in the Gulf Region have maintained traditions passed on from their elders and place a great value on their heritage. They possess a unique 3,000 year old relationship with the Gulf's ecosystem on which their survival has largely depended upon for most of that time. Certainly, their presence in the Gulf Region enriches the cultural element present here.

The Mi'kmaq and Maliseet are the primary Aboriginal community to be found in the Maritimes. Table 39 lists the Bands by location.

Table 39: Aboriginal Groups Bordering the Gulf of St. Lawrence and Estuary.

Province	Aboriginal Group	Band	Band Council
New Brunswick	Mi'kmaq	Eel River Bar	Eel River Bar First Nation
		Pabineau	Mi'kmaq Nation at Pabineau
		Burnt Church	Council of Burnt Church First Nation
		Metepenagiag (Red Bank)	Metepenagiag Mi'kmaq Nation
		Indian Island	Council of Indian Island First Nation
		Elsipogtog (Big Cove)	Council of Elsipogtog Nation
		Eel Ground	Council of Eel Ground First Nation
		Bouctouche	Council of Bouctouche First Nation
Nova Scotia	Mi'kmaq	Pictou Landing	Pictou Landing First Nation
		Paq'tnkek	Paq'tnkek (Afton) First Nation
Prince Edward Island	Mi'kmaq	Abegweit	Abegweit First Nation
		Lennox Island	Lennox Island First Nation

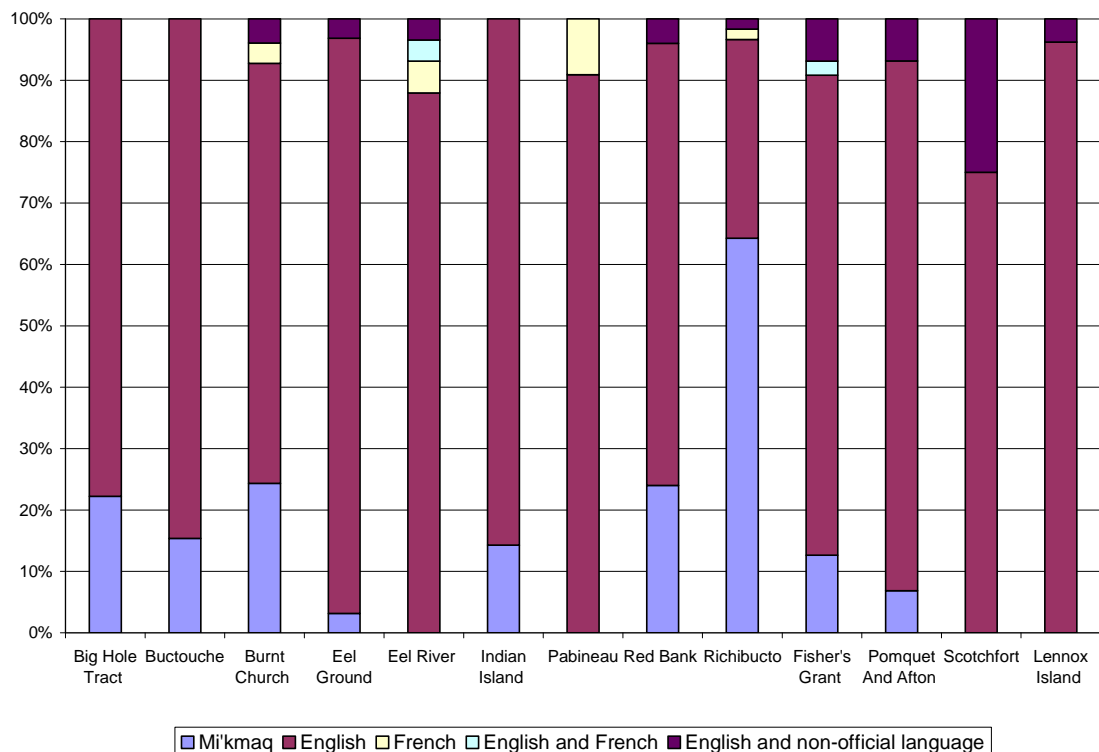
Source: <http://www.ainc-inac.gc.ca/>

52 Alexander, D. W., Mullins, C.C., Sooley, D.R., Brennan, J.A., Cabana, A-M., Klvana, I., et al. (2006). Gulf of St. Lawrence Ecosystem Overview Report, Part D: Human Systems and Socio-Economic Components., Department of Fisheries and Oceans, internal document.

4.7.1 Language Structure

The Mi'kmaq language is part of the Algonquian language family. Approximately 26.5% of people living on Indian reserves use the language as their language of choice when at home while English is spoken by close to 67% of reserve residents. The figure below shows the language distribution of people residing within Native Reserves in the Gulf Region.

Figure 33: Language Structure of Gulf Region Indian Reserves




Source: Statcan, Census 2006.

5.0 Conclusion

The purpose of this SECOA (Social, Economic, and Cultural Overview Assessment) report is to help fill a knowledge gap in the Integrated Oceans Management Planning Process. The gap in question is in relation to the social, economic, and cultural elements of the Gulf Region part of the GOSLIM LOMA.

The *Oceans Act* provides the mandate to use this information in order to establish sustainable development objectives. SECOA elements in combination with the ecosystem overview report elements will inform decision makers as to the composition of the Gulf Region part of the GOSLIM LOMA. The objective is



then to understand the regions' values from a social, economic and social perspective and develop strategies that maximize returns based on available resources while minimizing associated costs. In other words, integrated management seeks to consider regional value and values in order to minimize opportunity costs brought on by development.

Social consideration of the Gulf Region suggests stability in its overall population from 2001 to 2006. Ninety-nine percent of the population speak primarily French or English with most of the French population residing in the province of New Brunswick. The age structure of the Gulf Region's population is following the overall national trend of becoming older. As people continue to live longer the proportion of the population more advanced in age continues to increase. Education and health are two areas in which gains should be possible for the Gulf Region given the difference in educational attainment and life expectancy between the Gulf Region and the National average.

Generally the Gulf Regions' population has a participation rate lower than the National average but unemployment rates that are higher. This means that the people wanting to work are in the region but can't find work. The region is also under educated when compared to the National average. These factors could combine to create an available workforce newly educated to suit sustainable development initiatives. The resources and potential exist to meet developmental needs.

Presently the economy of the region is dependent on natural resources and generally places our industries in globally competitive markets. This means that the state of the global economy, exchange rates, and international trade agreements will continue to fundamentally impact the regions economic prosperity.

The cultural component of this report consisted of listing sites of importance in the region. We acknowledged culturally important sites as elements for which efforts have been made to protect them for reasons other than their financial potential. The linkages between the cultural and social or cultural and economic aspects have not been established in this report. Further research and consultations are required to approach results of significance for the cultural element.

This initial social, economic, and cultural review assessment for the Gulf Region can prove useful as a baseline document. Though the data on which this report is based is imperfect, it does provide insight into its shortcomings and thus an indication as to how to proceed from this point. Weaknesses and gaps in the data can be addressed so that future versions of this document might make stronger assertions as to relationships between the different elements of this report.

Appendices:

Appendix 1: Gulf Region Aboriginal Community and Governance Structure.

New Brunswick	
Elsipogtog First Nation Chief Jesse John Simon II 373 Big Cove, Road Elsipogtog First Nation, NB E4W 2S3	Buctouche First Nation Chief Ann Mary Simon 9 Reserve Road Buctouche First Nation, NB E4S 4G2
Burnt Church First Nation (Esgenoôpetij) Chief Wilbur Dedam 620 Bayview Drive Burnt Church First Nation, NB E9G 2A8	Eel Ground First Nation Chief George Ginnish 47 Church Road Eel Ground First Nation, NB E1V 4E6
Eel River Bar First Nation Chief Everett Martin 11 Main Street, Unit 201 Eel River Bar First Nation, NB E8C 1A1	Indian Island First Nation Chief Kenneth Barlow 61 Island Drive Indian Island First Nation, NB E4W 1S9
Madawaska Maliseet First Nation Chief Joanna Bernard Administration Band Office 1771 Main Street Madawaska Maliseet First Nation, NB E7C 1W9	Pabineau First Nation Chief David Peter Paul 1290 Pabineau Falls Road Pabineau First Nation, NB E2A 7M3
Red Bank First Nation Chief Noah Augustine 1926 MicMac Road Red Bank First Nation, NB E9E	Tobique First Nation Chief Steward Paul 13156 Route 105 Tobique First Nation, NB E7H 5M7
Prince Edward Island	
Abegweit First Nation Chief Brian Francis Scotchfort P.O. Box 36 Mt. Stewart, PEI C0A 1T0	Lennox Island First Nation Chief Darlene Bernard 31 Sweetgrass Trail Box 134 Lennox Island First Nation, PEI C0B 1P0
Nova Scotia	

<p>Paq'tnkek First Nation Chief Michael Gerard Julian RR #1, Afton Antigonish Co., NS B0H 1A0</p>	<p>Pictou Landing First Nation Chief Anne Francis Muise Site 6, Box 55, RR # 2 Trenton, NS B0K 1X0</p>
Councils	
<p>New Brunswick Aboriginal Peoples Council (NBAPC) Chief and President, Betty Anne Lavallée 320 St. Mary's Street Fredericton, NB E3A 2S4</p>	<p>Native Council of Prince Edward Island (NCPEI) Chief and President, Jamie Gallant 6 F.J. McAulay Court Charlottetown, PE C1A 9M7</p>
<p>Native Council of Nova Scotia Chief and President, Grace Conrad P.O. Box 1320 Truro, NS B2N 5N2</p>	

Updated March 2009.

Appendix 2: Federal Legislation Related to Oceans Management in the Gulf of St. Lawrence and Estuary

Legislation	Role in Oceans Management
<i>Fisheries Act</i>	Conservation and management of fisheries and fish habitat, licensing, enforcement, international fisheries agreements; Regulation and control of the deposit of deleterious substances into fish bearing waters, and the investigation of related violations.
<i>Oceans Act</i>	Development and implementation of Oceans Management Strategy, consolidate and clarify federal responsibility for Oceans Management, and define Canadian maritime zones; Establishment of Canada's maritime boundaries
<i>Canada Shipping Act</i>	Marine Navigation, marine search and rescue, pleasure craft safety, ship source pollution prevention and response, lighthouses; Maritime Search and Rescue; Regulation of services for the safe, economical and efficient movement of ships in Canadian Waters
<i>Coastal Fisheries Protection Act</i>	Monitoring, control, and surveillance.
<i>Fishing and Recreational Harbours Act</i>	Small Craft Harbour development and maintenance.
<i>Navigable Waters Protection Act</i>	Protection of public right to safe navigation and approval mechanism for same
<i>Coasting Trade Act</i>	Grant authority to foreign vessels to conduct marine research within Canada's EEZ; Provides for temporary use of foreign ships when no suitable domestic ship is available. Applies to transportation of passengers and cargo and activities of commercial nature.
<i>Foreign Affairs and International Trade Act</i>	Maritime boundary disputes, Law of the Sea.
<i>International Convention for Safety of Life at Sea Act</i>	Maritime Search and Rescue; Maritime Search and rescue operations.
<i>Emergencies Act</i>	Permits temporary measures to ensure public safety and security.
<i>National Defence Act</i>	Maritime Command, National and Maritime Safety / Security.
<i>Department of Justice Act</i>	Conduct investigations and appropriate litigation (including international)
<i>Canada Petroleum Resources Act</i>	Regulates interest in petroleum in relation to frontier lands of Aboriginal interest; Regulates interest in petroleum in relation to frontier (non accord) lands within Canada including coastal and marine areas.
<i>National Research Council Act</i>	Establishes the National Research Council which includes marine engineering and marine biological research

Legislation	Role in Oceans Management
Government Organization Act, Atlantic Canada 1987	Regional economic development activity facilitation.
Natural Sciences and Engineering Research Act	Establishes NSERC which provides grants and support for university research.
Canada Nova Scotia Offshore Petroleum Resources Accord Implementation Act	Governs the development of offshore resources in Nova Scotia through establishment of the <i>Canada Nova Scotia Offshore Petroleum Board (CNSOPB)</i>
Canada Oil and Gas Operations Act	Regulation of exploration and exploitation of oil and gas
National Transportation Act (1987)	Reviews mergers and acquisitions of marine undertakings, and dispute resolution for marine shippers and carriers.
Pilotage Act	Designation and regulation of marine pilotage areas within Canada.
Public Harbours and Port Facilities Act	Management of public harbours and ports
St. Lawrence Seaway Authority Act	Management and regulation of seaway operations.
Canadian Transportation Accident Investigation and Safety Board Act	Establishment and operation of the Transportation Safety Board and the investigation of transportation accidents.
National Parks Act	Provides for the establishment of marine parks and marine conservation areas.
Food and Drugs Act	Ensures the safe use of marine species for human consumption
Canadian Environmental Assessment Act (CEAA)	Provides the process and structure to ensure that environmental assessments are carried out for proposed projects. Ensures the integration of environmental assessment into federal planning and decision making.
Canada Wildlife Act	Wildlife conservation, research and interpretation partnerships and the establishment of protected areas for marine wildlife.
Canadian Environmental Protection Act (CEPA)	Establishment of marine environmental quality guidelines, regulation of ocean disposal/dumping, and the control of land based sources of pollution, offshore oil and gas and toxic substances.
Migratory Birds Convention Act, 1994	Protection and conservation of migratory birds

Appendix 3: Provincial Government Departments and Legislation Related to Oceans Management in the Gulf of St. Lawrence and Estuary.

Legislation	Role in Oceans Management
New Brunswick	
Department of Economic Development and Tourism	
<i>Economic Development Act</i>	Financial support to encourage the establishment / development of industry or to improve existing industry.
Department of Environment	
<i>Clean Environment Act</i>	Regulates the disposal or introduction of any contaminant or waste that may be harmful to the environment.
<i>Clean Water Act</i>	Ensure that all bodies of water are protected from contaminants, alterations and disturbances of ground within 30 m of banks/shorelines.
Department of Agriculture, Fisheries and Aquaculture	
<i>Aquaculture Act</i>	Sets responsibility for site allocation and tenure at marine aquaculture sites.
<i>Fisheries Development Act</i>	Financial assistance to aid and encourage the establishment or development of fisheries.
<i>Fish Processing Act</i>	Issuance of licenses, determine species for which the license is valid and inspection of processing facilities
<i>Fish Inspection Act</i>	Inspection of processing plants and products.
<i>Fish and Wildlife Act</i>	Regulation of fishing licenses.
Department of Health	
<i>Health Act</i>	Establishes authority to regulate onsite sewage disposal and to monitor and regulate drinking water and recreational waters.
<i>Fish Inspection Act (subject to repeal by the Public Health Act)</i>	Inspection of processing plants and products.
Department of Environment and Local Government	

Legislation	Role in Oceans Management
<i>Clean Environment Act;</i>	Provides the authority to control and stop contaminant discharge into the environment, and order the cleanup of contaminated sites. Provides administrative procedures for various systems of approvals, permits, registrations and other authorizations which the department issues.
<i>Clean Water Act</i>	
Department of Natural Resources and Energy	
<i>Crown Lands & Forests Act</i>	Provides authority to administer and control crown lands including submerged lands
<i>Parks Act</i>	Designates authority over marine activities within Provincial Parks
<i>Mining Act</i>	Controls the exploration and development of offshore mineral deposits
<i>Oil & Natural Gas Act</i>	Provides authority to explore for and produce oil and natural gas both onshore and offshore
<i>Pipeline Act</i>	Provides for the granting of permits and licenses to operate pipelines
<i>Quarriable Substances Act</i>	Controls the extraction of quarriable substances on crown lands and on private in shore designated areas.
Nova Scotia	
Department of Agriculture, Fisheries and Aquaculture	
<i>Fisheries & Coastal Resources Act</i>	Programs to protect sustain and improve the fishing industry including the processing and aquaculture sectors. Develop and optimize the processing segments of fishing and aquaculture. Expand recreational and sport fishing. Foster community involvement in management of coastal resources.
<i>Fisheries Organizations Support Act</i>	The object of this Act is to provide a means of funding certified fisheries organizations.
<i>Wildlife Act (Fishing Regulations only)</i>	Regulation of fishing licenses.
Department of Environment	
<i>Environment Act</i>	Protect, enhance and prudent use of environment to ensure ecosystem integrity, sustainable development, and environmental assessment.
Department of Natural Resources	

Legislation	Role in Oceans Management
<i>Beaches Act</i>	Control and management & protection of beaches (e.g. sand and gravel removal)
<i>Beaches & Foreshores Act</i>	Grants or leases for oyster cultivation and for fish traps / weirs
<i>Provincial Parks Act</i>	Designates and manages coastal parks and beaches
<i>Trails Act</i>	Governs trails on land and over watercourses
<i>Wildlife Act</i>	Management of wild species including fish, and defines provincial waters.
<i>Crown Lands Act</i>	Effective use of crown lands including shoreline reclamation and use
<i>Endangered Species Act</i>	Protection, designation, recovery and other relevant aspects of conservation of species at risk, including habitat protection (land, water or air).
<i>The Nova Scotia Federation of Anglers and Hunters Act</i>	Believing that the renewable natural resources of Nova Scotia are economic, social, recreation and aesthetic assets that must be restored, wisely used and perpetuated for posterity, and realizing that this can only be achieved through an aroused and enlightened opinion among the people of this Province, we dedicate this Federation to these ends.
Department of Energy	
<i>Petroleum Resources Act</i>	Procedures for granting rights in petroleum resources in NS including the seabed and sub soil of the continental shelf
<i>Energy Resources Conservation Act</i>	Regulates the conservation and wasting of energy and mineral resources including the seabed and subsoil of the continental shelf.
<i>Pipeline Act</i>	Construction, operation and management of petroleum pipelines on land and offshore.
<i>Canada Nova Scotia Offshore Petroleum Resources Accord Implementation (NS) Act</i>	Joint management of offshore petroleum resources and conditions attached to exploration.
Service Nova Scotia and Municipal Relations	
<i>Planning Act</i>	Planning and policy making including watercourses and coastal areas and beaches.
Department of Transportation and Public Works	
<i>Ferries Act</i>	Provides for ferries over harbours, bays, rivers and creeks
<i>Wharves and Public Landings Act</i>	Control of wharves and public landings under provincial jurisdiction

Legislation	Role in Oceans Management
Department of Agriculture	
<i>Agricultural Marshland Conservation Act</i>	Maintenance and conservation of dyked lands below high tides.
Prince Edward Island	
Fisheries, Aquaculture and Rural Development	
<i>Certified Fisheries Organizations Support Act</i>	The object of this Act is to provide a means of funding certified fisheries organizations.
<i>Fish Inspection Act</i>	Regulations to ensure seafood is purchased and marketed under sanitary conditions and sets standards for such facilities.
<i>PEI Fisheries Act</i>	Licensing of all processors and buyers of fish and fish products.
Environment, Energy & Forestry	
<i>Environmental Protection Act</i>	The purpose of this Act is to manage, protect and enhance the environment.
Communities, Cultural Affairs and Labour	
<i>Planning Act</i>	Enables planning, and policy making with respect to watercourses and coastal areas including mapping in coastal areas.

Source : MPO, 2002. La gestion intégrée à la portée de tous — Démarche méthodologique pour les collectivités côtières du Saint-Laurent marin.

Appendix 4: Total Landings (mt) of Major Species for Gulf NB (1990-2007p).

Species	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007p
Groundfish																		
Cod	8,552	5,564	3,267	418	99	316	405	353	590	1,048	1,070	998	1,179	51	492	327	457	265
Redfish	2,465	3,743	4,787	3,011	1,207	11	0	1	0	15	7	1	15	1	13	5	2	8
Plaice	1,797	1,313	1,106	371	153	88	96	55	56	62	32	42	50	9	6	9	12	18
Total	13,999	11,624	9,950	4,515	2,043	871	999	886	907	1,319	1,217	1,184	1,342	167	636	523	643	480
Estuarial																		
Herring	46,077	35,015	39,234	36,160	62,835	59,628	40,491	33,379	30,582	38,041	40,716	34,625	31,535	34,756	24,754	36,164	28,607	27,162
Mackerel	3,735	2,086	1,557	1,983	1,915	1,950	2,676	1,991	1,534	2,255	2,027	2,347	2,223	1,733	1,419	1,498	1,487	1,426
Alewives	3,190	3,578	3,447	3,572	3,356	3,238	2,163	2,697	3,687	3,502	2,090	2,517	4,511	3,246	2,699	2,826	2,870	2,501
Eels	149	130	119	88	68	60	49	36	49	47	45	92	115	140	123	102	101	116
Smelts	806	811	711	731	899	757	724	698	807	727	749	220	285	863	621	663	789	704
Total	54,005	41,688	45,101	42,756	69,157	65,676	46,118	38,811	37,440	44,743	45,628	39,821	38,681	40,751	29,622	41,254	34,544	32,338
Crustaceans																		
Mussels	80	46	50	83	135	240	178	166	106	213	267	155	189	179	55	159	101	343
Oysters	792	685	531	363	484	603	599	350	506	315	248	315	242	279	240	245	264	220
Scallops	1,598	708	830	1,022	1,094	1,081	1,028	1,205	1,359	692	659	602	392	468	557	390	289	428
Lobster	8,070	7,232	7,111	7,007	6,736	6,707	6,316	5,809	6,233	6,074	5,933	5,604	5,321	4,894	4,427	4,296	4,813	5,128
Shrimp	3,649	3,348	2,778	2,488	2,977	3,380	3,496	3,903	4,759	4,762	5,333	7,055	6,747	5,359	6,998	6,555	8,521	8,494
Snow Crab	4,328	6,186	6,997	8,810	12,432	11,720	9,544	8,956	6,719	7,549	8,482	7,194	11,945	7,428	11,792	16,136	12,655	11,510
Total	20,490	19,709	19,924	21,137	26,256	26,364	23,035	22,527	22,359	22,006	23,873	24,419	28,231	21,199	26,963	30,499	29,063	28,682

Source:
services,
DFO
Note:
Aquaculture
mussels

Others	1,786	230	85	47	550	336	258	493	370	60	101	0	0	34	0	0	0	0
TOTAL	90,280	73,251	75,060	68,455	98,006	93,247	70,410	62,717	61,076	68,128	70,819	65,423	68,254	62,151	57,222	72,275	64,250	61,500

Economic
Gulf Region,
Moncton
Includes
data for

Appendix 5: Total Landings (M.T.) of Major Species for Gulf NS (1990-2007p).

Species	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007 p
Groundfish																		
Cod	12,777	8,674	9,442	733	387	250	284	364	449	902	1,197	1,254	937	97	503	968	733	295
Redfish	400	333	357	1	0	2	29	56	162	118	11	6	27	0.4	29	127	95	35
Plaice	949	1,338	1,876	570	1,669	1,547	886	1,091	792	747	746	619	315	100	177	112	151	113
Total	17,585	13,852	14,777	2,455	3,388	2,227	1,983	2,466	2,305	2,785	2,793	2,454	1,948	603	1,007	1,650	1,490	830
Estuarial																		
Herring	10,466	2,043	2,057	1,272	7,971	11,339	9,850	7,762	6,284	9,953	5,582	8,569	8,170	9,737	5,880	9,165	9,245	8,624
Mackerel	784	891	493	501	461	363	355	930	360	262	306	962	1,810	3,481	1,429	2,539	1,014	479
Alewives	1,490	1,069	771	951	471	188	170	220	544	452	275	218	406	1	347	46	410	78
Eels	21	35	56	88	42	16	11	17	15	9	5	4	4	9	4	7	10	9
Smelts	35	56	61	51	61	40	19	16	17	9	12	8	5	8	6	14	6	29
Total	13,080	4,215	3,685	2,976	9,112	12,156	10,537	9,226	7,406	10,783	6,329	10,047	10,504	13,306	7,739	11,844	10,759	9,256
Crustaceans																		
Mussels	0	2	0	0	1	0	0	0	0	58	94	3	86	46	104	0	0	0
Oysters	66	32	29	18	110	86	63	82	221	335	236	97	79	61	42	140	64	85

Scallops	266	450	495	625	455	423	437	327	190	255	263	117	120	98	82	83	77	62
Lobster	3,910	4,033	3,504	3,577	2,731	2,968	3,004	2,867	3,113	2,967	3,205	3,212	3,255	2,979	2,795	2,829	3,054	2,749
Shrimp	0	0	0	0	0	0	0	0	0	0	0	0	0	56	0	0	0	0
Snow Crab	2,115	2,261	3,025	3,080	2,730	3,235	2,428	2,429	2,548	2,683	4,187	5,326	4,450	6,164	8,142	7,459	5,432	5,119
Total	6,459	6,949	7,375	7,868	7,006	7,572	6,538	6,829	6,975	7,142	9,224	10,033	9,064	10,298	11,986	11,559	9,361	8,833
Others	229	0	0	0	1	0	0	425	95	0	0	0	0	0	0	0	0	0
TOTAL	37,353	25,016	25,837	13,299	19,507	21,955	19,058	18,946	16,781	20,710	18,345	22,533	21,516	24,206	20,732	25,053	21,610	18,919

Source: Economic services, Gulf Region, DFO Moncton
Note: Includes Aquaculture data for mussels

Appendix 6: Total Landings (mt) of Major Species for Prince Edward Island (1990-2007p).

Species	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007p
Groundfish																		
Cod	4,103	3,100	2,340	817	473	109	110	264	268	1,249	970	804	889	66	290	278	213	70
Redfish	14,013	12,441	13,350	5,243	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plaice	620	980	837	613	466	518	292	350	162	335	273	285	139	188	54	104	167	165
Total	21,681	19,218	18,621	7,586	1,556	851	737	1,124	842	2,290	1,648	1,376	1,324	524	550	549	459	293
Estuarial																		
Herring	14,131	7,529	7,846	5,508	8,907	11,923	18,097	15,855	17,295	17,781	22,924	19,511	18,461	16,102	16,500	15,406	13,743	12,975
Mackerel	2,551	3,917	2,341	4,577	4,497	3,048	4,585	6,693	6,862	3,842	4,163	5,883	6,816	4,635	4,879	5,424	3,539	2,756
Alewives	83	87	317	198	115	59	70	107	52	93	78	30	83	83	111	168	279	147
Eels	124	129	54	74	46	34	36	44	41	52	73	61	86	71	69	81	87	64
Smelts	85	158	193	180	254	289	154	162	276	238	156	118	123	226	160	314	80	56
Total	17,365	11,988	10,827	10,965	15,216	16,049	23,294	23,170	24,870	22,647	27,815	26,302	25,252	21,716	22,197	21,842	18,520	16,665

Crustaceans																		
Mussels	2,697	3,482	4,177	4,788	5,947	4,197	7,899	8,967	10,096	12,843	14,072	15,246	15,014	17,401	17,452	14,983	13,248	8,815
Oysters	1,774	1,182	1,176	1,205	2,039	1,620	1,468	1,285	2,411	3,335	3,646	2,537	2,559	2,936	3,996	3,147	2,062	2,399
Scallops	799	822	794	1,250	1,385	1,427	2,021	1,773	1,433	759	917	531	317	338	451	394	396	415
Lobster	10,246	10,310	8,817	8,856	8,488	8,543	8,154	8,096	8,698	8,316	8,659	8,721	9,175	9,160	9,153	8,465	9,432	9,027
Shrimp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Snow Crab	560	1,049	745	905	1,078	1,760	1,176	1,115	612	859	1,122	1,482	2,289	1,566	2,551	3,428	3,431	3,303
Total	17,751	18,716	17,837	19,758	22,321	20,953	23,747	25,600	27,497	29,990	32,718	29,273	33,729	35,831	38,079	35,339	32,805	28,022
Other	14,707	9,722	4,824	5,062	8,504	9,646	5,946	8,182	5,681	6,409	6,804	5,273	7,187	10,328	5,764	6,553	5,244	3,257
TOTAL	71,504	59,644	52,109	43,371	47,597	47,499	53,724	58,076	58,890	61,336	68,985	62,224	67,493	68,399	66,589	64,284	57,027	48,237

Source: Economic services, Gulf Region, DFO Moncton
Note: Includes Aquaculture data for mussels

Appendix 7: Total Landings (mt) of Major Species for Gulf Region (1990=2007p).

Species	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007p
Groundfish																		
Cod	25,432	17,338	15,049	1,968	959	675	800	981	1,307	3,199	3,237	3,056	3,005	214	1,285	1,573	1,403	631
Redfish	16,878	16,517	18,494	8,255	1,207	12	29	57	162	133	18	7	42	1	42	132	98	42
Plaice	3,366	3,631	3,819	1,554	2,288	2,153	1,275	1,496	1,010	1,144	1,051	946	504	296	236	225	330	297
Total	53,265	44,694	43,348	14,556	6,987	3,949	3,719	4,476	4,054	6,394	5,658	5,013	4,614	1,293	2,193	2,722	2,592	1,602
Estuarial																		
Herring	70,674	44,587	49,137	42,940	79,713	82,890	68,438	56,996	54,161	65,775	69,222	62,705	58,166	60,595	47,134	60,735	51,595	48,761
Mackerel	7,070	6,894	4,391	7,061	6,873	5,361	7,617	9,614	8,756	6,359	6,496	9,192	10,849	9,850	7,727	9,461	6,040	4,661
Alewives	4,763	4,734	4,535	4,721	3,942	3,484	2,402	3,024	4,283	4,047	2,443	2,765	5,000	3,330	3,158	3,039	3,559	2,725

Eels	294	294	229	250	156	111	96	97	105	108	123	157	205	220	196	191	198	189
Smelts	926	1,025	965	962	1,214	1,085	897	876	1,100	974	917	346	413	1,097	787	990	874	789
Total	84,450	57,891	59,613	56,697	93,485	93,881	79,949	71,207	69,716	78,173	79,772	76,169	74,437	75,773	59,559	74,940	63,823	58,260
Crustaceans																		
Mussels	2,777	3,530	4,227	4,871	6,083	4,437	8,077	9,133	10,202	13,114	14,433	15,404	15,289	17,626	17,610	15,142	13,349	9,158
Oysters	2,632	1,899	1,736	1,586	2,633	2,309	2,130	1,717	3,138	3,985	4,130	2,949	2,880	3,276	4,278	3,532	2,391	2,705
Scallops	2,663	1,980	2,119	2,897	2,934	2,931	3,486	3,305	2,982	1,706	1,839	1,250	829	904	1,090	867	761	904
Lobster	22,226	21,575	19,432	19,440	17,955	18,218	17,474	16,772	18,044	17,357	17,797	17,537	17,751	17,033	16,375	15,591	17,299	16,904
Shrimp	3,649	3,348	2,778	2,488	2,977	3,380	3,496	3,903	4,759	4,762	5,333	7,055	6,747	5,414	6,998	6,555	8,521	8,494
Snow Crab	7,003	9,496	10,767	12,795	16,240	16,715	13,148	12,500	9,879	11,091	13,791	14,002	18,684	15,158	22,485	27,023	21,519	19,932
Total	44,700	45,374	45,136	48,763	55,583	54,889	53,320	54,956	56,831	59,138	65,814	63,725	71,024	67,328	77,028	77,397	71,229	65,537
Other	16,722	9,952	4,909	5,109	9,055	9,982	6,204	9,100	6,146	6,469	6,905	5,273	7,187	10,362	5,764	6,553	5,244	3,257
TOTAL	199,137	157,911	153,006	125,125	165,110	162,701	143,192	139,739	136,747	150,174	158,150	150,181	157,262	154,756	144,543	161,613	142,888	128,656

Source: Economic services, Gulf Region, DFO Moncton
Note: Includes Aquaculture data for mussels

Appendix 8: Total Landed Value (000's) of Major Species for Gulf NB (1900-2007p).

Species	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007p
Groundfish																		
Cod	4,786	3,977	2,651	402	120	220	397	386	676	1,230	1,214	1,145	1,454	95	735	405	599	410
Redfish	615	988	1,441	705	293	3	0	1	0	10	4	1	14	1	12	5	3	8
Plaice	1,092	889	691	259	119	80	90	53	61	70	26	50	44	8	6	10	14	23

Total	7,225	6,478	5,319	1,832	1,004	678	908	856	1,046	1,635	1,390	1,394	1,799	364	1,172	1,020	1,145	1,130
Estuarial																		
Herring	6,414	3,934	4,450	4,153	8,210	12,018	10,726	5,694	5,013	7,958	8,349	9,793	9,032	10,391	4,773	9,367	5,956	6,536
Mackerel	1,085	707	515	672	744	738	1,269	1,099	884	1,038	1,419	1,661	1,469	1,057	871	1,074	956	915
Alewives	309	403	393	380	365	482	388	839	715	656	451	599	1,209	654	723	893	1,219	1,054
Eels	500	469	444	336	282	266	0	201	271	242	319	415	476	593	604	578	602	672
Smelts	654	690	562	730	1,145	954	759	716	835	1,040	737	267	412	905	524	505	611	529
Total	8,974	6,215	6,393	6,335	10,755	14,518	13,429	8,555	7,795	10,953	11,278	12,748	12,605	13,613	7,501	12,417	9,447	9,775
Crustaceans																		
Mussels	91	48	33	55	143	278	170	129	68	194	273	158	221	196	55	192	115	433
Oysters	1,382	1,426	1,053	828	1,142	1,264	1,222	783	1,348	1,027	782	996	820	951	848	899	1,101	856
Scallops	1,836	977	1,151	1,727	2,234	2,038	2,049	2,862	3,430	1,392	1,324	997	640	801	1,000	816	571	805
Lobster	29,510	37,421	44,958	39,520	50,378	57,973	46,874	49,097	55,566	64,887	58,641	62,336	60,665	55,010	46,479	52,861	55,186	59,173
Shrimp	4,274	4,589	3,677	3,279	3,745	4,761	5,640	5,637	6,986	6,723	7,338	8,268	7,585	6,252	7,704	7,445	7,360	8,100
Snow Crab	10,538	17,022	15,427	26,078	72,640	93,693	53,794	41,771	26,515	39,947	52,359	38,065	65,816	46,301	77,944	71,163	33,189	57,091
Total	49,771	63,111	68,162	73,129	132,477	162,671	111,585	102,355	97,028	117,222	123,906	114,796	139,117	111,859	136,627	136,110	100,078	129,217
Other	445	51	90	0	358	241	284	58	18	11	20	0	0	13	0	0	0	0
TOTAL	66,415	75,855	79,964	81,296	144,594	178,108	126,206	111,824	105,887	129,821	136,594	128,938	153,521	125,849	145,300	149,547	110,670	140,122

Source: Economic services, Gulf Region, DFO Moncton
Note: Includes Aquaculture data for mussels

Appendix 9: Total Landed Value (000's) of Major Species for Gulf NS (1990-2007p).

Species	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007p
Groundfish																		
Cod	7,722	6,942	7,946	581	360	184	266	353	517	1,341	1,527	1,495	1,193	135	608	1,002	889	374
Redfish	127	88	94	0	0	1	10	48	196	111	6	5	26	0	23	147	101	34
Plaice	690	880	1,184	393	1,625	1,488	818	1,026	779	688	648	545	275	81	126	90	131	98
Total	10,322	10,001	11,401	1,735	3,174	2,211	2,059	2,631	2,666	3,263	3,241	2,740	2,338	775	1,232	1,829	1,816	1,063
Estuarial																		
Herring	1,465	237	273	228	1,063	2,438	3,656	1,065	999	1,973	1,274	2,434	3,054	4,081	1,195	3,519	1,686	1,579
Mackerel	243	259	158	151	182	185	230	505	194	157	267	667	967	1,600	805	1,679	479	256
Alewives	691	452	373	459	180	61	57	121	252	235	123	96	245	1	223	32	390	56
Eels	65	121	232	379	170	76	74	87	75	44	28	17	27	54	19	31	44	59
Smelts	53	86	104	89	104	79	45	43	43	24	29	23	15	29	22	24	3	18
Total	2,797	2,556	2,187	4,649	3,761	7,215	5,840	3,877	2,951	4,227	4,929	5,838	6,652	7,365	3,649	6,444	3,891	2,586
Crustaceans																		
Mussels	0	4	0	0	1	1	0	0	0	100	114	3	121	60	143	0	0	0
Oysters	108	57	40	27	196	198	134	173	453	824	610	287	178	124	92	307	193	256
Scallops	320	589	723	1,278	997	871	972	805	445	598	581	216	212	169	175	176	183	131
Lobster	15,245	21,521	25,150	24,863	23,402	31,027	28,141	30,406	30,279	34,431	35,874	41,944	41,808	38,321	34,649	38,353	37,309	36,476
Shrimp	0	0	0	0	0	0	0	0	0	0	0	0	0	71	0	0	0	0
Snow Crab	5,302	5,885	9,965	12,413	22,117	26,691	16,920	12,412	8,600	15,962	27,397	24,757	27,211	42,441	53,860	34,463	17,176	28,058
Total	21,064	28,217	36,185	38,905	47,368	59,489	46,710	44,746	40,591	52,968	66,079	68,881	70,570	81,956	89,731	74,357	55,478	65,606
Other																		
Other	50	0	0	0	1	0	0	75	16	0	0	0	0	0	0	0	0	0
TOTAL	34,233	40,774	49,773	45,289	54,304	68,915	54,609	51,329	46,224	60,458	74,249	77,459	79,560	90,096	94,612	82,629	61,184	69,255

Source: Economic services, Gulf Region, DFO Moncton
 Note: Includes Aquaculture data for mussels

Appendix 10: Total Landed Value (000's) of Major Species for Prince Edward Island (1990-2007p).


Species	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007p
Groundfish																		
Cod	2,283	2,423	2,043	678	408	96	100	240	316	2,083	1,258	1,022	1,130	96	373	320	253	77
Redfish	3,707	3,567	3,857	1,450	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plaice	375	539	527	403	384	501	272	338	159	332	259	242	112	197	33	79	366	146
Total	7,499	7,737	7,601	3,006	1,212	774	634	1,014	818	3,000	1,939	1,590	1,576	642	759	662	793	361
Estuarial																		
Herring	1,948	925	1,110	735	1,385	2,157	5,244	2,799	2,864	4,358	4,783	5,272	5,297	4,166	3,684	4,223	2,615	2,916
Mackerel	702	1,068	792	1,459	1,796	1,431	2,386	3,898	4,016	1,829	2,712	3,703	3,410	2,127	2,369	3,586	2,178	2,009
Alewives	27	28	93	68	36	19	28	43	34	62	52	21	58	63	93	183	212	145
Eels	390	436	184	246	220	203	224	241	178	239	328	230	297	270	306	376	462	378
Smelts	77	145	154	213	372	380	186	260	402	303	198	157	174	256	144	323	91	88
Total	3,339	2,792	2,491	3,086	4,299	4,928	9,075	7,763	8,031	8,205	10,555	10,927	11,606	9,999	9,836	11,725	9,506	8,085
Crustaceans																		
Mussels	4,090	4,574	4,959	4,972	6,321	4,807	9,769	11,048	12,411	15,773	18,170	19,884	21,435	24,125	23,026	19,785	17,241	11,542
Oysters	3,489	1,832	2,062	2,227	3,275	3,097	2,664	3,093	5,238	7,159	8,815	6,325	5,370	7,409	7,805	7,031	5,857	6,774
Scallops	926	960	1,076	2,450	3,026	2,795	4,353	4,209	3,272	1,615	1,837	826	509	575	813	852	814	786
Lobster	36,230	46,455	58,068	51,452	65,262	79,656	64,975	73,823	82,559	88,925	91,788	104,918	103,970	109,416	97,953	103,243	109,165	107,891
Shrimp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Snow Crab	1,018	2,201	1,586	2,994	5,021	14,343	5,336	5,419	2,415	4,547	6,926	7,844	12,614	10,329	16,864	15,118	9,481	15,778
Total	47,606	57,940	69,734	66,611	86,160	108,118	90,192	102,381	111,115	123,842	134,424	147,290	150,209	157,380	151,731	151,497	147,267	146,416

Other	3,648	2,143	851	1,004	1,504	1,728	1,054	1,509	1,107	1,215	1,267	1,196	1,976	2,836	1,289	1,501	1,513	698
TOTAL	62,092	70,612	80,677	73,707	93,175	115,547	100,955	112,667	121,071	136,262	148,184	161,004	165,367	170,858	163,615	165,385	159,079	155,560

Source: Economic services, Gulf Region, DFO Moncton
Note: Includes Aquaculture data for mussels

Appendix 11: Total Landed Value (000's) of Major Species for Gulf Region (1990-2007p).

Specie	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007p
Groundfish																		
Cod	1,661	888	499	763	979	1,509	4,654	3,999	3,662	3,777	327	1,715	1,727	1,741	861	1,661	888	499
Redfis	2,155	293	3	10	49	196	121	10	6	40	2	35	152	104	41	2,155	293	3
Plaice	1,055	2,128	2,069	1,180	1,417	999	1,090	933	837	431	286	164	179	511	267	1,055	2,128	2,069
Total	6,573	5,390	3,663	3,601	4,501	4,530	7,898	6,569	5,724	5,713	1,782	3,163	3,510	3,754	2,554	6,573	5,390	3,663
Estuarial																		
Herring	5,116	10,65	16,61	19,62	9,558	8,876	14,28	14,40	17,49	17,38	18,63	9,652	17,10	10,25	11,03	5,116	10,65	16,61
Mackerel	2,282	2,722	2,355	3,885	5,502	5,094	3,024	4,398	6,031	5,846	4,783	4,045	6,338	3,613	3,180	2,282	2,722	2,355
Alewiv	907	581	562	473	1,003	1,001	953	626	716	1,512	718	1,038	1,108	1,820	1,255	907	581	562
Eels	961	672	544	543	529	524	525	675	662	800	916	929	984	1,108	1,109	961	672	544
Smelts	1,032	1,621	1,413	990	1,019	1,280	1,367	964	447	601	1,190	690	852	706	635	1,032	1,621	1,413
Total	14,07	18,81	26,66	28,34	20,19	18,77	23,38	26,76	29,51	30,86	30,97	20,98	30,58	22,84	20,44	14,07	18,81	26,66
Crustaceans																		
Mussel	5,027	6,465	5,086	9,939	11,17	12,47	16,06	18,55	20,04	21,77	24,38	23,22	19,97	17,35	11,97	5,027	6,465	5,086
Oyster	3,082	4,613	4,559	4,020	4,049	7,039	9,010	10,20	7,608	6,368	8,484	8,744	8,237	7,151	7,886	3,082	4,613	4,559
Scallo	5,455	6,257	5,704	7,374	7,876	7,147	3,605	3,742	2,039	1,361	1,546	1,987	1,843	1,569	1,722	5,455	6,257	5,704
Lobste	115,835	139,042	168,656	139,990	153,326	168,404	188,243	186,303	209,198	206,443	202,747	179,081	194,456	201,660	203,540	115,835	139,042	168,656
Shrim	3,279	3,745	4,761	5,640	5,637	6,986	6,723	7,338	8,268	7,585	6,323	7,704	7,445	7,360	8,100	3,279	3,745	4,761
Snow Crab	41,485	99,778	134,727	76,050	59,602	37,530	60,456	86,682	70,666	105,641	99,072	148,669	120,743	59,846	100,926	41,485	99,778	134,727



Total	178,645	266,005	330,278	248,487	249,482	248,734	294,032	324,409	330,968	359,896	351,195	378,088	361,964	302,823	341,239	178,645	266,005	330,278
Other	1,004	1,863	1,969	1,338	1,642	1,141	1,226	1,286	1,196	1,976	2,849	1,289	1,501	1,513	698	1,004	1,863	1,969
TOTAL	200,292	292,073	362,570	281,770	275,820	273,182	326,541	359,026	367,400	398,447	386,802	403,526	397,562	330,934	364,938	200,292	292,073	362,570

Source: Economic services, Gulf Region, DFO Moncton
 Note: Includes Aquaculture data for mussels

Appendix 12: Fisher Category Description.

Fisher Categories	Description
Coastal Fishers	<p>A fisher, who is not part of a Core enterprise and who holds at least one key commercial non-vessel based licence. Key commercial non-vessel based licences for the three Administrative Areas of the Gulf Region are as follows:</p> <ul style="list-style-type: none"> • Eastern N.B.: Clams, eel, gaspereau, oysters & smelt • Gulf N.S.: Clams, eel, gaspereau, oysters & smelt • P.E.I.: Clams, eel, marine plants, oysters & smelt
Core Enterprise	<p>A fishing unit composed of a fisher (head of enterprise), registered vessel(s) and the licences he holds and which has been designated as such in 1996 under the following criteria:</p> <ul style="list-style-type: none"> • For Bonafide fishers, have Bonafide status; and hold one key licence such as: snow crab, lobster « A », groundfish (but not hand line), scallop, tuna and herring. • For non-Bonafide fishers, hold either two key licences, or one key licence and have fished for a full season with minimum landings of \$25,000 from his own licences for two of the years 1993, 1994, 1995; Key licences are shrimp, snow crab, lobster »A » and groundfish ITQ only. <p>NOTE: Aboriginal Organizations are considered as a Core Enterprise for the purpose of this Policy.</p>
Estuarial Fishers	A fisher who holds only non-key commercial non-vessel based licences.
Full Time	A fisher who is head of his enterprise and has licence(s) valid for vessel(s) 65' – 99' LOA.
Non-Core Enterprise	<p>A fishing unit composed of a fisher (head of enterprise), registered vessel(s) and vessel-based licence(s) only, who do not meet the Core, Coastal and Estuarial eligibility criteria.</p> <ul style="list-style-type: none"> • For example: Fishers who only hold a class « B », lobster licence or a handline groundfish licence, etc.
Not Applicable	Mostly used for Estates or situations where the participant category does not apply (can happen in a number of situations).
Registered Commercial Fishers	Are helpers.

Source: Economic Services, Gulf Region, DFO Moncton.

Appendix 13: Wind Energy Sites in the Gulf Region.

Wind/Farm/Site	Province	Date Installed	Turbines / Total Installed Capacity	Company

Vestas Prototype	PE	2004/01	1x Vestas V90 3 MW / 3.0000 (MW)	TransAlta Wind and Vestas
Aeolus Wind Farm	PE	2003/08	1x Vestas V90 / 3.0000 (MW)	Aeolus PEI Wind
Eastern Kings Wind Farm	PE	2007/01	10x Vestas V90 3 MW / 30.0000 (MW)	PEI Energy Corporation
North Cape Wind Farm	PE	2004/01	8x Vestas V47-660 (660 kW) / 5.2800 (MW)	Prince Edward Island Energy Corporation
North Cape Wind Farm	PE	2001/11	8x Vestas V47-660 (660 kW) / 5.2800 (MW)	Prince Edward Island Energy Corporation
Norway Wind Park	PE	2007/06	3 X Vestas V90 3 MW / 9.0000 (MW)	Suez Renewable Energy NA
West Cape Wind Farm	PE	2007/05	11x Vestas V80 1.8 MW / 19.8000 (MW)	Suez Renewable Energy NA
Fitzpatrick Mountain	NS	2006/12	1x Enercon E48 800 kW / 0.8000 (MW)	Renewable Energy Services Limited
Fitzpatrick Mountain	NS	2006/04	1x Enercon E48 800 kW / 0.8000 (MW)	Renewable Energy Services Limited
Grand Etang	NS	2002/10	1x Vestas V47-660 (660 kW) / 0.6600 (MW)	Nova Scotia Power
Higgins Mountain Riverhurst	NS	2006/12	3x Vensys 1.2 MW / 3.6000 (MW)	Vector Wind Energy/Spring Hill
Marshville Limited	NS	2006/12	1x Enercon E48 800 kW / 0.8000 (MW)	Renewable Energy Services
Point Tupper	NS	2006/04	1x Enercon E48 800 kW / 0.8000 (MW)	Renewable Energy Services Limited
Springhill Project	NS	2005/12	1x Vensys 1.2 MW / 1.2000 (MW)	Vector Wind Energy
Springhill Riverhurst	NS	2006/12	1x Americas Wind Energy / 0.9000 (MW)	Vector Wind Energy/Springhill

Source: http://www.canwea.ca/farms/wind-farms_e.php, Visited 09/02/2009.

Appendix 14: Farms Reporting Land Inputs within Nova Scotia Counties Bordering the Gulf of St. Lawrence.

Region	Use of Irrigation		Use of Commercial Fertilizer¹		Use of Herbicides¹		Use of Insecticides¹		Use of Fungicides¹	
	Farms Reporting	Hectares	Farms Reporting	Hectares	Farms Reporting	Hectares	Farms Reporting	Hectares	Farms Reporting	Hectares
2001										
Nova Scotia	300	3,491	2,336	88,374	1,215	29,686	713	16,183	534	12,034
Agricultural Region 3	59	245	701	28,233	448	9,354	212	4,318	156	3,836

Colchester County	25	106	301	13,727	179	3,501	71	1,417	50	931
Cumberland County	28	129	311	11,054	244	5,498	131	2,887	98	2,838
Agricultural Region 4	23	155	369	13,797	182	2,953	56	854	44	598
Pictou County	12	X	158	5,600	87	1,577	25	431	24	386
Antigonish County	10	119	158	6,855	64	957	17	187	15	128
Agricultural Region 5	16	57	149	4,464	46	304	20	185	14	47
Inverness County	1	X	70	2,748	19	169	3	5	3	7

2006

Nova Scotia	255	3,217	2,095	81,917	1,120	28,523	619	12,145	509	10,776
Agricultural Region 3	62	375	671	26,413	424	9,505	225	4,357	197	4,055
Colchester County	28	150	260	12,346	145	3,138	71	974	65	847
Cumberland County	29	217	333	10,966	247	5,643	140	3,302	123	3,126
Agricultural Region 4	20	115	352	13,032	182	3,150	74	1,315	48	712
Pictou County	10	67	144	5,213	78	1,499	35	467	30	468
Antigonish County	10	48	146	6,370	69	1,058	24	418	15	153
Agricultural Region 5	12	46	134	4,558	46	584	12	178	7	49
Inverness County	1	x	68	2,747	20	252	3	x	0	0

x Suppressed to meet the confidentiality requirements of the *Statistics Act*

1 As in previous censuses, the area of land on which herbicides, insecticides and fungicides were applied is under-reported. However, the data are comparable with previous censuses.

Source: Statistics Canada, 2006 Census of Agriculture, Farm Data and Farm Operator Data, catalogue no. 95-629-XWE

**Appendix 15: Farms Reporting Land Inputs within New Brunswick Counties
Bordering the Gulf of St. Lawrence.**

Region	Use of Irrigation		Use of Commercial Fertilizer ¹		Use of Herbicides ¹		Use of Insecticides ¹		Use of Fungicides ¹	
	Farms Reporting	Hectares	Farms Reporting	Hectares	Farms Reporting	Hectares	Farms Reporting	Hectares	Farms Reporting	Hectares
2001										
New Brunswick	156	1,144	1,806	90,067	995	54,018	640	29,118	436	26,504
Agricultural Region 3	42	280	401	14,711	161	3,485	67	1,004	39	862
Westmorland County	24	157	231	9,764	98	2,212	34	432	23	477
Kent County	15	106	112	3,420	46	1,067	28	530	13	315
Agricultural Region 4	21	82	234	8,994	171	5,804	82	1,908	46	1,239
Northumberland County	7	8	86	2,355	49	966	25	381	7	141
Restigouche County	0	0	40	3,621	24	2,877	12	335	10	346
Gloucester County	14	74	108	3,018	98	1,961	45	1,191	29	752
2006										
New Brunswick	117	859	1,436	88,119	843	55,154	508	28,828	402	30,291
Agricultural Region 3	33	276	302	13,707	148	3,408	66	1,550	44	1,374
Westmorland County	14	154	179	9,762	82	2,249	30	1,022	26	1,063
Kent County	15	117	77	2,641	48	839	28	372	13	221
Agricultural Region 4	19	86	177	9,077	133	6,306	62	2,265	41	1,971
Northumberland County	5	X	51	1,614	31	685	16	100	12	117
Restigouche County	1	X	31	4,028	25	1,999	11	231	8	457
Gloucester County	13	74	95	3,435	77	3,622	35	1,934	21	1,397
x Suppressed to meet the confidentiality requirements of the <i>Statistics Act</i>										
1 As in previous censuses, the area of land on which herbicides, insecticides and fungicides were applied is under-reported. However, the data are comparable with previous censuses.										

Source: Statistics Canada, 2006 Census of Agriculture, Farm Data and Farm Operator Data, catalogue no. 95-629-XWE

Appendix 16: Farms Reporting Land Inputs within Prince Edward Island.⁵²

Region	Use of Irrigation		Use of Commercial Fertilizer ¹		Use of Herbicides ¹		Use of Insecticides ¹		Use of Fungicides ¹	
	Farms Reporting	Hectares	Farms Reporting	Hectares	Farms Reporting	Hectares	Farms Reporting	Hectares	Farms Reporting	Hectares
2001										
Prince Edward Island	38	739	1,232	110,102	1,087	92,732	605	45,260	519	44,548
Agricultural Region 1	3	5	193	18,587	182	17,302	96	7,665	90	7,884
Agricultural Region 2	18	80	602	44,049	509	34,352	226	12,323	174	11,509
Agricultural Region 3	17	655	437	47,466	396	41,078	283	25,272	255	25,155
2006										
Prince Edward Island	55	1,771	1,075	112,193	876	87,699	478	40,164	425	41,839
Agricultural Region 1	4	9	173	18,130	143	16,973	78	7,098	72	8,367
Agricultural Region 2	15	267	506	45,234	402	31,945	175	10,970	153	12,798
Agricultural Region 3	36	1,495	396	48,830	331	38,781	225	22,095	200	20,674
<p>1 As in previous censuses, the area of land on which herbicides, insecticides and fungicides were applied is under-reported. However, the data are comparable with previous censuses.</p>										

Source: Statistics Canada, 2006 Census of Agriculture, Farm Data and Farm Operator Data, catalogue no. 95-629-XWE

Appendix 17: Conservation and Protected Areas, Nature Reserves, and Heritage Rivers

Name	Location and Area	Significant Features	Human Activity	Administrative Agency
Jim Campbells Barren Provincial Wilderness Area	Farm Brook Area, NS 1750 ha	Coastal (old growth forest; mosaic of boreal wetlands, overlaps three watershed areas)	restricted recreational use (hunting, sport fishing, hiking, canoeing, kayaking); research and education	NS Environment and Labour
Margaree River Provincial Wilderness Area	Northeast Margaree River Area, NS 6850 ha	Coastal (protected watershed area; salmon and trout spawning area, recreational fishing)	restricted recreational use (hunting, sport fishing, hiking, canoeing,	NS Environment and Labour

54 Statistics Canada, 2006 Census of Agriculture, Farm Data and Farm Operator Data, catalogue no. 95-629-XWE

Name	Location and Area	Significant Features	Human Activity	Administrative Agency
			kayaking); research and education	
Margaree - Lake Ainslie Heritage River	Margaree - Lake Ainslie Watershed, NS 120 km	Coastal (drains 120,000 hectare watershed; salmon and trout spawning area; recreational fishing, portions of river privately owned)	recreational (sport fishing; canoeing, kayaking)	The Canadian Heritage Rivers System
Pollets Cove-Aspy Fault Provincial Wilderness Area	Cape St. Lawrence Area, NS 27,230 ha	Coastal (unique highland and coastal features - faults and canyons), geological	restricted recreational use (hunting, sport fishing, hiking, canoeing, kayaking); research and education	NS Environment and Labour
MacFarlane Woods Nature Reserve	Inverness County	Unique, rare, or outstanding natural ecosystem and the habitat of rare or endangered species.	Nature	<i>Special Places Protection Act</i> , NS Environment and Labour
Bornish Hill Nature Reserve	Inverness County	Unique, rare, or outstanding natural ecosystem and the habitat of rare or endangered species	Nature	<i>Special Places Protection Act</i> , NS Environment and Labour
Eigg Mountain-James River Wilderness Area	Pictou-Antigonish Highlands, NS 4,150 ha	Upland area of rolling hills, undisturbed forest, headwaters of three rivers	restricted recreational use (hunting, sport fishing, hiking, canoeing, kayaking); research and education	NS Environment and Labour
Sea Wolf Island National Wildlife Area	Margaree Island, NS 54 ha	Coastal, marine		Environment Canada
Wallace Bay National Wildlife Area	Wallace Bay, NS 58.5 ha	Coastal, marine		Environment Canada

Name	Location and Area	Significant Features	Human Activity	Administrative Agency
Bay du Vin Island Provincial Protected Natural Area	Eastern Lowlands Eco-Region, NB 214 ha	Coastal (salt marshes, sand dunes, rare flora, major nesting site for great blue heron and osprey), marine	Restricted to scientific research and monitoring	NB Natural Resources
Tabusintac Provincial Protected Natural Area	Eastern Lowlands Eco-Region, NB 108 ha	Coastal (salt marshes, major nesting site for great blue heron and osprey), marine	Restricted to scientific research and monitoring	NB Natural Resources
Black River Provincial Protected Natural Area	Eastern Lowlands Eco-Region, NB 4,000 ha	Adjacent to Kouchibouguac National Park, coastal (forest, bogs and barrens, area previously affected by human activity)	Restricted to scientific research and monitoring	NB Natural Resources
Jacquet River Gorge Provincial Protected Natural Area	Northern Uplands Eco-Region, NB 26,000 ha	Coastal (boreal forests, lime-rich soils, cliffs and gorges, area previously affected by human activity)	Restricted to scientific research and monitoring	NB Natural Resources
La Dune de Bouctouche	Bouctouche, NB 12 km	Coastal (sand bar extending across Bouctouche Bay), marine	Restricted flow of visitors to the area	Irving Eco-Centre
Portage Island National Wildlife Area	Miramichi Bay, NB 439 ha	Coastal (series of coastal barrier beaches, salt marshes, sand dunes, migrating waterfowl, shorebirds), marine	Restricted waterfowl hunting, wildlife observation, hiking	Environment Canada
Cape Jourimain National Wildlife Area	Cape Jourimain; near Bayfield, NB 589 ha	Pristine Marshland		Environment Canada
The Upper Restigouche, Heritage River	Northern NB	Natural and Cultural significance	recreational (sport fishing; canoeing, kayaking)	The Canadian Heritage Rivers System

Name	Location and Area	Significant Features	Human Activity	Administrative Agency
Black Pond Migratory Bird Sanctuary	Northeast coast, PEI 130 ha	Coastal, marine		Environment Canada
Hillsborough River, Heritage River	Southern to Central PEI	Wetland, Cultural Heritage	Recreational (sport fishing; canoeing, kayaking)	The Canadian Heritage Rivers System
The Three Rivers, Heritage River	Eastern PEI	Cultural Heritage	Recreational (canoeing)	The Canadian Heritage Rivers System

Source: Part D⁵³

53 Alexander, D. W., Mullins, C.C., Sooley, D.R., Brennan, J.A., Cabana, A-M., Klvana, I., et al. (2006). Gulf of St. Lawrence Ecosystem Overview Report, Part D: Human Systems and Socio-Economic Components., Department of Fisheries and Oceans, internal document.

Appendix 18: Museums

Name	Location	Concentration
Restigouche Regional Museum	Dalhousie, NB	Restigouche River salmon fishing
Roy Heritage Home	Saint Quentin, NB	Historic house from the early colonization period.
Kedgwick Forestry Village and Museum	Kedgwick, NB	Logging and lumbering
Atlantic Salmon Museum	Doaktown, NB	Atlantic salmon fishing
Central New Brunswick Woodmen's Museum	Boiestown, NB	Folklore
Middle Island Irish Historical Park	Miramichi, NB	Irish immigrant history
Miramichi Salmon Conservation Centre	South Esk, NB	Atlantic salmon biology
Rankin House Museum	Miramichi, NB	Early life in New Brunswick
Centre d'études acadiennes, Université de Moncton	Moncton, NB	Acadian Society
Hall of Fame	Paquetville, NB	Life and Times of Paquetville citizens
Historical Society Nicolas-Denys Documentation Centre	Shippagan, NB	Documents of local historical importance
Kent Museum Inc.	Bouctouche, NB	Acadian artefacts
Moncton Museum	Moncton, NB	Moncton Heritage
Monro Heritage Centre	Port Elgin, NB	Local history including Fort Gaspereaux
Richibucto River Museum	Rexton, NB	19 th century life in Kent County
Royal Canadian Legion War Museum	Bathurst, NB	War artefacts
Saint-Isidore Museum	Saint Isidore, NB	Agricultural and forestry background
Lutz Mountain Heritage Museum	Moncton, NB	Early settlers of Greater Moncton
Le Pays de la Sagouine	Bouctouche, NB	Acadian culture
Acadian Museum	Cheticamp, NS	Acadian culture
Antigonish Heritage Museum	Antigonish, NS	Cultural heritage of Antigonish Town and County
Ballantyne's Cove Tuna Interpretive Centre	Ballantyne's Cove, NS	Tuna Fishing
Balmoral Grist Mill Museum	Balmoral Mills, NS	Grist Mill
Barney's River Station School Museum	Barney's River, NS	School, community and church history
Cape Breton's Celtic Music Interpretive Centre	Judique, NS	Cape Breton Celtic Music
Cape George Heritage School	Cape George, NS	Local culture and heritage

Carmichael-Stewart House Museum	New Glasgow, NS	Pictou County artefacts, Historical garden
Creamery Square Museum & Archives	Tatamagouche, NS	Local Mi'kmaq, Acadian, and European history
Gut of Canso Museum and Archives	Port Hastings, NS	Local history including Canso Strait
Harbour Quilt Company	South Side Harbour, NS	Quilting history
Hector Exhibit & Research Centre	Pictou, NS	Local history and crafts
Hector Heritage Quay	Pictou, NS	Scottish Immigration
Inverness Miners' Museum	Inverness, NS	Coal Mining history
Les Trois Pignons: Museum of the Hooked Rug and Home Life	Cheticamp, NS	Acadian cultural, genealogical, Cheticamp settlers' history
Loch Broom Log Church	Loch Broom, NS	Historic Church
MacDonald House Museum	East Lake Ainslie, NS	Local history and lifestyle
Malagash Salt Miners' Museum	Malagash, NS	Salt industries, fishing, farming, and local history
Margaree Salmon Museum	North East Margaree, NS	Salmon angling on the Margaree River
McCulloch House Museum	Pictou, NS	Scottish immigrants history
Mulgrave Heritage Centre	Mulgrave, NS	Local history
North Highlands Community Museum	Cape North, NS	Early North cape Breton settlers' history
Northumberland Fisheries Museum	Pictou, NS	Fishing history , Fishing research facilities
Nova Scotia Museum of Industry	Stellarton, NS	Industry history
Sutherland Steam Mill Museum	Denmark, NS	Historic Steam Mill
Wallace Area Museum	Wallace, NS	Restored shipbuilders house and heritage gardens
Wallace MacAskill Museum	St. Peter's, NS	Marine photography
Basin Head Fisheries Museum	Basin Head, PEI	Fisheries history
Beaconsfield Historic House	Charlottetown, PEI	Local history
Elmira Railway Museum & Miniature Railway	Elmira, PEI	Railway history
Acadian Museum/Musée Acadien	Miscouche, PEI	Acadian history
Orwell Corner Historic Village	Orwell, PEI	Local history
Green Park Shipbuilding Museum and Yeo House	Port Hill, PEI	Shipbuilding history
Eptek Art and Culture Centre	Summerside, PEI	Art exhibits
Lucy Maud Montgomery Lower Bedeque School Museum	Albany, PEI	One room school house tribute

Alberton Museum & Genealogy Centre	Alberton, PEI	Alberton history and genealogy
Bideford Parsonage Museum - A PEI Community Museum	Bideford, PEI	Community history
Car Life Museum Inc.	Bonshaw, PEI	Antique automobiles and restored farm equipment
Roma at Three Rivers	Brudenell Point, PEI	1732 base for control of the Gulf fisheries and for trade with France, Quebec, and the West Indies.
Historic Site - Cape Traverse	Cape Traverse, PEI	Local History
Fantazmagoric Museum of the Strange and Unusual (The)	Cavendish, PEI	Entertainment
Ripley's Believe It Or Not! Museum	Cavendish, PEI	Entertainment
Prince Edward Island Regimental Museum	Charlottetown, PEI	Military artefacts
W. Henry Pope National Historic Site	Charlottetown, PEI	Political Heritage
Monument Site - Desable	Desable, PEI	Local history
Veterans Memorial Military Museum	Kensington, PEI	Military memorabilia
Keir Memorial Museum, The	Malpeque, PEI	Changing exhibits, incl. oyster fishing activities.
Garden of The Gulf Museum	Montague, PEI	Local history
Museum of Religious Art	Mount Carmel, PEI	Religious artefacts
Rustico Harbour Fishery Museum/High Tide Gallery	North Rustico, PEI	Local fisheries history
O'Leary Museum	O'Leary, PEI	Potato and community historical artefacts
Prince Edward Island Potato Museum	O'Leary, PEI	Potatoes
The Farmers' Bank of Rustico Museum	Rustico, PEI	Local history
Prince Edward Island Sports Hall of Fame	Summerside, PEI	Sports memorabilia
International Fox Museum and Hall of Fame Inc.	Summerside, PEI	Fox farming
Tignish Cultural Centre	Tignish, PEI	Local history and interpretive centre
Really-O Handcrafts, Antiques and Tryon Museum	Tryon, PEI	Antiques
Union Corner School House Museum	Union Corner, PEI	Local history

Source: <http://www.gov.pe.ca/>,
<http://novascotia.com/>,
<http://www.tourismnewbrunswick.ca>

Appendix 19: National Historic Sites

Name	Location	Significant Features	Human Activity	Administrative Agency
St. Peters National Historic Site of Canada	St. Peter's, NS	Marine, coastal (<i>French trading post and fort, 1650-1758</i>)	Educational, Heritage	Parks Canada
St. Peters Canal National Historic Site of Canada	St. Peter's, NS	Marine, coastal, historical (<i>Operational canal; structures dating from 19th-century</i>)	Scenic,	Parks Canada
Beaubassin National Historic Site of Canada	Fort Lawrence, NS	Historical (Major Acadian settlement; pivotal place in the 17th- and 18th-century North American geopolitical struggle between the British and French empires)	Educational, Heritage	Parks Canada
Boishébert and Beaubears Island Shipbuilding National Historic Sites	Beaubears Island, NB; Miramichi River, NB	Archaeological, historical (remnants of a 19th century ship building center), coastal, marine	Tourist attraction, boating	Parks Canada
Fort Gaspereaux National Historic Site of Canada	Port Elgin, NB	Historical (Military ruins and cemetery of 1751 French fort)	Educational, Heritage	Parks Canada
<u>Ardgowan National Historic Site of Canada</u>	Charlottetown, PEI	Historical (<i>Residence of Father of Confederation William Henry Pope, circa 1850</i>)	Educational, Heritage	Parks Canada
Dalvay-by-the-Sea National Historic Site of Canada	Prince Edward Island National Park, PEI	Historical (<i>Queen Anne Revival summer home, 1896-99</i>)	Educational, Heritage	Parks Canada
L.M. Montgomery's Cavendish National Historic Site of Canada, Green Gables Heritage Place	Cavendish, PEI	Historical (Intimately associated with Lucy Maud Montgomery's formative years and early productive career), (The farmhouse which was the inspiration for the setting of L.M. Montgomery's beloved novel, <i>Anne of Green Gables</i>).	Educational, Heritage	Parks Canada

<u>Port-la-Joye– Fort Amherst National Historic Site of Canada</u>	Rocky Point, PEI	Historical (<i>Remains of British and French forts</i>)	Educational, Heritage	Parks Canada
<u>Province House National Historic Site of Canada</u>	Charlottetown, PEI	Historical (Neoclassical birthplace of Confederation)	Educational, Heritage	Parks Canada

Source: Parks Canada

Appendix 20: Provincial Parks

Name	Location	Significant Features	Human Activity
Amherst Shore Provincial Park	Coldspring Head, NS	Coastal, marine	Camping, swimming
Arisaig Provincial Park	Arisaig, NS	Coastal, marine, geological (fossils)	Coastal hiking, day use, swimming
Balmoral Mills Provincial Park	Balmoral Mills, NS	Nature	Hiking
Bayfield Beach Provincial Park	Bayfield, NS	Coastal, marine	Swimming, day use
Beaver Mountain Provincial Park	James River, NS	Nature	Hiking, skiing
Blue Sea Beach Provincial Park	Malagash, NS	Nature	Wildlife
Burnt Island Provincial Park	Lennox Passage, NS	Coastal, marine	Boat launch
Cabots' Landing Provincial Park	Sugar Loaf, NS	Nature	Hiking
Caribou-Monroe Islands Provincial Park	Caribou Island, NS	Coastal, marine	Swimming, day use, camping
Dundee Provincial Park	Dundee, NS	Nature, marine	Paddling, wildlife
Fox Harbour Provincial Park	Fox Harbour, NS	Coastal, marine	Swimming, day use

Green Hill Provincial Park	Greenhill, NS	Nature	Scenic
Gulf Shore Provincial Park	Pugwash, NS	Coastal, marine	Swimming, day use
Heather Beach Provincial Park	Lewis Head, NS	Coastal, marine	Swimming, day use
Lake O'Law Provincial Park	Lake O'Law, NS	Lake	Boat launch, day use
Long Point Provincial Park	Long Point, NS	Nature	Picnic Park
Mabou Provincial Park	Mabou, NS	Nature	Scenic, picnicking
Melmerby Beach Provincial Park	Merigomish Harbour, NS	Coastal, marine	Swimming, day use
Northport Beach Provincial Park	Northport, NS	Coastal, marine	Swimming, day use
Pomquet Beach Provincial Park	Pomquet, NS	Coastal, marine	Swimming, day use
Port Hood Station Provincial Park	Port Hood, NS	Coastal (sand dune), marine	Swimming, day use
Powells Point Provincial Park	Chance Harbour, NS	Coastal, marine	Swimming, day use
Rushtons Beach Provincial Park	Tatamagouche, NS	Coastal (sand bar), marine	Swimming, day use, bird watching
Salt Springs Provincial Park	Salt Springs, NS	Nature	Hiking

Shinimicas Provincial Park	Shinimicas, NS	Nature	Wildlife
Southwest Margaree Provincial Park	Southwest Margaree, NS	Nature	Picnicking
Tatamagouche Provincial Park	Brule, NS	Nature	Picnicking
Tidnish Dock Provincial Park	Tidnish, NS	Historic (eastern terminus of the Chignecto Marine Transport Railway), coastal, marine	Tourist attraction, swimming, day use
Trout Brook Provincial Park	East Lake Ainslie, NS	Marine	Sport fishing, wildlife
Waterside Provincial Park	Seafoam, NS	Coastal, marine	Swimming, day use, bird watching
West Mabou Beach Provincial Park	West Mabou, NS	Coastal, marine, nature	Sport fishing, hiking, wildlife
Brudenell River Provincial Park	Roseneath, PEI	Coastal (two golf courses), marine (marina)	Golf, swimming, hiking, recreational boating, boat tours, camping, kayaking, day use
Cabot Beach Provincial Park	Darnley Basin, PEI	Coastal, marine	Camping, swimming, kayaking, guided nature tours, boat tours, deep sea fishing excursions
Cedar Dunes Provincial Park	West Point, PEI	Coastal, marine, historical (lighthouse)	Camping, swimming, recreational boating, tourist attraction, guided nature tours
Green Park Provincial Park	Port Hill, PEI	Coastal, marine, historical (ship building museum)	Camping, swimming, tourist attraction
Jacques Cartier Provincial Park	Kildare, PEI	Coastal, marine, historical (site of Jacques Cartier's landing)	Camping, swimming, tourist attraction, guided nature tours
Linkletter Provincial Park	Linkletter, PEI	Coastal, marine	Camping, swimming

Lord Selkirk Provincial Park	Eldon, PEI	Coastal (golf course), marine, historical (town of Eldon)	Camping, golf, coastal hiking;, tourist attraction
Mill River Provincial Park	St. Anthony, PEI	Coastal (golf course), marine	Swimming, recreational boating, golfing, camping
Northumberland Provincial Park	Wood Islands East, PEI	Coastal, marine (marina)	Camping, recreational boating
Panmure Island Provincial Park	Panmure Island, PEI	Coastal (sand dunes), marine, historical (Panmure Island Lighthouse)	Camping, swimming, tourist attraction
Red Point Provincial Park	Red Point, PEI	Coastal, marine (borders ferry terminal to Magdalen Islands)	Camping, swimming, boating
Argyle Shore Provincial Park	Argyle Shore, PEI	Coastal, marine	Swimming, day use
Basin Head Provincial Park	Souris, PEI	Coastal, marine	Swimming, day use
Belmont Provincial Park	Winchester Cape, Maie Malpeque Bay, PEI	Coastal, marine	Swimming, day use
Bloomfield Provincial Park	St. Anthony, PEI	Coastal (golf course), marine	Day use, golf, angling
Bonshaw Provincial Park	Bonshaw, PEI	Coastal, marine	Day use, angling
Buffaloland Provincial Park	Milltown Cross, PEI	Day use, buffalo reserve	Day use, tourist attraction
Chelton Beach Provincial Park	Chelton, PEI	Coastal, marine	Swimming, day use

Kings Castle Provincial Park	Gladstone, PEI	inland	Swimming, day use, tourist attraction
Pinette Park Provincial Park	Pinette, PEI	inland	Swimming, day use, angling
Sally's Beach Provincial Park	Spry Point, PEI	Coastal	Swimming, beach, day use
Souris Beach Provincial Park	Souris, PEI	Coastal, marine (marina)	Day use, swimming, boating
Strathgartney Provincial Park	Churchill, PEI	Nature	Hiking
Union Corner Provincial Park	Union Corner, PEI	Coastal, marine	Day use, swimming
Wood Islands Provincial Parks	Wood Island, PEI	Coastal, marine (marina)	Day use, swimming, recreational boating
Parlee Beach Provincial Park	Pointe-du-Chene, NB	Coastal, marine	Camping, swimming
Murray Beach Provincial Park	Murray Corner, NB	Coastal, marine	Camping, swimming
Val Comeau Provincial Park	Val-Comeau, NB	Coastal, marine	Camping, swimming, boat tours (deep sea fishing excursions)
Acadian Historic Site	Caraquet, NB	interpretation centre; museum	tourist attraction
Mount Carleton Provincial Park	Saint Quentin, NB		Hiking, paddling
Sugarloaf Provincial Park	Atholville, NB		Hiking, skiing

Source: <http://www.tourismpei.com/pei-provincial-parks>, <http://www.nbparks.ca/>, <http://www.novascotiaparks.ca/>.

Appendix 21: List of Elements Omitted from Report.

Element	Justification / Encountered Difficulties
Quality of Life	The demands associated with the creation of a regional level quality of life index exceeded the time available in the Gulf Region for this version of the report. Collaboration between the Regions of Quebec, Western Newfoundland, and the Gulf in terms of calculation and data consistency should be addressed at the onset of development for such an index. .
Number of Health Practitioners and Facilities	Data not obtained at the present time. Further research required. Time constraints.
Wastewater and Sewage	Fragmented data available across three provinces and the municipalities within those necessitate additional research. Unable to acquire useable data up to present. Time constraints.
Pollution and Waste	More sources and sites of pollution and waste exist than have been included in the Federal Contaminated Sites Action Plan list. Clearly not exhaustive, more research required in this area. Time constraints.
GDP	GDP figures are not available for regions smaller than the Provincial level. Given the nature of the GDP measurement it was determined that it would be poorly reflect the situation for the Gulf Region since major centres such as Saint John and Fredericton in New Brunswick and the Halifax Regional Municipality are located outside the Gulf Region. In addition, justifiable reasoning for derivation of regional proportions of GDP within the Gulf Region would require additional time.
Regional Strategic Initiatives	The elements to the left each comprise part of Section 2.1.4, Investment and Research & Development. More research would undoubtedly help with further expansion of these elements and section 2.1.4.
Government Subvention	
Investment to Marine Economic Development	
Pleasure Boating	The data pertaining to pleasure boating is fragmented. Sensible assembly of data not possible within time constraint.