



**Gardner
Pinfold**
Consulting
Economists Ltd.
www.gardnerpinfold.ca

East Coast
1331 Brenton St.
Halifax, NS
Canada, B3J 2K5
Ph: 902-421-1720
Fax: 902-422-5343
mgardner@gardnerpinfold.ca

West Coast
6150 Baillie Rd.
Sechelt, BC
Canada, V0N 3A7
Ph/Fax: 604-885-0105
tpinfold@gardnerpinfold.ca

An Update of the Economic Impact of the Atlantic Coastal Action Program (ACAP)

Prepared by:

Gardner Pinfold Consulting Economists Limited

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I. Update of Economic Impact of ACAP

1. Purpose

From an operational standpoint, ACAP organizations are important generators of economic activity through the delivery and administration of their organizations. The purpose of this update analysis is to document the scale of collective economic impacts the ACAP organizations are having on their respective provincial economies that have occurred over the fiscal years 2001/02 to 2006/07.

2. Methodology

To undertake this analysis, we have used the findings of an earlier analysis that covered the five-year period 1997-2001. The update has been done using audited annual financial reports to the extent possible and applying the expenditure data to economic impact ratios calculated as part of the original analysis. These initial ratios were derived from the EcoTec Economic Model. This state-of-the-art model is a privatized version of the Statistics Canada Inter-provincial Input Output Model. Input Output analysis allows us to simulate how various sectors of the economy interact through the purchase or supply of goods and services. The model provides a means to estimate economic changes that result from new economic activity. The operation of the ACAP organizations is assumed to be the new economic activity in this case. The model was run to simulate the activities in each of the four Atlantic Provinces. Impacts for the total Atlantic Region are the sum of impacts that occur at the provincial level.

The initial economic impacts were estimated for all ACAP activities as represented by their expenditures for the five years of 1997-2001. The impacts presented in the first analysis were cumulative for the five-years. The impacts were estimated for both direct impacts and spin-offs attributable to the expenditures made by the ACAP organizations. Direct impact is defined to include those expenditures made by ACAP organizations and its resulting income and employment. Spin-off impacts, often referred to as the multiplier effect, include both indirect and induced impacts. Indirect impacts are those gained by firms or organizations supplying goods and services to support the ACAP organization activities. Induced impacts are those attributable to income and employment generated by consumer spending at the direct and indirect impact stages.

3. ACAP Expenditures

Over the six-year period of 2001/02 to 2006/07, ACAP organizations spent a total of \$21.7 million to implement and administer their projects. Table 1 shows a summary profile of expenditure by category. Overall spending on wages and benefits account for 65 percent of total spending. These values are based on both audited and unaudited financial records for the period 2001/02 to 2006/07 obtained from each ACAP organization. Where financial information was not available, conservative estimates were made by Gardner Pinfold Consulting Economists.

Approximately 85% of organization expenditure data was derived from audited statements.

Table 1
Total ACAP Organization Expenditures by Province
2001/02 to 2006/07 (\$)

	Newfoundland & Labrador	Nova Scotia	Prince Edward Island	New Brunswick	Total Atlantic
Purchased Goods	100,000	835,800	268,000	1,917,400	3,121,200
Business Services	408,600	2,285,900	461,800	1,197,400	4,353,700
Wages and Benefits	911,400	6,938,200	1,656,000	4,625,000	14,130,600
Other	27,500	10,100	7,200	86,100	130,900
Total	1,447,500	10,070,000	2,393,000	7,825,900	21,736,400

Source: Individual ACAP Organization Financial Statements 2001/02 to 2006/07. Some estimates for missing values were made by Gardner Pinfold.

4. Employment Impacts

The ACAP total employment impact over the six years amounts to 700 person-years of employment across Atlantic Canada. On an annual basis, this would be an average of over 100 person-years. A person-year of employment means one person is employed full-time for one year. Direct employment is estimated at 473 person-years. Spin-off employment amounts to 227 person-years. Table 2 shows the employment impacts attributable to the ACAP organizations over the past six years on a province-by-province basis.

Table 2
Employment Impacts - Direct, Spin-off and Total (Person-Years)
2001/02 to 2006/07

	Newfoundland & Labrador	Nova Scotia	Prince Edward Island	New Brunswick	Total Atlantic
Direct	24	240	55	154	473
Spin-off	14	110	25	78	227
Total	38	350	80	232	700

Source: Gardner Pinfold Consulting.

5. GDP Impacts

Gross Domestic Product (GDP) is an important measure of economic activity. It includes income for households (gross wages and salaries plus supplementary labour income), private sector income (gross profits plus depreciation) and government indirect tax (less subsidies) revenues. The total GDP impact in Atlantic Canada over the past six years arising from ACAP is \$35.47 million. The Direct GDP accruing due to the project activities amounts to \$15.92 million. Spin-off GDP is \$19.55 million. Table 3 shows GDP impacts attributable to the ACAP organizations on a province-by-province basis.

Table 3
GDP Impacts - Direct, Spin-off and Total (\$ millions)
2001/02 to 2006/07

	Newfoundland & Labrador	Nova Scotia	Prince Edward Island	New Brunswick	Total Atlantic
Direct	1.00	7.67	1.80	5.45	15.92
Spin-off	1.35	9.68	2.15	6.37	19.55
Total	2.35	17.35	3.95	11.82	35.47

Source: Gardner Pinfold Consulting.

6. Taxation Impacts

The analysis also allows for an estimate of taxation impact to be derived. Over the 2001/02 to 2006/07 time period, the conduct and administration of ACAP projects generated a total tax impact of \$12.95 million split on a 55/45 basis between federal and provincial governments. Table 4 shows a summary of taxation impact on a province-by-province basis. The total cost to the Government of Canada to support the ACAP over the six year period examined was approximately \$7.0 million. The taxation impact of \$7.16 million suggests the program has successfully leveraged a ratio of almost \$1 for \$1 back in tax revenue.

Table 4
Taxation Impacts – Federal and Provincial (\$ millions)
2001/02 to 2006/07

	Newfoundland & Labrador	Nova Scotia	Prince Edward Island	New Brunswick	Total Atlantic
Federal	0.46	3.60	0.77	2.33	7.16
Provincial	0.40	2.82	0.65	1.92	5.79
Total	0.86	6.42	1.42	4.25	12.95

Source: Gardner Pinfold Consulting.

7. Comparison to Previous Analysis

The initial study completed in July 2002 covered the economic impact associated with the operations of the ACAP organizations over the five-year period of 1996/97 to 2000/01. At the time, data was not available for 2001/02. The current analysis covers the six-year period 2001/02 to 2006/07. The table below compares total and average annual impacts between the two time periods.

Result Comparison Between Initial Analysis and Update

	1996/97 to 2000/01		2001/02 to 2006/07	
	Total	Average Annual	Total	Average Annual
Total Expenditures \$ millions	13.5	2.7	21.7	3.6
Total Employment Person-Years	482	96	700	117
GDP \$ millions	22.0	4.4	35.5	6.0
Taxes \$ millions	8.0	2.0	13.0	2.2

On an average annual basis, all impacts have increased. Total employment has increased by about 20% and Total GDP by over 30%.

II. Alternative Delivery Cost Analysis

The purpose of this section is to estimate what the cost to Environment Canada would have been to deliver the same outputs had ACAP not operated within the community-based model approach. For this analysis, the underlying assumption is that in order to achieve the same program outputs over the 2001/02 to 2006/07 time period as the 14 ACAP organizations, the department would have needed to set up the equivalent of 14 community offices. The names of the 14 ACAP organizations by province are as follows:

Nova Scotia

- ACAP Cape Breton Inc.
- Bluenose Atlantic Coastal Action Program
- Clean Annapolis River Project
- Pictou Harbour Environmental Protection Project
- Sable Island Preservation Trust

New Brunswick

- ACAP Saint John Inc.
- Eastern Charlotte Waterways Inc.
- Miramichi River Environmental Assessment Committee
- Société d'aménagement de la rivière Madawaska et du lac Témiscouata inc.
- St. Croix Estuary Project Inc.

Newfoundland & Labrador

- Humber Arm Environmental Assoc. Inc.
- St. John's Harbour ACAP Inc.

Prince Edward Island

- Bedeque Bay Environmental Management Association Inc.
- Southeast Environmental Association

1. Approach

To estimate the total costs for Environment Canada to operate 14 community offices, we reviewed the office structures, personnel requirements and specific project activity of the existing ACAP offices. On the basis of this review, we defined 3 categories of office – small, medium and large.

Then to estimate what it would take for Environment Canada to operate these same offices and undertake comparable project activities, we met with departmental officials to identify personnel requirements and associated overhead support. Total cost of operations is assumed to be a function of the number of personnel assigned to each office. To match the three categories of office the following table shows the estimated personnel requirements for each size category.

Table 5
Personnel Requirements by Office Size

	Small	Medium	Large
Executive Director	1	1	1
Secretary	1	1	1
Project Leader	1	3	5
Project Staff	2	9	15
Total	5	14	22

Each of these positions were then matched to equivalent Public Service job classification categories to develop an estimate of salary and benefits costs.

2. Results

To estimate non-salary components of the cost analysis, we used a model developed in consultation with Environment Canada to estimate direct non-salary costs, capital depreciation as well as indirect costs (overhead). The model generated the following cost estimates as shown in Table 6, for each of the three categories of office.

Table 6
Alternative Delivery Cost Analysis
Summary of Estimated Annual Costs (\$) by Size of Office
2001/02 to 2006/07

	Small	Medium	Large	
Number of ACAP Organizations by Office Category	4	7	3	
Estimated Annual Cost				
Direct Salary Costs (including benefits)	365,200	961,400	1,493,800	
Direct Non-Salary Costs (project support budgets)	49,500	130,900	203,500	
Depreciation (mainly computers, software and furnishings)	2,200	4,400	6,600	
Overhead (rent, heat, lights etc.)	41,800	110,000	170,500	
Total Estimated Annual Costs	458,700	1,206,700	1,874,400	
Total Estimated Annual Cost by Office Category	\$1,834,800	\$8,446,900	\$5,623,200	\$15,904,900

Table 7 shows the total overall cost to Environment Canada of operating ACAP as a full departmental responsibility on both an annual basis and for the six-year period (2001/02 to 2006/07).

Table 7
Alternative Delivery Cost Analysis
Total Annual and Six-Year Costs (\$)
2001/02 to 2006/07

Total Annual ACAP Alternative Delivery Program Cost	\$15,904,900
Total Six Year 2001/02 to 2006/07 ACAP Alternative Delivery Cost	\$79,524,500

As can be seen in Table 7, on an annual basis, it would have cost Environment Canada almost \$16 million to staff and operate offices that would have essentially replicated the activities conducted by the 14 ACAP organizations. Over the six-year period of 2001/02 to 2006/07, total costs would have been in excess of \$79 million. This compares to actual expenditures made by Environment Canada over this same time period of \$7.0 million – more than a ten-fold difference.

We estimate cash flow through the ACAP organizations over this period was \$21.7 million. Of the \$21.7 million in funds administered by the ACAP organizations over six years, the department contributed \$7.0 million as compared with the \$79 million it would have cost to have the 14 ACAP organizations operate as Environment Canada community offices.

In effect, it would have cost Environment Canada more, on an annual basis, to achieve ACAP outputs than it cost the ACAP organizations to operate over the full six-year period.