



Fundy Model Forest

~Partners in Sustainability~

Report Title: Fundy Model Forest Research Grant for 2001-2002 Watershed Group Support

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Year of project: 2002

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File Name:

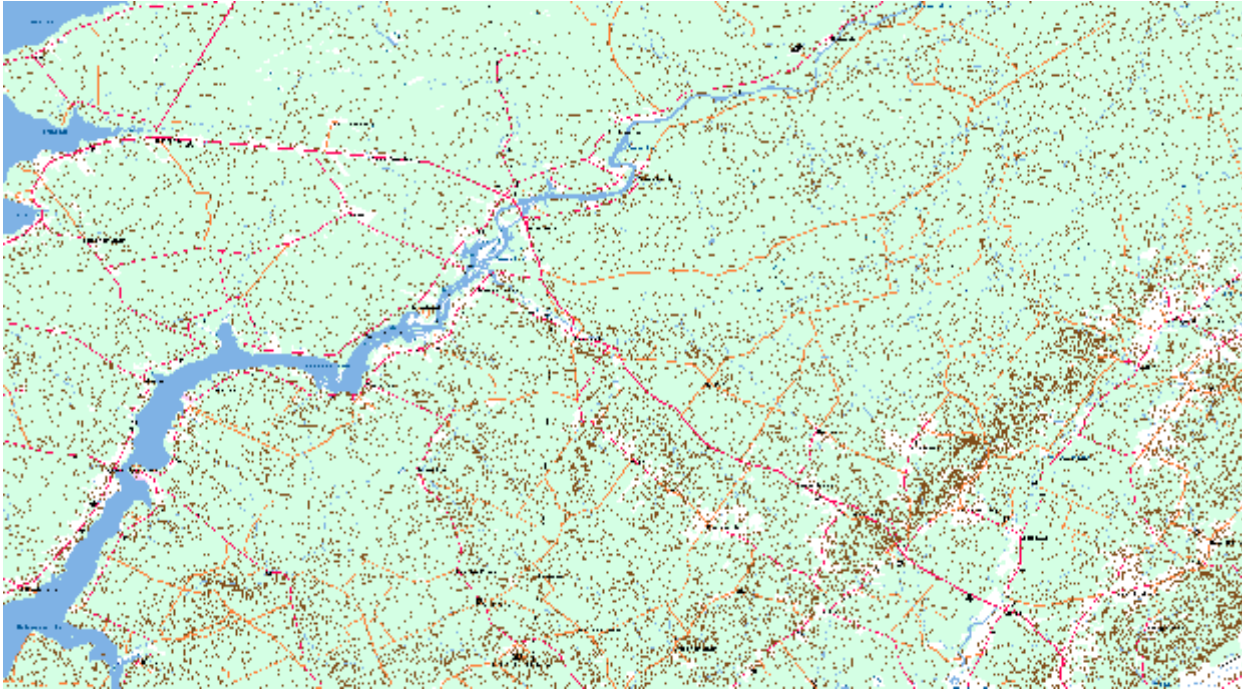
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***The Fundy Model Forest...
...Partners in Sustainability***

“The Fundy Model Forest (FMF) is a partnership of 38 organizations that are promoting sustainable forest management practices in the Acadian Forest region.”

Atlantic Society of Fish and Wildlife Biologists
Canadian Institute of Forestry
Canadian Forest Service
City of Moncton
Conservation Council of New Brunswick
Fisheries and Oceans Canada
Indian and Northern Affairs Canada
Eel Ground First Nation
Elgin Eco Association
Elmhurst Outdoors
Environment Canada
Fawcett Lumber Company
Fundy Environmental Action Group
Fundy National Park
Greater Fundy Ecosystem Research Group
INFOR, Inc.
J.D. Irving, Limited
KC Irving Chair for Sustainable Development
Maritime College of Forest Technology
NB Department of the Environment and Local Government
NB Department of Natural Resources
NB Federation of Naturalists
New Brunswick Federation of Woodlot Owners
NB Premier's Round Table on the Environment & Economy
New Brunswick School District 2
New Brunswick School District 6
Nova Forest Alliance
Petitcodiac Sportsman's Club
Red Bank First Nation
Remsoft Inc.
Southern New Brunswick Wood Cooperative Limited
Sussex and District Chamber of Commerce
Sussex Fish and Game Association
Town of Sussex
Université de Moncton
University of NB, Fredericton - Faculty of Forestry
University of NB - Saint John Campus
Village of Petitcodiac
Washademoak Environmentalists





Fundy Model Forest Research Grant for 2001-2002:
Watershed Group Support

Final Report
Prepared by Shawn E. Dalton, Contractor
Washademoak Environmentalists
April 22, 2002

Abstract

The purposes of this effort were to build stakeholder initiative and participation at the watershed level; promote public stewardship of water resources; and inform and educate the local population about watershed-based issues, stream restoration, and protection activities. The work was conducted in three phases between the summer of 2001 and the spring of 2002: Reconnaissance, Planning, and Engagement. In addition, a relationship has been fostered between the Washademoak Environmentalists and the Canaan River Fish and Game Club, and efforts are being made to engage the interest of a wider group of stakeholders in the long-term stewardship of the Canaan-Washademoak Watershed. A nucleus of stakeholders will plan and implement water quality monitoring projects, as well as participate in watershed level landscape planning and management.

Introduction

The purposes of this effort were to build stakeholder initiative and participation at the watershed level; promote public stewardship of water resources; and inform and educate the local population about watershed-based issues, stream restoration, and protection activities. The work was carried about by S. Dalton and J. Blackadar¹, between the spring of 2001 to spring of 2002, and several strategies were used to address these objectives. This document summarizes our approach to accomplishing the objectives, methods used, and results of our work. While the objectives of the project are enumerated as discreet entities, in practice, they were all addressed in each phase or activity of the work.

In addition, it should be noted that, while Washademoak Environmentalists subcontracted this work, they devoted substantial time and energy to meeting the goals of the project, and their in-kind service is documented here as a valuable, indeed critical, component of this effort.

Methods

This work was conducted, essentially, in three phases: Reconnaissance, Planning, and Engagement. During the reconnaissance phase, we familiarized ourselves with the landscape, its inhabitants, and issues related to land use and water quality. Relevant documents provided by long-time watershed residents and environmental activists were reviewed. These included: *Community-based investigation into the current state and functioning of the Washademoak Lake system and the lower Canaan River watershed*, and *Water quality of the Canaan River, 1997, and its relationship to the water quality of the Washademoak Lake*, and were the products of earlier projects of the Washademoak Environmentalists. We also toured the watershed by car with the Weatherleys, and saw some of the Washademoak and Canaan River by boat in October, 2001, when we took a guided ride with residents of

¹The work described here was carried out under the guidance of Robena and Alan Weatherley, of the Washademoak Environmentalists.

the area². From these excursions, our conversations, and our reading we broadly assessed the state of the watershed and formulated some questions (see Appendix A) for persons to be contacted during the course of our networking exercise. In addition, we met with a representative of the Royal District Planning Commission (RDPC), which intends to begin a performance-based planned effort along watershed lines in the area in January of 2003. This meeting was initially considered important primarily because we wanted to ensure that we would not overtax community volunteers with our two efforts. However, upon learning more about RDPC's plans in the area, it became clear that we have much in common and should work together when the planning effort gets up and running.

During the Planning phase, we had numerous lengthy discussions with representatives of Washademoak Environmentalists regarding past experiences in community organizing in the area, and how we might best gain attention and cooperation of local residents throughout the watershed, without engendering suspicion as to the goals of our work or compromising future efforts. In addition, it became clear that although a great deal of research had been undertaken regarding the ecological integrity of the system, the same could not be said of human activity or status in the study area. Thus, we decided to spend some additional time compiling integrated socioeconomic and biophysical information. This included obtaining Census Subdivision (CSD) level data from the 1996 Canadian Census, and juxtaposing it with data from the 1996 Census of Agriculture in order to identify trends in human behaviour at the watershed level (see Appendix B for more information). It should be stated here that these initial findings are a very coarse first examination of human behaviour in the system, and are subject to error. Census area delineations do not match watershed lines, thus we made a rough estimate of the amount of each CSD, based on area, in the watershed. This posits two potentially serious sources of error: for those CSDs that were excluded from our study because an estimated less than 50% of their *area* is within the watershed, it is possible that a majority of their *population* is in the small portion of the CSD that is in the watershed. Thus the activities of those persons may be disproportionately more important in terms of influencing the fate of the system than is implied by the small CSD portion contained therein. Likewise, for those CSDs included in the study, despite having substantial areas outside the Canaan-Washademoak watershed boundary, it is possible that a disproportionate influence in the system has been given to persons living in those areas who may or may not actually reside in the watershed. These sources of error are justifiable on two fronts: first, having been explicit that these numbers represent a first cut, coarse filter to human dimensions in the ecosystem, we submit that even these rough figures represent a substantial step forward in terms of our ability to understand and engage people in the area. Second, the two CSDs most likely to be skewing results, Harcourt and Moncton, are also two areas whose populations

² Thanks very much to Jim and Phyllis Corbett for their hospitality, and rich knowledge of the system, and to Bonny Hill for helping to organize the boat tour.

are growing rapidly. Thus, it is very likely that this growth could have dramatic influence on the ecological integrity of the Canaan-Washademoak area soon, as they are both in the headwaters of the system. For this reason, these two CSDs should be monitored carefully by residents of the area. In addition, we are working to identify a spatial statistician at UNB or SNB who may be willing to pursue these questions and improve the resolution of our data.

The third phase of our work, Engagement, was initially intended to be a tool to identify the potential overlap in agendas of existing organizations and interested residents. The Washademoak Environmentalists provided names and telephone numbers of a number of persons and organizations within the watershed to be contacted. In addition, the Washademoak Environmentalists also contacted a number of people themselves and discussed watershed level issues, particularly to address the traditional distance between Canaan and Washademoak residents. Representatives of the Canaan River Fish and Game Club, in particular, were very interested in working together at a watershed scale, and in submitting joint grant proposals to undertake outreach and restoration activities. Representatives of the Scenic Waters Club in the Washademoak area were less receptive to the idea of working together.

The Engagement phase became overshadowed to some extent by controversy regarding the potential relocation of an industrial sized hog farm to the upper area of the watershed. This was hardly something we could ignore, and indeed it arguably provided a catalyst for our work. Because it became impossible to continue conducting informal interviews without mentioning what was considered by many in the area to be a serious threat to their way of life and the water quality in the area, this effort was dovetailed with those of other groups trying to support a united voice in the area among conservation groups and residents. The Engagement phase culminated in the public meeting (April 8) initially planned under the auspices of this FMF grant.

Results

Our initial findings indicated a certain level of apathy among residents regarding water quality in the area. The public meeting on April 8 dispelled this notion, however. Over 40 people came together to hear the results of our socioeconomic research, and to consider landscape level issues in the watershed. It was agreed that the group would meet again during the first week of May, to discuss in further detail potential ground and surface water monitoring programs, and decide upon a course of action.

The following general characteristics of the watershed were discerned through our analysis of 1996 Census data, which will be compared with 2001 data as soon as they become available:

The results of the socioeconomic research are somewhat disconcerting: the system appears to be highly vulnerable to development at both the headwaters and the lower Washademoak. Not only is the current population characterized by a substantial cohort of 40-65-year-olds, but both the upper and lower

reaches of the system are within commuting distance of several of NB's cities. The fact that a substantial portion of the labour force in the upper and lower reaches are working in government, education, or health and social services suggests that a great deal of commuting is already taking place. This has potential negative repercussions not only on the environment, but on local communities. Of course, increased emissions due to long commutes are at the very least a contributing factor to climate change. In addition, because commuters often spend more of their time *away* from home than *at* home, they are frequently unable to participate in the daily, weekly, and seasonal rhythms of local social life. This is also true of summer cottagers, who are increasing in number every year, but currently we do not know whether they are able to contribute as much to the community or the ecosystem as they appear to gain from them. This is unlike other cottage communities which often have strong, active groups that participate energetically in local planning and decision-making.

There is good news: in the first place, this area is a tremendous asset to the province of NB and because of this, an interested and committed constituency has been identified and agreed to move forward. This group is composed of residents of both the Canaan and Washademoak areas. Consider the following information derived from the 1996 Census of Agriculture³:

- A significant portion of the farmland in the province is in this region
- 61% of farms in Census Agricultural Region (CAR) 2 are less than 240 acres in size
- 28% of all farm area **owned** in NB is in CAR 2
- Of all farm land rented or leased in NB, 20% are in CAR 2
- 21% of all farm land in crops is in this CAR
- 32% of all farm land in tame or seeded pasture in NB is in this region
- a significant portion of the farmland in the province is in this region

We have also availed ourselves of a fortuitous opportunity that can support this group as it moves forward: based largely on this FMF-sponsored effort, Dalton was selected in February, 2002 by Environment Canada and the Canadian Nature Federation to be one of 14 Regional Coordinators across Canada participating in a new initiative called the Canadian Community Monitoring Network. The intent of this year-long process (March 1, 2002 – February 29, 2003) is to develop long-term community-based ecological monitoring activities that can influence local level sustainable development. The Canaan-Washademoak area is ripe for this process.

In addition to community interest, there is a strong pool of resource persons committed to assisting in this process. Many of these were represented at the April 8 public meeting: NB Dept. of the

³ These numbers are based on reports of all farming activities of those who live in or own farmland in CAR 2, and may be somewhat misleading in that they might include statistics about farming activities conducted in other CARs, by those who are residents of CAR 2.

Environment and Local Government (both Watershed Planning and Agricultural divisions), J.D. Irving, the Southern NB Woodlot Owners Cooperative, the Royal District Planning Commission, and the Canadian Community Monitoring Network. Also, DFO representatives in Halifax have been extremely supportive of this effort, and are very much interested in becoming more involved as we move forward. Likewise, several researchers at UNB have expressed interest in assisting in monitoring activities in the future.

Conclusion and Summary

This process has led to more than we imagined when we initially undertook this contract. In addition to identifying stakeholders and several themes that unify them, we compiled information regarding socioeconomic conditions in the area, and articulated potential threats to the existing biophysical conditions and quality of life for residents.

However, much remains to be done: new monitoring efforts will get underway during the field season of 2002. The Canaan-Washademoak system is vulnerable to a number of threats: development in the form of both year-round and summer residences, urban sprawl from Moncton and Fredericton, highway building, and increased intensity of farming practices can and have led to increased siltation. The system has soils that are highly vulnerable to erosion, and the results of the activities described above are evident in the red colour of the water after heavy rains, during spring run-off, and even on windy days. Land use and management that incorporate best management practices can reduce the negative effects of these activities, and we will be working toward identification of the sources of silt, and incorporation of BMPs to reduce erosion, with stakeholders in the future. To these ends, we prepared and submitted an application to the NB Wildlife Trust this spring. The proposal was not funded, and a revised version is in process and will be submitted to the next intake.

It will be critical to engage the large cohort of seasonal residents in monitoring, adoption of best management practices, and other ecosystem-related activities. The process of identifying important characteristics of the system in need of preservation and conservation, however, has been initiated, and commitments have been made by individuals, non-profit organizations, and government representatives to continue this process into the future.

Accounting of Expenditures

Contractual expenses, including hours and associated costs of contract (i.e. mileage, printing, etc.)
to Shawn Dalton and Janet Blackadar: \$4,000.00

Deliverables: Linked user groups on the Canaan-Washademoak watershed which will promote long-term stewardship, conservation and protection of the water resources.

Appendix A: Informal Questionnaire

Washademoak Restoration Network
Questions

Respondent _____

Date of Interview _____

- 1) Where do you live? How long have you lived there?
- 2) Do you live here year-round?
- 3) How did acquire your property?
- 4) How large is your lot?
- 5) Do you earn a living from the land?
- 6) Do you know what a watershed is? Do you know the boundaries of the Washademoak watershed?
- 7) Do you know how big the Washademoak watershed is?
- 8) What's the name of the stream nearest to your property?
- 9) Do you think the watershed is changing? (number of people, houses, development, road building, etc.).
- 10) Do you have any concerns about the environmental quality of this area: land, water, wildlife, etc. (if so, what are they?).
- 11) Do you participate in any environmental protection or restoration efforts?
- 12) If not, would you be willing to?
- 13) How do you rate your own land management in terms of environmental protection?
- 14) Would you be interested in learning environmentally friendly ways to manage your property to enhance and protect water quality?
- 15) Where do you get information?

Appendix B: Results of Socioeconomic and Census of Agriculture Research



Figure 1. Canaan-Washademoak Watershed in NB.

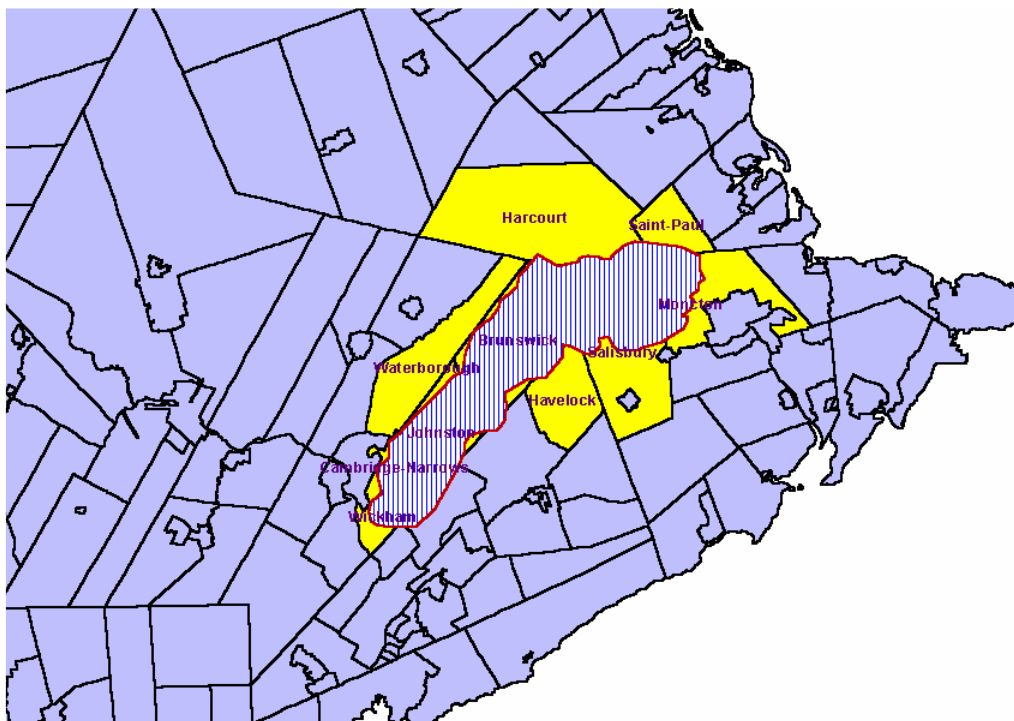
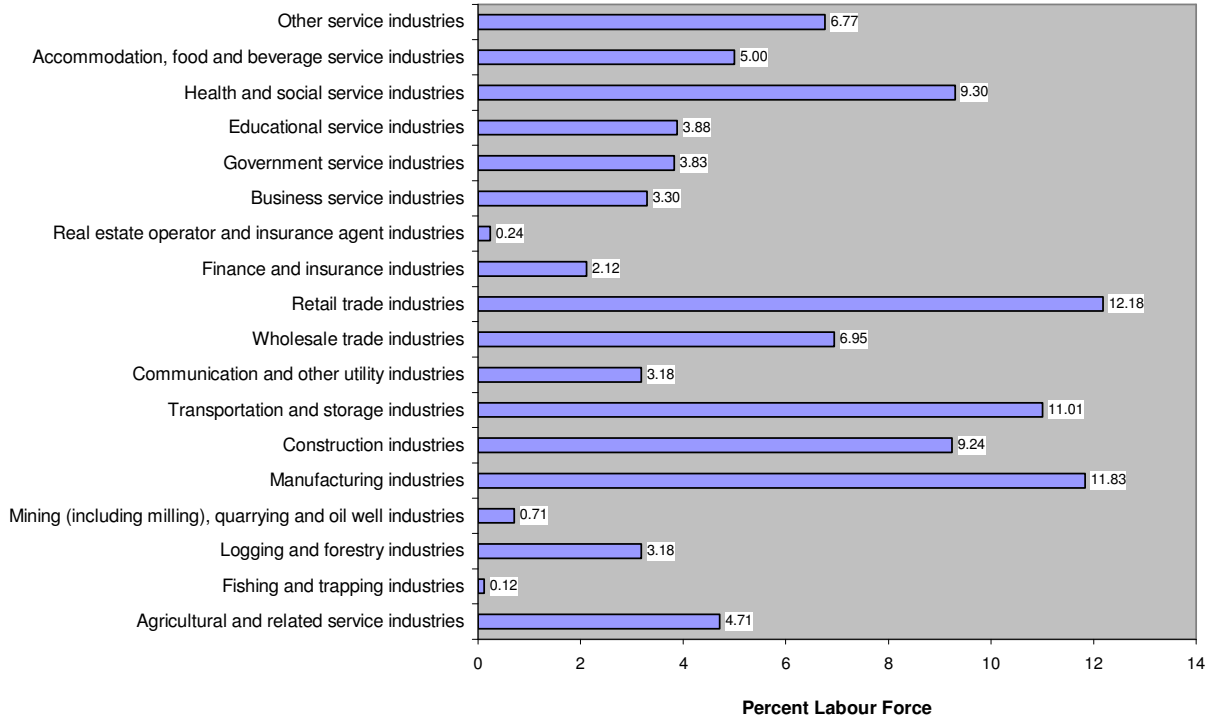
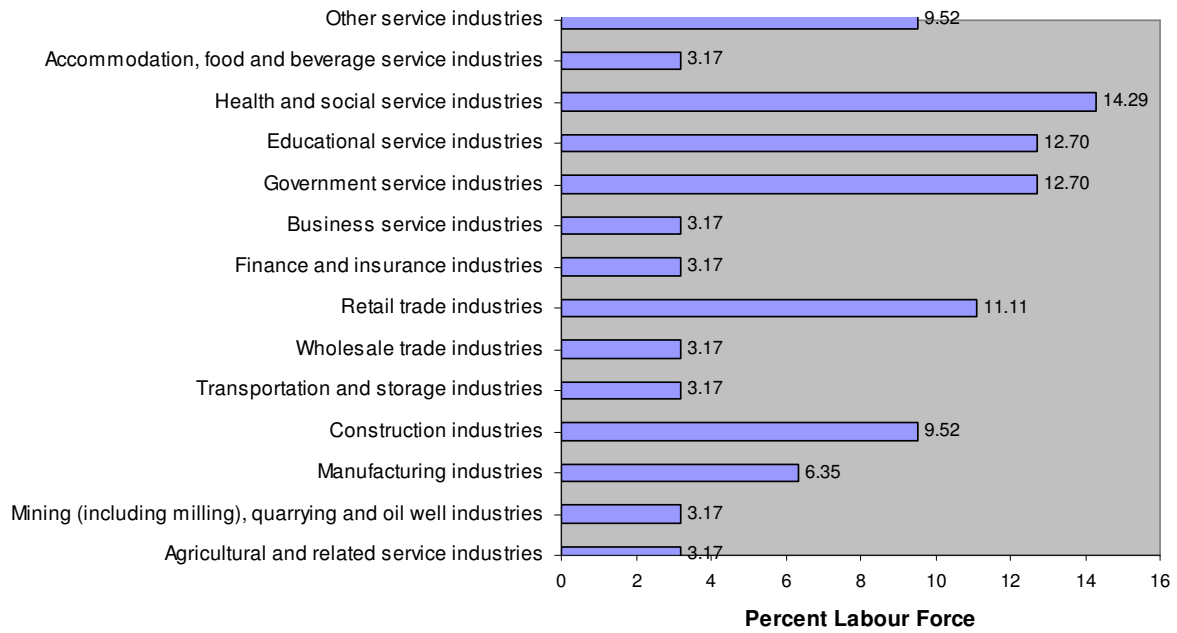


Figure 2. Census Subdivisions in Canaan-Washademoak
(NB: Waterborough was excluded from the study)

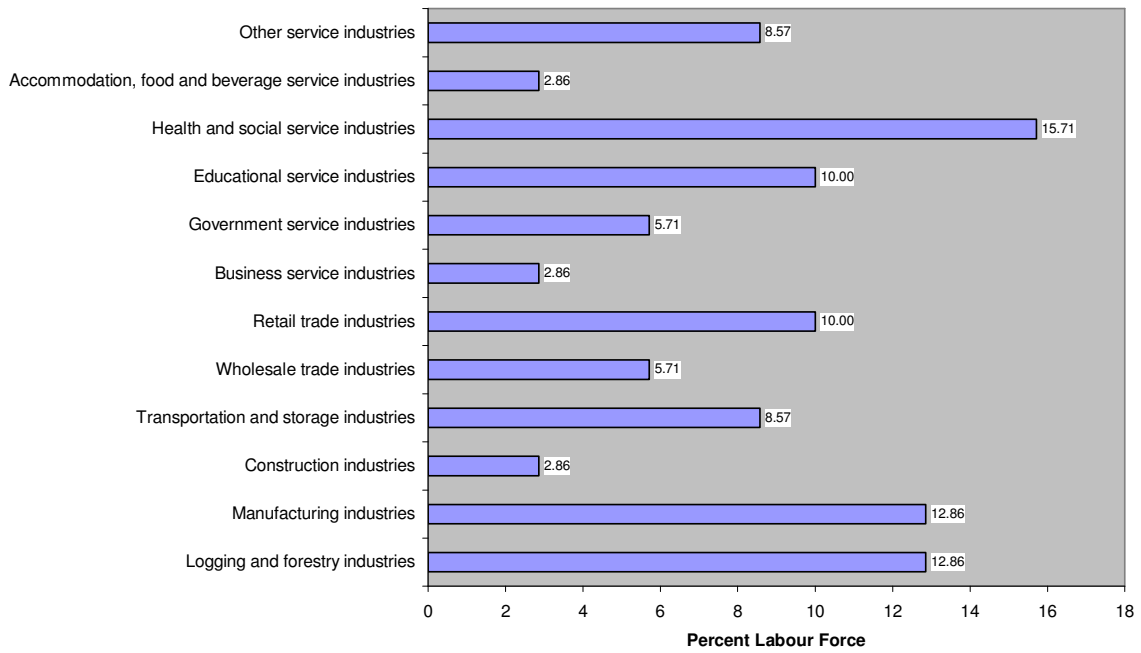
Canaan-Washademoak Employment by Sector



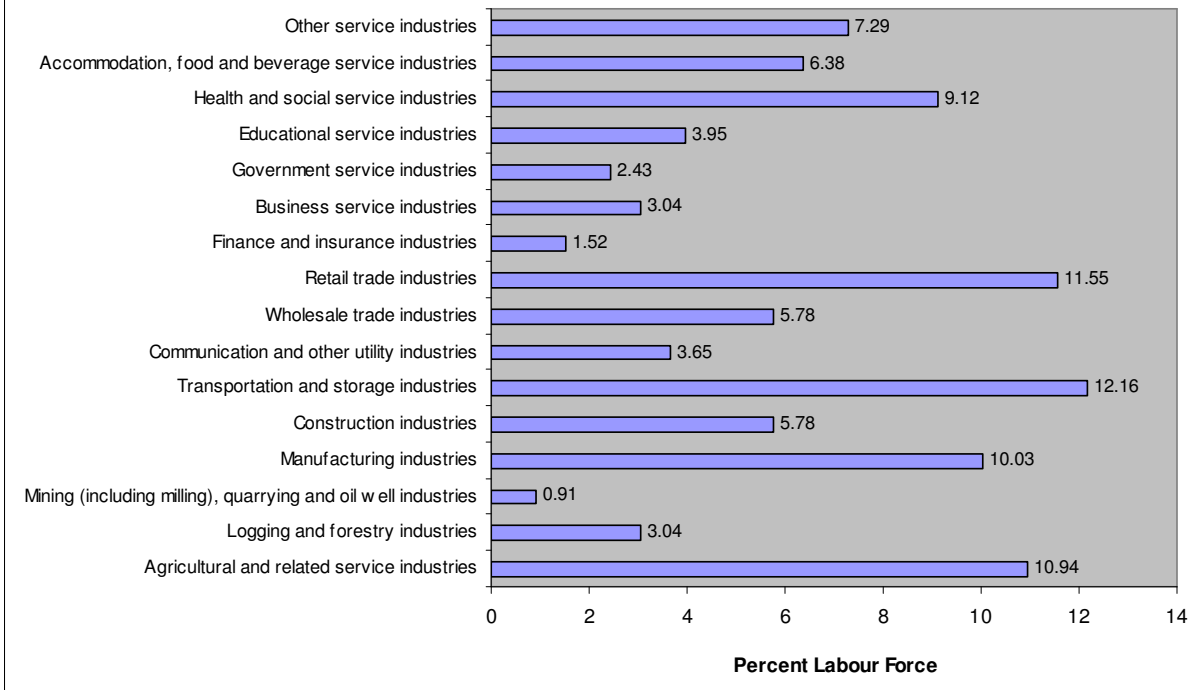
Employment by Sector: Cambridge-Narrows



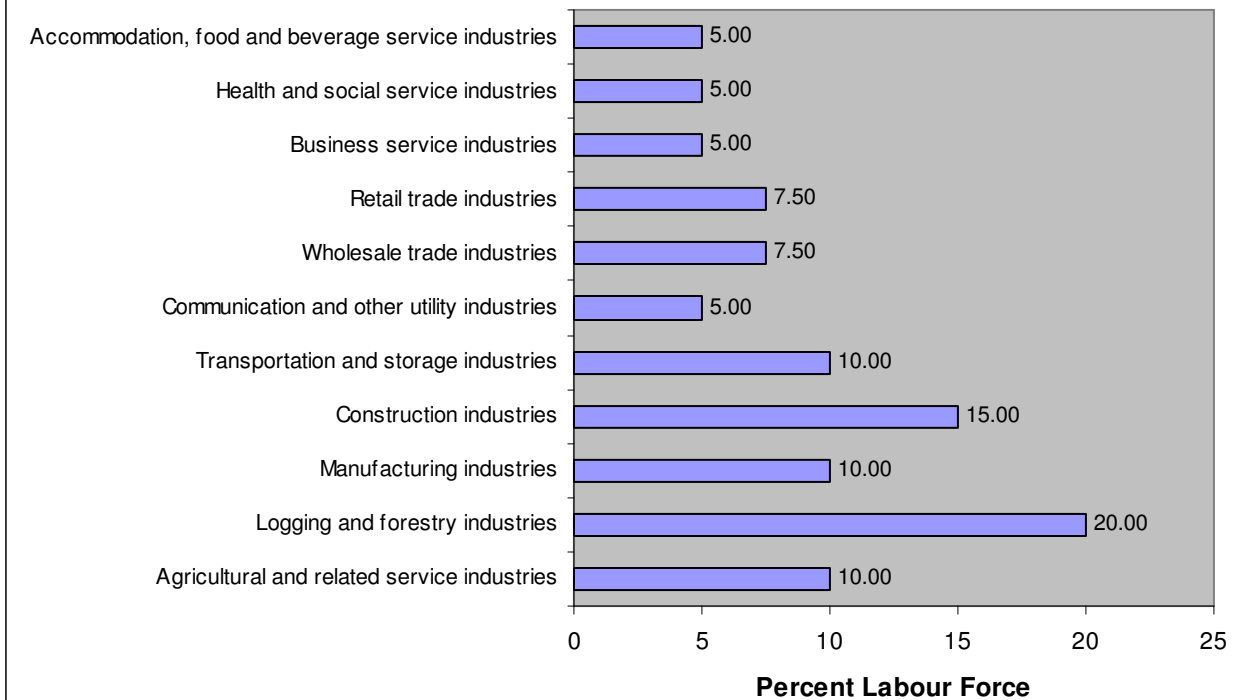
Employment by Sector: Johnston



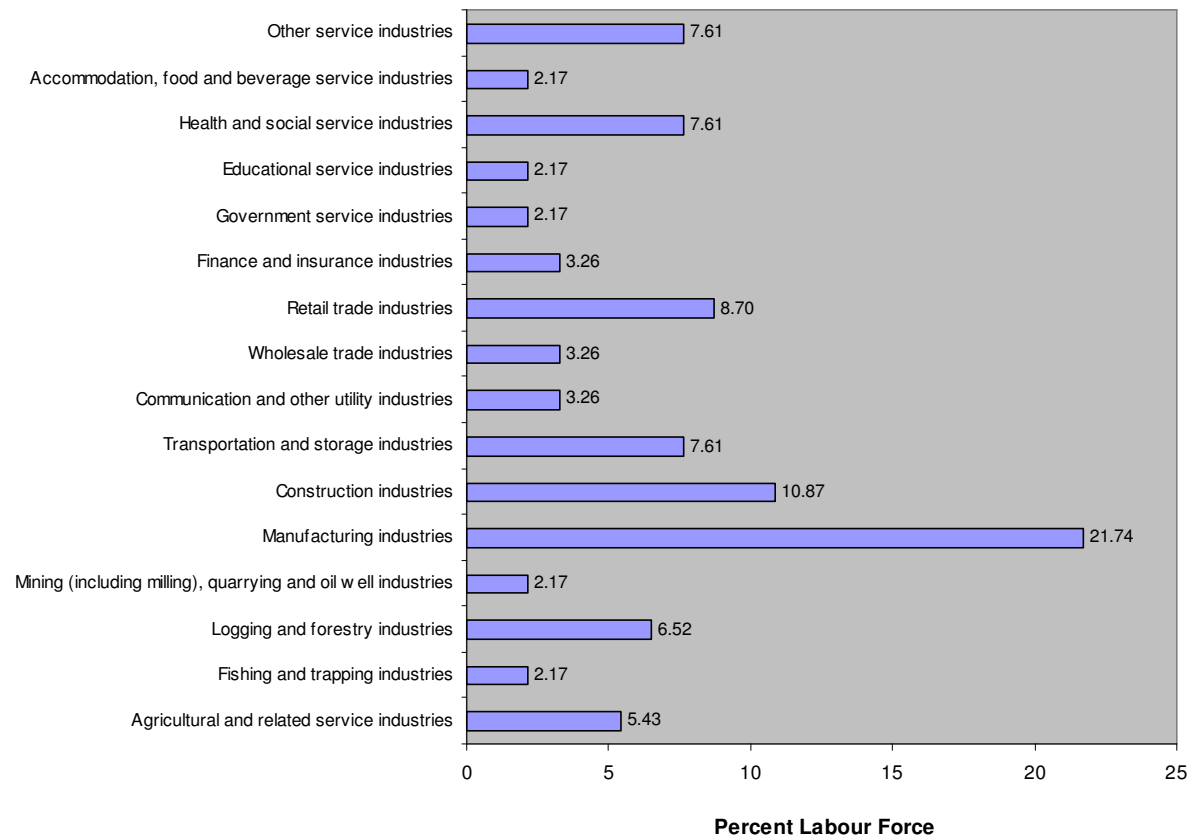
Employment by Sector: Salisbury



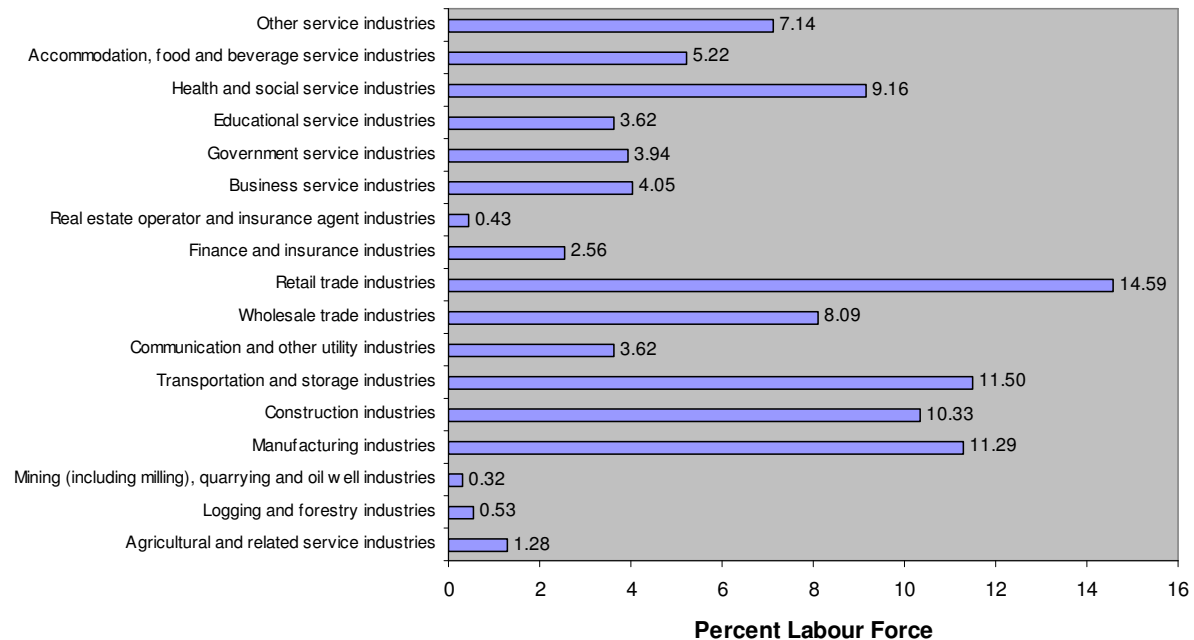
Employment by Sector: Harcourt



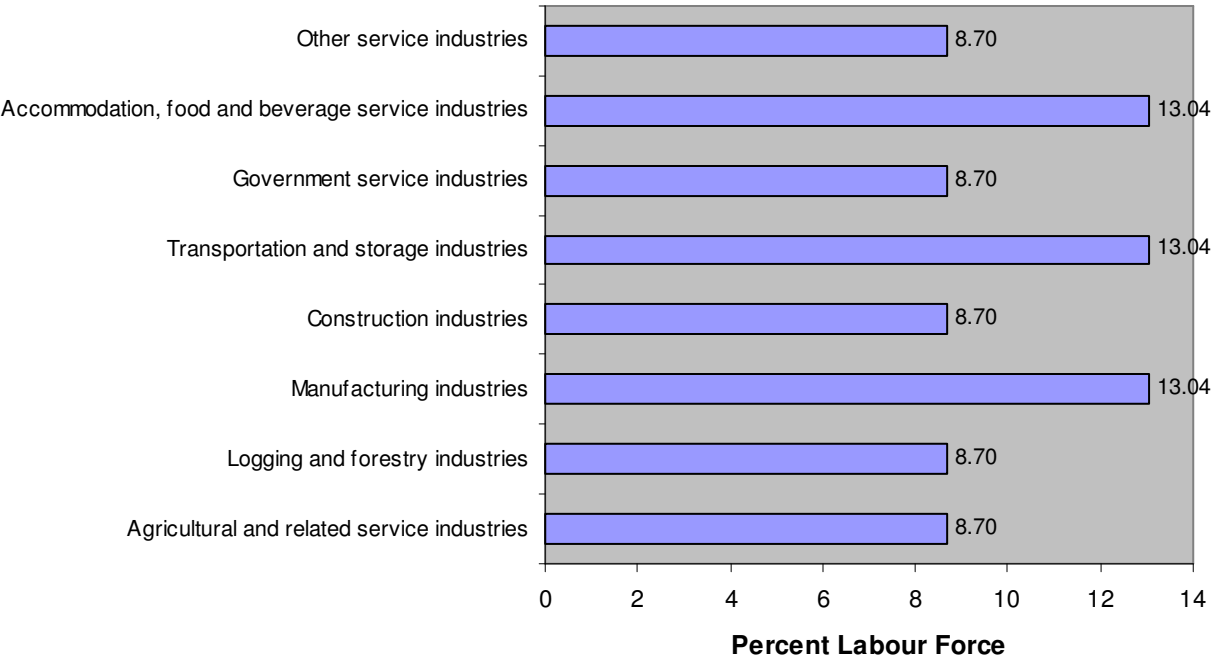
Employment by Sector: Saint-Paul



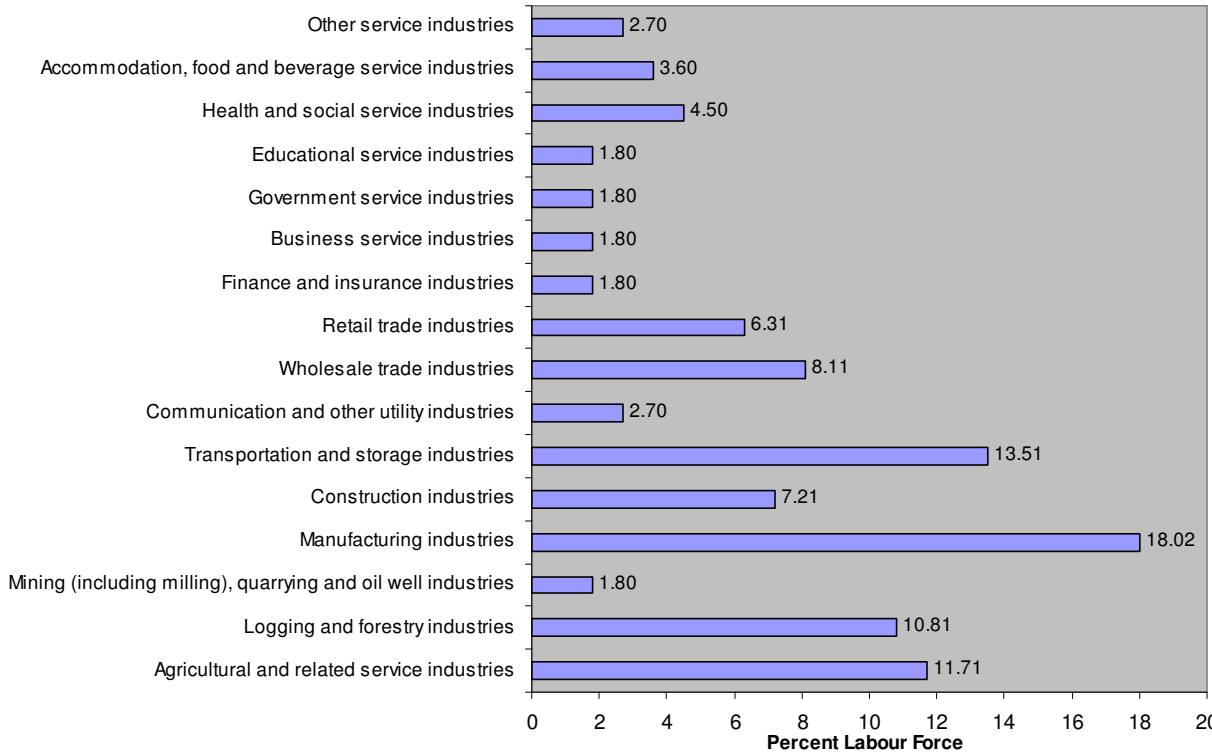
Employment by Sector: Moncton



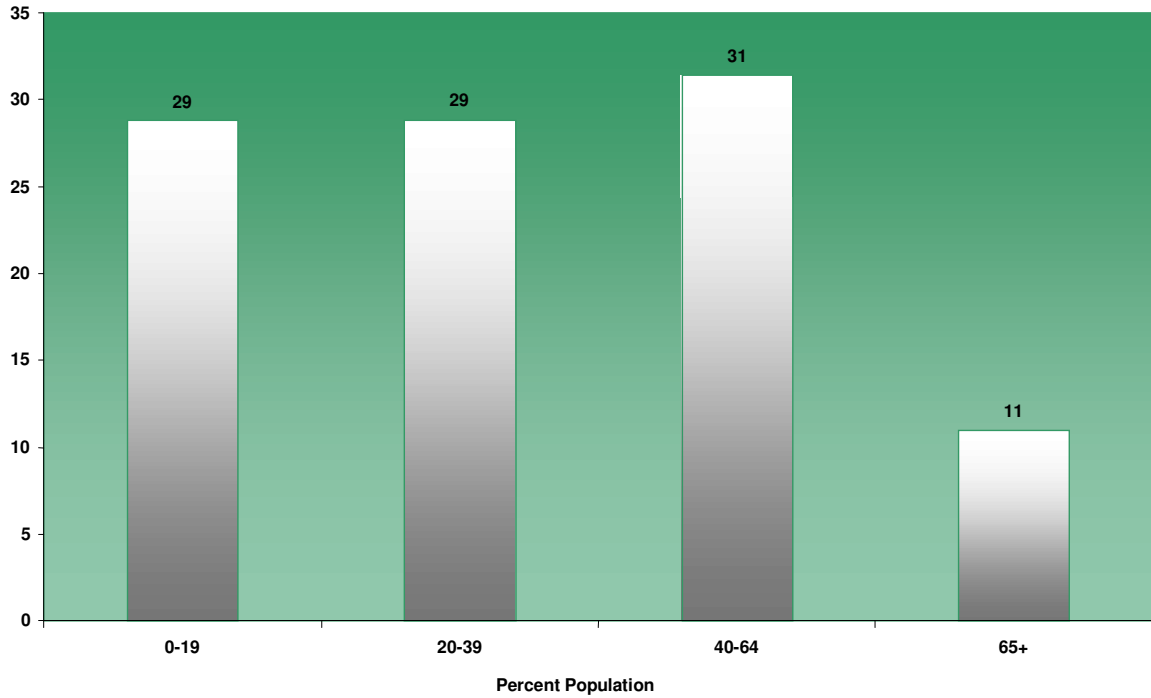
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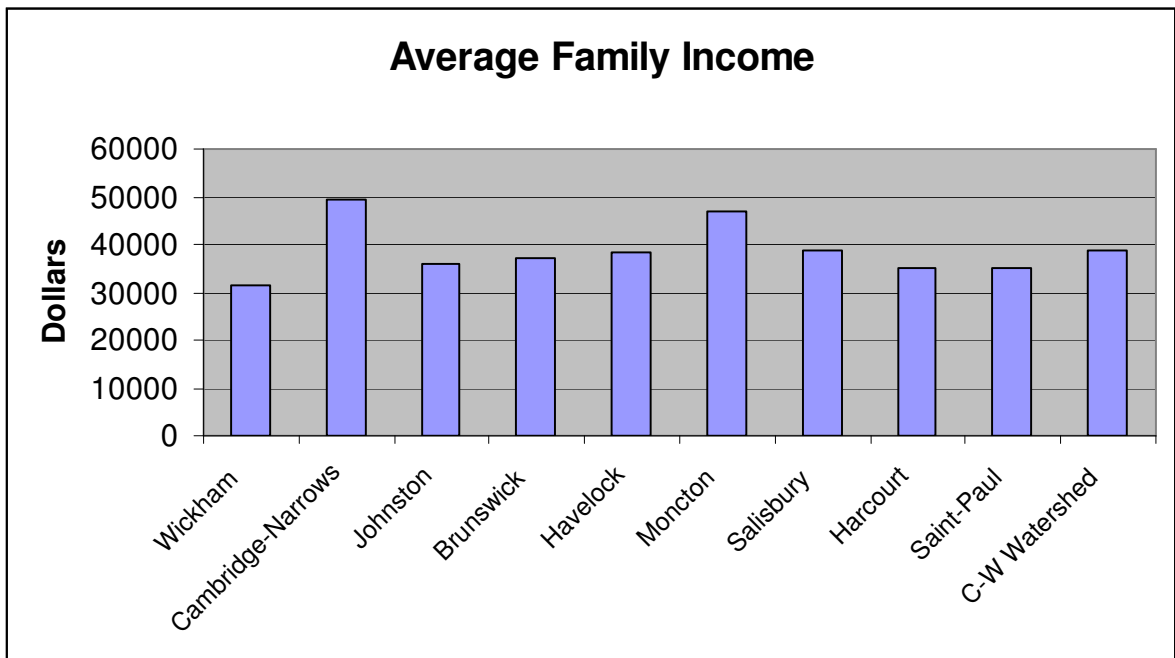
Employment by Sector: Havelock



Age Distribution of Population in Canaan-Washademoak



Average Family Income



Population, 1996

