WHAT WE KNOW ABOUT
THE SOCIO-ECONOMIC IMPACTS
OF CANADIAN MEGAPROJECTS:
AN ANNOTATED BIBLIOGRAPHY
OF POST-PROJECT STUDIES

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Acknowledgements

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It is very important to thank the many librarians, consultants, academics and other interested people who helped us identify the reports included in this bibliography. Their interest and willingness to help was critical to the success of this research project. Appendix A provides a listing of these individuals.

The authors also wish to acknowledge the assistance provided by the University of British Columbia’s Interlibrary Loan Department in retrieving many difficult-to-locate reports, and of the Fine Arts Library which agreed to catalogue the unpublished reports identified during this research.
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1. Introduction

This annotated bibliography presents the results of a comprehensive, systematic effort to identify and review all post-project studies of the socio-economic impacts of Canadian natural resource megaprojects on existing local or regional residents. The bibliography, which includes an assessment of the scope and nature of the literature, will be an invaluable tool to private and public organizations, impact analysts, and communities involved in a megaproject planning process. It also serves an important research function as it brings unpublished reports into the public domain and identifies gaps in existing knowledge and planning processes.

The bibliography was compiled from information obtained through a comprehensive search of public domain and unpublished or non-public domain literature throughout Canada. Unpublished and non-public domain reports were identified through a survey of government agencies, businesses and academics involved in planning, assessing, developing and evaluating Canadian megaprojects. Copies of all unpublished reports identified through this search have been obtained and catalogued. They are housed in the University of British Columbia's library system where they are available through interlibrary loan procedures.

Sections 1 and 2 present a general overview of the study focus, approach and results, including an assessment of the literature and several recommendations. The annotations of key reports are presented in Section 3. Finally, Section 4 contains further references, including potentially relevant reports that could not be located, either at all or in a timely fashion, and reports that are related to the socio-economic impacts of natural resource megaprojects but did not meet all the criteria for this research. The appendices provide considerable detail regarding the individuals and organizations contacted and the study approach for those interested in the design of search terms and strategies for interdisciplinary and non-traditional subjects.

Context

Natural resource megaprojects are among the largest investment decisions made in the Canadian economy. They generally involve capital investments of more than one billion dollars and create enormous levels of new employment. The sheer size of these projects produces a high level of government involvement as a financier and as regulator. The government's regulatory role is partially exercised through complex environmental assessment and project evaluation processes.

Resource megaprojects tend to be located in remote or rural regions and are expected to generate significant regional economic growth. Further, this growth is expected to provide considerable local benefits such as jobs for residents and increased business and entrepreneurial opportunities in the local and regional business sector. Overall, resource megaprojects are perceived as a regional development tool that will stimulate and support a vital, dynamic regional economy with independent and self-sufficient communities and individuals.

However, many of these promised local benefits may not actually appear. While project planners emphasize the need to maximize local benefits by, for example, instituting recruitment and training programs in advance of project initiation, most of the high-paying jobs directly associated with the megaproject may be taken by outsiders. If the purchasing practices of megaproject sponsors are biased towards non-regional sources, the expected development in the local business sector also may not materialize. This is in stark contrast to the social and environmental costs of megaprojects which are largely locationally specific and borne by regional residents.
A socio-economic impact analysis is the component of the government's assessment process where local benefits and costs are projected. The results of these pre-project analyses are used in numerous other components of the project planning and evaluation process, and reasonably accurate projections are highly desirable. In theory, monitoring studies during project construction and operation will, among other things, produce data that can be used to assess the accuracy of the pre-project projections. However, there are few publicly available studies of the actual local benefits and costs of these projects.

**Scope and Definitions**

The bibliography focused on contemporary Canadian megaprojects, defined as:

a) projects requiring investments of approximately $1 billion or more (1993 Canadian), including associated physical infrastructure,

b) projects in a natural resource industry, and

c) projects constructed since the second world war. Megaprojects under construction at the time of research were also included, but those "still on the drawing board" were not.

Thirty-six megaprojects were identified (Table 1). Information was collected where possible for the date of construction, the project proponent and the regional location of each megaproject.

The bibliographic research was concerned with the impact of these megaprojects on existing local and regional communities and the people who were living there before the megaproject began. Therefore, the extensive literature on new towns in Canada, which has been summarized admirably elsewhere, was not included.

Local impacts were defined as those occurring within a territorially defined community. Regional impacts were defined as those occurring within the area encompassing the megaproject and nearby communities. Regions were sub-provincial areas and generally did not include a major metropolitan centre.

The bibliographic research focused on the socio-economic impacts experienced by existing residents. This resulted in the exclusion of environmental data except for when it was directly linked to social or economic conditions for existing residents. This focus meant that a substantial literature of biophysical monitoring reports and studies of biophysical conditions was also excluded from this research.
### TABLE 1: INITIAL LIST OF CANADIAN NATURAL RESOURCE MEGAPROJECTS

**ALBERTA**
- Tar and oil sands, Syncrude and Suncor, Fort McMurray and elsewhere
- Grand Cache coal mine
- Cold Lake oil sands project, Esso Resources Canada Ltd. & others, 1980s
- Lloydminster: heavy oil upgrading, Husky Oil Ltd., late 1980s
- Fortin Coal strip mine, near Hanna/Red Deer
- Lake Walterun thermal coal strip mine east of Edmonton

**B.C.**
- WAC Bennett Dam, Peace River, BC Hydro, 1960s
- Columbia River Treaty, (Mra, Keenleyside & Duncan Dam); BC Hydro, late 1960s
- Revelstoke Canyon Dam, BC Hydro, late 1970s
- North East Coal Project, Teck and Denison Mines, early 1980s
- Acan Smelter and Kitsmat Dam, Kitimat, 1960s
- Whistler ski resort, WLC Developments, early 1980s

**MANITOBA**
- Limestone Dam, Nelson River (CouchSpruce and others), Manitoba Hydro, 1965-80
- Lake Winnipeg Regulation (or nap), Manitoba Hydro, 1975
- Churchill/Nelson Rivers Diversion Project, Manitoba Hydro, completed 1976
- Leaf Rapids mine, Hudson Bay Mining and Smelting Co.

**MARITIMES**
- Hibernia, offshore oil, Petro-Canada, Mobil Oil and Chevron, exploration underway
- Churchill Falls Hydroelectric Project, Labrador, Newfoundland and Labrador Power Corp., 1950s

**NORTHWEST TERRITORIES**
- Giant Yellowknife gold mine, RoyalOak Mines
- Pine Point mine, Cominco, opened 1964, now closed
- Beaufort Sea - Mackenzie Delta offshore oil and gas, drilling and exploration, Dome, Esso and Gulf, 1970s
Norman Wells pipeline and refinery, Mackenzie Valley, East Resources and Interprovincial Pipelines, expansion project early 1980s
Polatis lead and zinc mine, Little Cornwallis Island
Nanisivik lead and zinc mine, Northeast Arctic

ONTARIO

Elliot Lake uranium mine, Denison/Rio Algom
Niagara Falls twinning project (Block 10), Ontario Hydro, planning phase
Humboldt gold mine, Lom Minerals, Marathon, mid-1980s

QUEBEC

James Bay I and II, Quebec Hydro, La Grande region, 1970s to present
Schefferville mine, Iron Ore Co. of Canada Ltd., closed 1983

SASKATCHEWAN

Uranium City, mining ghost town, Eldorado Nuclear Ltd., ceased 1982
Churchill River dump projects, Saskatchewan Power Corp.
Diefenbaker Dam, irrigation
Rafferty-Almeda dam and reservoir project, Souris River, Souris Basin Development Authority, under construction
Oldman dam, under construction

YUKON TERRITORY

Faro lead-zinc mine, Curragh Resources (originally Cyprus Anvik), opened 1969
Dempster Highway, Dawson City to Inuvik
Socio-economic impacts were defined as follows. On the benefits side, literature dealing with the following six categories was sought.

1) Employment of existing regional residents either directly with the megaproject or in related activities such as megaproject suppliers or incremental retail activity. Income effects experienced by existing residents were also included.

2) Employment for members of "target groups", defined as those that usually experience the worst employment prospects in these regions and with these kinds of projects. The major target groups considered in this study were native people, women, young people and unemployed individuals. Only members of target groups living in the area before the megaproject began were considered.

3) Training for existing regional residents provided as a direct result of the megaproject or indirectly through supplying or retailing industries related to the megaproject.

4) Improvement in regional social or economic infrastructure such as community or regional recreation facilities or transportation facilities.

5) Increased social and economic stability of existing communities, including political development.

6) Increased entrepreneurship among existing residents and businesses.

On the cost side, literature dealing with the following four categories was sought.

1) Boom and bust impacts resulting from population growth and demographic changes and their impact on existing residents. Examples of boom and bust impacts include: local inflation in housing prices and land values, pressure on community infrastructure and services, and higher unemployment rates after a period of high expectations.

2) Environmental impacts such as increased levels of pollution and declining resource production, and their impact on existing residents.

3) Social impacts such as increased crime and loss of community cohesion among existing residents and communities.

4) Financial or tax impacts such as increased school taxes or hospital taxes and their effect on existing residents.

For the purposes of this study, public domain literature was defined as those reports that would be identified through a search of:

- the National Library of Canada and the Bibliothèque Nationale,
- university library catalogues available through the Internet on-line system.
- theses indexed in Dissertation Abstracts,
- journals indexed in Econlit, Sociofile, Geoabstracts and Badalfuq,
- articles indexed in the Canadian Periodical Index, and
- government reports indexed in Microfiche.

A review of these sources represents a reasonable and thorough search process for the subject matter of this research project. Efforts beyond this would not typically be undertaken.

Reports identified from sources other than those listed above were classified as unpublished or non-public domain. The study assumed that these reports would be found mainly in libraries of government departments, megaproject proponents or private consultants. One or two journal articles could also be identified that were not covered by the indexes listed above.
Study Approach Summary

A pilot study was undertaken to identify the most effective search terms for public domain literature and to assess various approaches to identifying non-public domain or unpublished reports. The results were incorporated into the study design.

English-language reports in the public domain were sought through on-line searches of the sources listed in the "Scope and Definitions" section above. The search terms used were:

A) Library of Congress Subject Headings
1) Name of specific geographic region - economic conditions
2) Economic development projects - Province name - social or economic aspects
3) Environmental auditing
4) Environmental monitoring
5) Environmental impact analysis - case studies
6) Specific project name - social or economic aspects
7) Specific industry - social or economic aspects

B) Title word - Impact (truncated) combined with:
   economic
   region(s) or community(ies)
   assessment
   case.

To identify non-public domain or unpublished English-language reports, approximately 130 potential sources were contacted by mail, explaining the research project and requesting assistance. The mail request was followed up with a personal telephone call.

The search for French-language reports was conducted by Dr. Christiane Gagnon of the Université du Québec à Chicoutimi. The search method, summarized in Appendix C, included on-line searches of the Bibliothèque Nationale and journals covered by Badaud. The survey to identify non-public domain or unpublished reports incorporated a broader coverage of potential sources than the English-language search; about 150 potential sources were consulted in Quebec.

The resulting lists of potentially relevant reports were reviewed using the following criteria:

a) was the report a post-project study of socio-economic impacts,
b) did the report focus on local or regional communities and impacts on existing residents,
c) was the report scholarly or technical in nature, and
d) did the report present primary data.

This review resulted in a "short-list" of 190 reports. Of these, 165 were obtained and reviewed; 25 could not be located. Eventually, 75 reports were selected for annotation.
2. Overview of Findings

The Search Process

Designing search terms for this study was challenging due to its interdisciplinary nature. The study team concluded that broad search terms were necessary to ensure the identification of relevant reports. The resulting output was more inclusive than the study's research focus. An iterative review process had to be implemented, in which the broad lists were scanned to identify possible studies for which more information was obtained and reviewed again to determine their relevance.

In the search of English-language literature in the public domain, the search strategy that was most effective in identifying relevant reports was:

1) to search by keyword using: socio (truncated to include social and socio) or economic and impact (truncated to include impacts) and Canada, and
2) to limit a large search result using Library of Congress subject headings: Economic development projects - social or economic aspects; Indians of North America - Economic or social conditions and
3) to search by the Library of Congress subject headings using: project name or industry type with the subdivisions - social aspects; - economic aspects; - geographic place or region. For example: pipelines - social aspects, pipelines - economic aspects.

These terms required substantial customizing for libraries that employed non-Library of Congress subject headings, and for journal indexes and abstracts.

About one-third of those contacted in our search for relevant non-public domain or unpublished reports responded. In the more focused search for English-language reports, 61% of those contacted responded. In the broader search for French-language reports, 17% of those contacted responded. The response rates suggest that a reasonable coverage of the non-public domain literature has been obtained.

At the search proceeded, the list of megaprojects expanded. Table 1 presents the complete list of 46 megaprojects considered or identified in this research. This research annotated studies or reports relating to 26 of them. For the remaining 20 megaprojects, studies of their actual socio-economic impacts on existing communities and residents apparently either have not been completed or were not located by this search.

In total, 75 studies were included in the key annotations for this bibliography. Of these, 29 (39%) are previously unpublished or non-public domain reports. Resources were unavailable to do a "second round" of searches based on the bibliographies of these 75 reports, or to complete citation searches to the present day for these 75 reports. This second round might have identified several other relevant reports. There were also 22 potentially relevant reports that either could not be located through interlibrary loan procedures or retrieved within a reasonable period of time. Section 4.1 provides a list of these reports.
# TABLE 2: FINAL LIST OF CANADIAN NATURAL RESOURCE MEGAPROJECTS

Projects for which studies were found are highlighted in italics.

## ALBERTA

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Company/Entity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tar and oil sands, Syncrude and Suncor, Fort McMurray and elsewhere</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Great Castle coal mine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cold Lake oil sands project, KPM Resources Canada Ltd. &amp; others</td>
<td></td>
<td>1980s</td>
</tr>
<tr>
<td>Lloydminster heavy oil upgrader, Husky Oil Ltd.</td>
<td></td>
<td>late 1980s</td>
</tr>
<tr>
<td>Fort Hills Coal strip mine, near Hannah/Red Deer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake Wabamun thermal coal mine, east of Edmonton</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alena pipeline, Nova Corp.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## B.C.

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Company/Entity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>WAC Bennett Dam, Peace River, BC Hydro</td>
<td></td>
<td>1940s</td>
</tr>
<tr>
<td>Columbia River Trezy, (Mica, Keenleyside &amp; Duncan Dams)</td>
<td>BC Hydro</td>
<td>late 1960s</td>
</tr>
<tr>
<td>Revelstoke Canyon Dam, BC Hydro</td>
<td></td>
<td>late 1970s</td>
</tr>
<tr>
<td>North East Coal Project, Teck and Domtar Mines</td>
<td></td>
<td>early 1950s</td>
</tr>
<tr>
<td>Alcan Smelter and Kemano Dam</td>
<td></td>
<td>1960s</td>
</tr>
<tr>
<td>Whistler Ski Resort, WLC Developments</td>
<td></td>
<td>1960s</td>
</tr>
<tr>
<td>Methanol and anhydrous ammonia plant, Oceana Chemicals, Kitimat</td>
<td></td>
<td>completed 1982</td>
</tr>
</tbody>
</table>

## MANITOBA

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Company/Entity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limestone Dam, Nelson River (Long Spruce and others)</td>
<td>Manitoba Hydro</td>
<td>1985 - 1990</td>
</tr>
<tr>
<td>Lake Winnipeg Regulation (Manitou)</td>
<td>Manitoba Hydro</td>
<td>1975</td>
</tr>
<tr>
<td>Churchill/Nelson Rivers Diversion Project</td>
<td>Manitoba Hydro</td>
<td>completed 1976</td>
</tr>
<tr>
<td>Leaf Rapids mine, Pembina Bay Mining and Smelting Co.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grande Rapides Hydro Project, Manitoba Hydro, Saskatchewan River</td>
<td></td>
<td>completed 1962</td>
</tr>
<tr>
<td>E.B. Campbell Dam</td>
<td></td>
<td>completed 1964</td>
</tr>
</tbody>
</table>

## MARITIMES

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Company/Entity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hibernia, offshore oil exploration, Petro-Canada, Mobil Oil and Chevron</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Churchill Falls Hydroelectric Project, Labrador, New Foundland and Labrador Power Corp.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## NORTHWEST TERRITORIES

<table>
<thead>
<tr>
<th>Project Description</th>
<th>Company/Entity</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine Point lead zinc mine, Comina, opened 1964, now closed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Giant Yellowknife gold mine, Kryal Oak Mines</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Beaufort Sea-Mackenzie Delta offshore oil and gas, drilling and exploration, Dome, Esso and Gulf, 1970s
Norman Wells pipeline and refinery, Mackenzie Valley, Esso Resources and Interprovincial Pipelines, expansion project, early 1980s
Polaris lead and zinc mine, Little Cornwallis Island
Nanisivik lead and zinc mine, Northeast Arctic
Pointed Mountain Gas Field and Pipeline, early 1970s

ONTARIO
Elliot Lake uranium mine, Denison/Rio Algom
Niagara Falls twinning project (Deck II) Ontario Hydro, planning underway
Hemlo gold mine, Lac Minerals, Marathon, mid 1980s
Atikokan Generating Station, Ontario Hydro, Township of Atikokan, 1978-1984
Dryden Pulp and Paper Mill

QUEBEC
James Bay 1 and 2, Quebec Hydro, La Grande region, 1970s to present
Schafferville mine, Iron Ore Co. of Canada Ltd., closed 1983
La Memie hydroelectric dam, Quebec Hydro, Sept Isle, 1960s

SASKATCHEWAN
Uranium City, mining ghost town, Eldorado Nuclear Ltd., closed 1982
Churchill River dam projects, Saskatchewan Power Corp.
Diefenbaker Dam, irrigation
Rafferty-Almeda dam and reservoir project, under construction, Souris River, Souris Basin Development Authority
Oldman Dam, under construction
Squaw Rapids Hydro Project
Rabbit Lake uranium mine

YUKON TERRITORY
Faro lead zinc mine, Curragh Resources (originally Cyprus Anvil), opened 1969
Dempster Highway, Dawson City to Inuvik
Several of the 75 annotated reports did not meet all the criteria of this research but were included because they present strong or innovative approaches to the question of monitoring, managing and/or assessing socio-economic impacts of megaprojects.

The Scope and Nature of the Literature

To assess the scope and nature of the literature on this topic, the 75 annotated studies were reviewed with the following questions in mind:

a) what were the general characteristics of the megaproject? what industry was involved? in what region was it located? what year was the study published?

b) what was the reason for the study? who sponsored it? was it a monitoring or an evaluative study?

c) what was the study’s scope, method and findings? what phase of the megaproject was studied? did the study focus on a single issue or was it comprehensive? what methods were used to obtain data? what impacts were studied and what were the conclusions?

About 30% of the 75 studies examined the impacts of megaprojects in northern Canada, 25% looked at megaprojects in Quebec and about 30% focused on western Canada and the Prairies. More than 40% of the studies looked at hydroelectric megaprojects and 36% focused on oil and gas megaprojects.

<table>
<thead>
<tr>
<th>REGION</th>
<th># OF STUDIES</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northwest Territories and Yukon</td>
<td>22</td>
<td>29</td>
</tr>
<tr>
<td>B.C. and Alberta</td>
<td>14</td>
<td>19</td>
</tr>
<tr>
<td>Saskatchewan and Manitoba</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Ontario</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Quebec</td>
<td>19</td>
<td>25</td>
</tr>
<tr>
<td>Newfoundland, Labrador, P.E.I., Nova Scotia, and New Brunswick</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Canadian/Multi</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INDUSTRY</th>
<th># OF STUDIES</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydro</td>
<td>31</td>
<td>41</td>
</tr>
<tr>
<td>Oil and Gas</td>
<td>27</td>
<td>36</td>
</tr>
<tr>
<td>Mining</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Multiple</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
Most (70%) of the studies were published in the 1980s and examined operating phase impacts. As many megaprojects were undertaken during the late 1970s or early 1980s, this suggests that many of the studies looked at impacts during the early years of project operation and were not longer term assessments.

**TABLE 5: DISTRIBUTION OF STUDIES BY PUBLICATION YEAR**

<table>
<thead>
<tr>
<th>PUBLICATION YEAR</th>
<th># OF STUDIES</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1969 - 1969</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1970 - 1974</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1975 - 1979</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>1980 - 1984</td>
<td>30</td>
<td>40</td>
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<tr>
<td>1985 - 1989</td>
<td>23</td>
<td>31</td>
</tr>
<tr>
<td>1990 - 1993</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>No date</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

The largest proportion of the annotated studies seem to have been undertaken by academics (32%), with governments sponsoring 20% of the total studies. However, it is not entirely clear whether all the academic studies were independent research projects. Interestingly, megaproject proponents specifically sponsored 12% of the studies reviewed, whereas stakeholders sponsored 10%.

**TABLE 6: DISTRIBUTION OF STUDIES BY STUDY CONTRACTOR**

<table>
<thead>
<tr>
<th>STUDY CONTRACTOR</th>
<th># OF STUDIES</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>24</td>
<td>32</td>
</tr>
<tr>
<td>Proposent</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Stakeholder</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Government</td>
<td>14</td>
<td>19</td>
</tr>
<tr>
<td>Proposent and Stakeholder</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unknown</td>
<td>15</td>
<td>20</td>
</tr>
</tbody>
</table>

Nearly 20% of the studies were initiated for purposes of preparing cases primarily for compensation or litigation; this proportion includes many of the stakeholder studies. However, the majority (90%) of the studies were apparently undertaken for research purposes. Presumably, these studies would inform subsequent policy-making and programming. Interestingly, few studies were done explicitly as part of a development contract between the government(s) and the megaproject proponent.
TABLE 7: DISTRIBUTION OF STUDIES BY STUDY PURPOSE

<table>
<thead>
<tr>
<th>STUDY PURPOSE</th>
<th># OF STUDIES</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic/Research</td>
<td>45</td>
<td>60</td>
</tr>
<tr>
<td>Compensation/Negotiation</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Litigation</td>
<td>5</td>
<td>7</td>
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<tr>
<td>Other</td>
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<td>9</td>
</tr>
<tr>
<td>Unknown</td>
<td>9</td>
<td>12</td>
</tr>
</tbody>
</table>

Very few of the studies were strictly monitoring studies: most (88%) were evaluative. Monitoring reports tended to be "snapshots", presenting the results of data collection activities with no appraisal of those data and usually little reference to trends or changes over time. Evaluative reports included an appraisal and generally presented and discussed trends. The lack of monitoring reports suggests that either little monitoring is undertaken, or that it is rarely consolidated into a report.

TABLE 8: DISTRIBUTION OF STUDIES BY TYPE OF INVESTIGATION

<table>
<thead>
<tr>
<th>TYPE OF INVESTIGATION</th>
<th># OF STUDIES</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation</td>
<td>66</td>
<td>88</td>
</tr>
<tr>
<td>Monitoring</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Evaluation and Monitoring</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Many (about 65%) of the 75 annotated studies examined impacts resulting from the megaprojects' operating phase. The method typically involved an examination of existing data or records and a survey or interviews with key informants.

About half of the studies were comprehensive, i.e. they examined at least three different types of impacts. For example, a study that examined impacts on community cohesion, individual incomes and local government services was classified as a comprehensive study.

The most common impacts studied were: economic and social impacts on native people, employment or income impacts, social impacts and impacts on quality of life or community cohesion. Impacts related to population, training, local government, and business and political development received significantly less attention.
### Table 9: Distribution of Studies by Project Phase Investigated

<table>
<thead>
<tr>
<th>Project Phase Investigated</th>
<th># of Studies</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploration</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Construction</td>
<td>14</td>
<td>19</td>
</tr>
<tr>
<td>Operation</td>
<td>36</td>
<td>48</td>
</tr>
<tr>
<td>Construction and Operation</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Exploration, Construction and Operation</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Closure</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Operation and Closure</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Various</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

### Table 10: Distribution of Studies by Study Method

<table>
<thead>
<tr>
<th>Study Method</th>
<th># of Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature Review</td>
<td>6</td>
</tr>
<tr>
<td>Existing Data and Records</td>
<td>36</td>
</tr>
<tr>
<td>Synthesis of Existing Work</td>
<td>10</td>
</tr>
<tr>
<td>Survey</td>
<td>26</td>
</tr>
<tr>
<td>Interviews with Key Informants</td>
<td>23</td>
</tr>
<tr>
<td>Economic Impact Assessment</td>
<td>2</td>
</tr>
<tr>
<td>Medical Testing</td>
<td>2</td>
</tr>
<tr>
<td>Participant Observation</td>
<td>8</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
</tr>
<tr>
<td>Unknown</td>
<td>13</td>
</tr>
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</table>

### Table 11: Distribution of Studies by Study Scope

<table>
<thead>
<tr>
<th>Study Scope</th>
<th># of Studies</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single or Dual Issue</td>
<td>42</td>
<td>56</td>
</tr>
<tr>
<td>Comprehensive</td>
<td>33</td>
<td>44</td>
</tr>
</tbody>
</table>
TABLE 12: DISTRIBUTION OF STUDIES BY TYPE OF IMPACT INVESTIGATED

<table>
<thead>
<tr>
<th>TYPE OF IMPACT INVESTIGATED</th>
<th># OF STUDIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>10</td>
</tr>
<tr>
<td>Employment</td>
<td>40</td>
</tr>
<tr>
<td>Income</td>
<td>26</td>
</tr>
<tr>
<td>Training</td>
<td>15</td>
</tr>
<tr>
<td>Business Development or Entrepreneurship</td>
<td>9</td>
</tr>
<tr>
<td>Land and/or Resource Use</td>
<td>38</td>
</tr>
<tr>
<td>Social</td>
<td>39</td>
</tr>
<tr>
<td>Quality of Life or Community Cohesion</td>
<td>21</td>
</tr>
<tr>
<td>Political Development</td>
<td>6</td>
</tr>
<tr>
<td>Local Government</td>
<td>13</td>
</tr>
<tr>
<td>Target Groups</td>
<td>53</td>
</tr>
</tbody>
</table>

Findings for Selected Impacts

The 75 annotated reports were reviewed to ascertain whether any consistent findings existed regarding selected impacts of Canadian natural resource megaprojects. The reports were reviewed for each of the top four impact categories (indigenous, land/resource use, employment/income and social). They were also reviewed for consistency of findings within the three major industries (hydro, oil and gas and mining). These industry overviews introduce various parts of Section 3.

Of the 75 reports, 53 looked at the impact of megaprojects on native people and 37 of these noted land use or resource use impacts. In reviewing the reports, the following themes emerged.

1) Hydroelectric megaprojects appear to be the most disruptive due to their enormous spatial impact and the ecological changes that result. Many of the studies discussed and documented the link between these ecological changes (e.g. degradation of fish resources and flooding of wildlife habitat) and negative impacts on the native economy which ranged from complete loss of the resource base to increased effort and out-of-pocket expenses required to achieve similar harvests. In turn, these studies noted the link between the ecological and economic changes and social impacts which included health impacts and increased individual and community stress. In the studies reviewed, these impacts were not compensated for by employees in the hydroelectric megaprojects.

2) In other industries, the job and/or income impacts of megaprojects on native people and their communities appears to have been minimal. Generally, few jobs were obtained and those that were tended to be in low skill, temporary categories. Limited training impacts were experienced and there was little opportunity for advancement.

3) In cases where the megaproject proponent made extra efforts, greater employment benefits were sometimes achieved with resulting improvements in standards of living. However, the increased
affluence and access to the communities (e.g. via road improvements) appears to have often resulted in more alcohol and drug abuse, more crime and violence, and family breakdown.

4) For spatially-concentrated, non-hydroelectric megaprojects, the effects on the native resource-based economy appeared to be minimal. However, the transands megaprojects in Alberta, which affect a wider geographic area, appear to have had a significant impact on the native resource-based economy with associated negative social impacts.

5) Those studies that compared actual impacts with pre-project impact projections generally found that these impacts either were not predicted at all or that they were not predicted accurately.

Of the 75 annotated studies, 40 reported on employment and/or income impacts. In general, the findings were as follows.

1) Few megaproject jobs appear to have been obtained by existing residents. Those studies that reported the proportion of megaproject jobs filled by existing residents suggest that generally less than 5% of the direct jobs were filled by local or regional residents who had been living there before the megaproject began. Four of the 75 studies reported higher local employment levels (12%, 15%, 17%, 30%) that resulted from significant efforts on the part of proponents.

Those studies that reported local employment impacts did so in one of two ways: the proportion of total employment at the megaproject filled by local or regional residents, or the proportion of total local or regional labour force employed at the megaproject. Both types of reporting require additional information on the size of the local labour force or the total direct employment, respectively, to provide a more complete assessment of actual regional impacts. The variations in reported local employment impacts were further complicated by differences in how local, or regional residents were defined.

2) Excessive leakages from the regional economies studied apparently occurred. The studies suggest that the amount of purchasing and related spin-off benefits that remained within the local or regional economy was related to the size of the economy and the proponent's efforts to purchase locally and develop local businesses. However, even with significant efforts, the impacts appear to have been small, with a reported maximum of 20% of operating phase purchases made through local businesses.

3) In larger regional economies, megaprojects appeared to result in general stabilization and economic growth related to population growth. They apparently did not produce intensive economic growth that results from higher incomes, training and human resource development among the existing residents.

4) Generally, the studies that compared findings of actual impacts to pre-project projections concluded that the actual impacts were less than predicted.

Thirty-nine of the 75 annotated studies addressed social impacts. The general themes that emerged from a review of these studies were as follows.

1) Megaprojects with very large operating phase workforces that were developed over a short period of time appear to have led to "typical" boom-town impacts such as overloaded community services,
increased crime and violence, family stress, drug and alcohol abuse and community instability. These megaprojects tended to be in the tar sands and mining industries.

2) Megaprojects in other industries appeared to generate a similar range of impacts but they appeared to be of less severity. Those studies that compared actual impacts with pre-project projections generally noted that the impacts were less than anticipated.

3) Hydroelectric megaprojects appeared to produce some unanticipated and "atypical" social impacts such as human health effects related to mercury leaching that resulted from flooding of logs and peatlands, and navigational safety issues resulting from hydrological changes.

4) Many of the reports noted the difficulty of studying social impacts and expressed dissatisfaction with the standard set of indicators.

Observations, Conclusions and Recommendations

There are about 46 contemporary Canadian megaprojects that could be the subject of reports examining their post-project impacts on local residents and communities. Nearly half are not covered by the literature annotated in this report.

A select group of megaprojects (James Bay and northern Quebec hydroelectric megaprojects, Norman Wells oil pipelines and Beaufort Sea oil exploration megaprojects, Manitoba hydroelectric megaprojects, and a few mining megaprojects in northern Canada) are the focus of many of the 75 annotated reports. Further, the identification of 75 reports does not imply that there has been 75 separate research projects on the socio-economic impacts of Canadian megaprojects on existing local or regional residents. In some cases, several reports appear to have been developed from the same database.

There could be additional reports on other megaprojects that this study did not find. The substantial proportion of relevant studies that were found in the non-public domain and unpublished literature (95% of the 75 reports) supports this suggestion. These non-public domain or unpublished reports are primarily located in libraries of megaproject proponents, government departments or community groups. These reports form a significant part of our knowledge base regarding the impact of megaprojects on existing residents and communities, and more effort should be devoted to ensuring they are made available to the public by, for example, sending a copy to the National Library of Canada.

The lack of monitoring reports found by this study also suggests that there could be a substantial amount of information in existence that is not organized into a report format. For example, many of the annotated studies relied, in part, on existing government or proponent records for information about employment impacts. This possibility is supported by a recent report by Canada's Auditor General which concluded that the federal government's monitoring of benefits associated with energy megaprojects is poorly coordinated and inadequately reported to Parliament and the public. The Auditor General's report notes that monitoring duties are spread among many agencies and organizations and that considerable data are contained in memoranda. Monitoring data are valuable and should be available to the public.

The 75 annotated reports focus on hydroelectric and oil and gas megaprojects in northern Canada and Quebec. Many appear to be short-term evaluations prepared by academics for research purposes. There is a strong focus on the impacts of megaprojects on native people and their land and resource use patterns. Employment and income effects are also a focus, along with social impacts. A standard approach to studying megaproject impacts is evident.

Few mining megaprojects are represented in the 75 annotated reports. It appears that a small proportion of the reports were sponsored by megaproject proponents. There are very few monitoring reports and few long-term studies. Little attention is given to the impacts of megaprojects on population demographics, job training, business development and entrepreneurship, political development and local government operations.

A review of the 75 annotated reports suggests that existing residents and communities receive limited benefits when a natural resource megaproject is undertaken in their region. Significant and ongoing efforts appear to be needed to ensure that a substantial proportion of direct and related megaproject jobs are filled by existing residents. Otherwise, most of the economic benefits of megaproject investments appear to "leak" out of the regional economy.

Fundamental changes in the economy and society of native communities appear to occur through the ecological impacts of hydroelectric projects. In other industries, the social impacts on existing residents do not appear to be as severe, nor do they consistently match the range and level suggested by the boom-town stereotype.

Only 7 of the 75 annotated studies compared actual impacts with pre-project predictions of those impacts. These seven studies found that the pre-project analyses were not accurate. Both positive and negative impacts tended to be less than anticipated, except in the case of the impact of hydroelectric megaprojects on native communities. More comparisons of pre- and post-project impacts would be beneficial.

Many authors noted their frustration in attempting to assess the social impacts of megaprojects. "Typical" indicators do not appear to capture many of the social impacts experienced by existing residents and communities, and a more appropriate theoretical framework with related methods and indicators has not been developed. Given these difficulties, it may be more appropriate to identify and address social impacts through a community-based impact management process in addition to pre-project assessments.

Finally, very few of the 75 annotated studies appear to be reporting the results of comprehensive monitoring programs sponsored by governments or megaproject proponents. The notable exceptions are the significant government and proponent efforts that were expended on monitoring the impacts of the Norman Wells megaproject and the Alberta Tar sands megaproject. (Interestingly, the bibliographies of the latter monitoring programs is dominated by biological monitoring reports.) The Razelákwe, Hibernia and Beaufort Sea megaprojects are ones that seem, based on the number of reports produced, to have received less attention by proponents or governments to comprehensively monitor their impacts. Other megaprojects that are the subject of a substantial number of reports apparently did not have comprehensive monitoring programs designed as part of the planning and evaluation process (e.g. Lake Winnipeg regulation, hydroelectric developments in Manitoba and Saskatchewan, James Bay hydroelectric development, the WAC Bennett Dam). The reports on these megaprojects found by this research appear to have been undertaken by academics or stakeholders.

Several recommendations are suggested by the findings of this research.

1) More effort should be devoted to ensuring that unpublished and non-public domain reports become part of the public domain. These reports represent a significant source of information about actual impacts and need to be more readily available to ensure that relevant data are considered in megaproject planning and decision-making processes.

2) Titles of reports should indicate whether the studies present projected or actual impacts. This would facilitate their identification and reduce the uncertainty regarding report content.

3) Monitoring data contained in government or corporate files should be consolidated into monitoring reports that are then placed in the public domain.

4) Further work should be undertaken to more fully examine the annotated studies, exploring the impacts in more detail, the reasons why both positive and negative impacts tended to be overestimated in pre-project analyses, and trends over time in the nature and management of impacts. Such research might focus on the impacts of a particular industry, for example, to provide a benchmark for analysts conducting pre-project impact assessments.

5) More resources in the socio-economic impact assessment process should be directed towards monitoring and management. The knowledge gained should make pre-project analyses more useful in the planning and decision-making process. It is encouraging to note that the new Canadian environmental assessment legislation and British Columbia’s environmental assessment bill contain explicit provisions for monitoring. This should be complemented with community-based impact management processes.
3. Annotated Studies

The report location is specified in brackets at the end of each annotation.

Hydroelectric Megaprojects

Thirty-one studies examined hydroelectric megaprojects. Most focus on the impacts on native people and conclude that hydroelectric megaprojects generate dramatic ecological changes that have significant negative impacts on the native people's economy and society. The impacts include the destruction of fisheries, flooding of hunting territories, declines in natural resources requiring increased harvesting efforts and higher out-of-pocket expenses, more individual and community stress, health impacts and other social and cultural effects. Where the actual impacts were compared to pre-project projections, it was found that these impacts were not predicted accurately.


A synthesis of previous work by various authors including Société d'Énergie de la Baie James, Hydro-Québec and independent researchers on the major environmental impacts of the James Bay hydroelectric development. It briefly summarizes impacts due to flooding and loss of wilderness, disappearance of the Eastmain River, reversal of natural seasonal flow, temperature change, river bank erosion, interference with animal migration routes, mercury accumulation in reservoir fish, and loss of wetland productivity. Social impacts described include effects of roads on the native Cree land tenure system, impaired Indian use of the environment and subsistence economic effects. The author focuses on operational or ongoing impacts. Includes some tables, charts and maps. [UBC]


Berkes asks the questions: Have previous predictions of social and economic impacts of the James Bay Hydro Project been good? How many impacts were predicted accurately and how many were unpredicted? The article reviews the impact assessment experience for six specific impact areas that were important to the Chisasibi Cree, the main inhabitants of the area. These are: viability of fish stocks and the native subsistence fishery, mercury accumulation, carbonate drowning, wetland ecosystem hunting impacts, roads, and local access across the La Grande River. Using data from existing reports and studies, the author finds that the translation of environmental changes into specific impacts on animal populations and human communities has produced many surprises. Five of the six impact case studies reviewed in this article were not predicted accurately beforehand. The author disputes and critiques the James Bay Project Ecological Monitoring Program as being largely irrelevant to native concerns regarding social impacts and human ecology. Rather than trying to predict all possible impacts, the author recommends an alternative EIA approach which would select certain valued ecosystem components to consider, based on an interdisciplinary understanding of the systems. [UBC]

Flow alterations related to the hydroelectric development affect both the fish stocks and the Cree Indian subsistence fishery in the lower LaGrande River, northern Quebec. Evaluated against several years of baseline data, the initial biological impact of the project on fish populations appears to be relatively small. Nevertheless, fishing activity in the lower river and estuary largely ceased from 1979 to 1981 due to physical modifications of traditional fishing areas and other social and economic effects related to the hydro project. Some fishermen modified their methods and continued harvesting in the affected area but others abandoned the area and fished lakes and rivers along the recently constructed road network. Earlier impact assessments did not predict these impacts. [UBC]


Contains two brief case studies on the effects of the construction of the James Bay Hydroelectric Project, LaGrande Complex. Only the social impact study, which examines the effect of the road network on the land tenure system of the local Cree Indians, is summarized here. The author cites cases of over harvesting in easily accessible areas, hunting on other people's trapline and conflicts with southern hunters. Impacts are both positive and negative: for example, roads make access easier for all, including registered trapline holders. [UBC]


"The article questions the consequences of an impact management policy which focuses on mitigation rather than prevention. According to the author, the accumulated delay in the collection (and therefore analysis) of environmental data (began only around 1975) in connection with the construction stages of the La Grande Complex (began in 1973) has... resulted in an insufficient understanding of certain impacts. Thus, in regard to the aquatic fauna of the estuary at the mouth of the Grande River, the impacts of the rising of the entire front, of the modifications to the thermal regime and of the construction site... have been underestimated..."

The author brings another example in discussing the impact of the road network on the management of Cree trapping territories. While access has been greatly facilitated for the Cree hunter, it has not been taken into consideration the fact that the network on the other hand facilitated at the same time access to the region by sports hunters. This situation constituted a source of possible conflict which has not been taken into account to this time. (To our [Levesque]s knowledge, this still has not been considered.)

This policy of impact management which consists only in acting after the fact leads the author to state that an important alteration of resources and of land is occurring because the effects of certain impacts have been minimized..."

"The report examines the effects of a major manifestation of a hydroelectric complex, that which concerns the diversion (cutting) of important rivers. The case studied is 1982 cutting of the Caniapiscau River. This diversion has had the effect of diminishing the flow of the Caniapiscau and, by extension, the flow of the downstream Koksoak River. On the banks of the Koksoak, some 30 kilometres from the mouth is situated the Inuit village of Kuiujuaq comprising 1000 people. Completely isolated, inaccessible by road...it is the only access route to the interior and the only means of travel for whatever reason.

This particular context has led to a study aimed at identifying the social and economic repercussions on the hunting and fishing activities of the Kuiujuaq people. It is obviously a post-hoc study; the river had been cut for more than a year when the study was undertaken. (No predictive social impact study had been taken before the cutting.)

Some forty interviews were conducted with the River users to get their point of view. To the results of these interviews were added information gathered from a 3-month ethnographic study in the same village. The considerations of the users were found to be in three categories. At first, they concerned water quality: the rising of odine front which affected the community sources of potable water, the appearance of seaweed that disturbed and even limited net fishing. In the second period, they concerned problems of access and navigation safety. The lowering of the flow uncovered an important quantity of glacial blocks and rocks, as well as potential and real dangers of accidents and supplementary difficulties for navigation. Finally, in a third period, it was from a global perspective that the users pronounced themselves as deploiring the bad communication that existed among the prominent, the government authorities and the community.

The report finishes with some words related to possible mitigation measures, for example, the need to draw up navigation charts and to move at least the glacial blocks in front of the village, these seeming to have been relatively unanimous recommendation of the village..."


This report describes the nature and extent of the impacts of the Revelstoke Hydroelectric project on medical services, law and related services, social services and recreation and leisure in Revelstoke. The time frame is the construction of the project. Data were collected directly from agencies and service providers, and key informant interviews were conducted. The report compares pre-project predictions of impacts and recommended actions, with actual impacts and actions to date. It concludes that actual project impacts on these services were less than predicted and speculates that the predicted large influx of workers did not occur due to the site's proximity to other major centres such as Kelowna, Kamloops and Vernon. Respondents to the survey traveled home at least once or twice per week and thereby may have used these services in their own home towns. [UBC]
This article reviews the hydroelectric history in the vast Montagnais territory east of the James Bay watershed. It is an older history than James Bay, the first power plants having been built by Alcan in 1940 in the Sagamewin area. By 1972, these were at least 14 plants and six major reservoirs.

After summing up the ecological effects of these projects, and on the basis apparently of the writer's own field work, he reports that:

"Partially flooded or affected by the modifications in the water level, most of the hunting territories have been abandoned by their users. In the basis of the Pibichek and Manicougan rivers only two of the seventeen hunting territories were still producing furs by the 1975-76 season. For the Bersimis community, 47 territories out of a total of 87 were affected by the situation of the dams and reservoirs. Of that number, 24 had not produced any fur in 1975-76..."

Despite the abandoning or the low productivity of the hunting territories affected directly by the dams and the reservoirs, trapping in some areas holds its economic position as indicated by the number of marketed skins and the income generated...however, the income from trapping accounts for only a small percentage of the domestic units' total income. Temporary or permanent paid jobs and transfer payments...constitute in most cases at least three-quarters of the income. Consequently the number of individuals for whom trapping and hunting remain the principle occupations is limited to about 20% in two [studied] communities...at the same time [there has been] a decrease in the hunting and fishing activities for subsistence...Unfortunately, only a few dozen Indians were hired by the plants, and these jobs were for limited periods of time and for below-average salaries...Thus, the projects undertaken by certain government organizations to integrate Indian labour-power into the work force used for the realization of major capitalist investments in the north of Quebec for the years 1956 to 1961 have failed...

However, the very precise knowledge that the Indian guides had of the territory and of the hydrographic works was very useful to the engineers who conceived the great hydroelectric works. Thus in a largely unconscious way, by their knowledge the Montagnais have contributed to their own dispossession."

The author notes however, that this dispossession was abetted by other industrial forces—logging, mining, milling and associated urbanization—as well as by government settlement policies.


This is an earlier, longer extensive version of the previous item. It presents the same basic information on impacts but augments this with quotes from hunters on their views of the impacts.
This article provides findings from the James Bay Cree Health and Social Services Council's mercury monitoring program which was initiated in response to concerns about impacts of the La Grande Complex hydro-electric dam and the extensive inundation of land and peat bogs from about 1976. Impacts of this project included increased acidity of water and inorganic concentrations of mercury in the food chain as documented by researchers cited in the article. The inorganic form of mercury was found to be transformed by bacteria into organic methyl mercury which rises through the food chain becoming more and more concentrated and attaining very significant concentrations in fish and marine mammals. When a person eats food contaminated by mercury it spreads but is concentrated more and more in the kidneys, the liver and the brain. The body can naturally rid itself of mercury but the level of mercury in fish is taken at a rate faster than it is eliminated. This is the case of Indian fishers and trappers for whom contaminated food is an important part of their regular diet. Mercury content in residents of Chisasibi, many of whom fish in the nearby hydro reservoirs, was found to have increased greatly from 1977 to 1984. Specific figures are given.

Deschênes, Jean-Guy. 1988. Les impacts du projet Mont-Ontario sur le milieu humain. Montréal: Centre de recherche et d'analyse en sciences humaines (StDoc) für Hydro-Québec. [Annotated or translated from original French version.]

This report on a study that had the following objectives:

"1) to identify and evaluate the social impacts (actually) generated by the construction [1959 to 1978] and operation of the [seven-plant] Mani-Ontario complex, of the transport network which serves it and of all other related infrastructure in the Baie-Comeau-Habitation urban area as well as in the whole of the North Shore [of the St. Lawrence].

2) to deliver a general perspective of the environmental impacts generated by the construction and operation of these projects—such as they are perceived and experienced by regional and local peoples."

On the basis of secondary and primary sources, the report provides information on the social-economic and social-cultural impacts on the Montagnais people and on the Euro-Québécois. Demographic and institutional impacts are also considered.


This study assumes changes in local socio-economic conditions attributable to planning or construction of the Revelstoke Dam. It also reports on re-activation of the monitoring program which operated from 1977 to 1980, and assesses operational impacts. All available information is integrated to prepare a comprehensive assessment of project impacts. Includes conclusions and recommendations regarding mitigation and compensation. The study coincided with last eight months of construction and first year of operation of the Dam (1984). Five methods are described: a review of monitoring literature and existing Revelstoke monitoring studies; statistical information collection and analysis; interviews with key informants and news analysis to identify issues; application of a computer based
regional impact monitoring simulation model; and a household survey of residents to elicit attitudes and opinions about quality of life impacts. The impact assessment focuses on the following indicators: population, employment, income, housing, services (including law enforcement, education, fire protection, health care, community recreation, and human resources) and quality of life. Provides a useful summary table of impacts, featuring a comparison of predicted and actual impacts, and comments on mitigation and compensation. [UBC]


This paper, given at a conference in 1991, provides more up-to-date information on the Cree mercury monitoring program and its recent findings.

"Abstract: The filling of the James Bay project hydroelectric reservoirs has led to a marked increase in the concentration of methyl mercury of the fish in the reservoirs. The Cree who consume this fish find themselves at risk of being overexposed to methyl mercury. The James Bay Cree Council of Health and Social Services instituted a program to monitor the population in 1982. This program, in addition to providing general information to the people, plans the taking of samples of hair and umbilical cord blood to measure methyl mercury content. The rates of methyl mercury in hair have proved to be very high in 1984 but have begun to decline subsequently. However, in certain villages the "natural" base rates are already high, which makes one fear the impact that the construction of new dams could have on hunting territories."


This study examines the impact of the Agreement on the maintenance of the Cree hunting way of life, on native participation in hunting and on local control of native harvesting activity. It also reviews Cree aspirations for hunting, and the legal regimes and bureaucratic structures which implement it. Feit concludes that the Agreement has been a partially effective means of maintaining and enhancing the subsistence sector of the native economy and society. It has also lessened the impact of government regulations and policing on native people. However, it has not been able to secure the future viability of the hunting sector due to concerns about future developments and wildlife conservation. [UBC]


A summary of a meeting convened by INAC to discuss the impacts that hydroelectric developments have had on Indians in the four western provinces and strategies or agreements for compensation. This document relates the discussion of five projects: Churchill-Nelson Diversion and Lake Winnipeg Regulation, Man.; Grand Rapids Hydro Project, Man.; Squam Rapids Hydro Project, Sask.; Bennett Dam, B.C., and Kemenon I, B.C. (The author who prepared this report also reviewed published material on impacts but bibliography is not included). The summary of impacts concludes that there
was a lack of consultation with Indians; a loss of reserve land; a loss of resource base; and inadequate representation of native interests by INAC. [UBC]


This study attempts to estimate losses incurred on the Cross Lake Community Trapping line from the effects of the Jeepeg water control structure. The Cross Lake Indian Band commissioned the study to aid them in their compensation negotiations with Manitoba Hydro. Losses investigated include a decline in food and fur production as well as travel and operating costs, cultural effects, nutrition and health impacts, social and psychological effects and community impacts. Methodology includes a review of published statistics, discussions with community residents and interviews with trappers. The study concludes that the community has experienced substantial negative impacts on hunting and trapping as a result of Jeepeg. The estimate of monetary loss equals approximately $700,000 over a seven year period to 1982. Other non-monetized losses are not included in this total. [UBC]


In 1984 the Norway House Band filed Claim 93 under the Northern Flood Agreement. This report examines the recreational impact at Norway House, a native community in Manitoba, resulting from Manitoba Hydro's hydroelectric developments regulating Lake Winnipeg and associated works. The authors estimate pre-impact recreation use and significance, post-impact recreation use, recreation impacts and make recommendations for compensation due to loss of recreation use. Methods include a survey of elders to assess pre-impact usage and significance, meetings with youth to determine current use, a literature review of values in cross-cultural impact assessment, and a review of published information on recreation facilities in similar-sized communities. They assess 22 significant recreation activities for their impacts upon physical fitness, community stress, social activity, cultural identity and potential for non-facility substitution. The activities experiencing the greatest impacts are: living on the land, community trapping, berry picking, camping, picnicking, swimming, boating/canoeing, skating and egg collecting because they are both water-based and group activities relating to social and cultural identity. These impacts result in community stress and loss of well-being. Capital and programming cost estimates are provided for replacement facilities. [UBC]


The report examines the impacts upon Playgarden Lake commercial fishery caused by Lake Winnipeg Regulation. It was commissioned to support a claim for damages under the Northern Flood Agreement. Utilizing commercial fishermen's views, fishery studies and comparisons of similar biological impacts occurring elsewhere, the authors estimate direct and indirect costs to the commercial fishing industry. The authors note the limitation posed by the absence of systematic biological impact monitoring. Increased debris in the lake attributable to Lake Winnipeg Regulation is found to be a significant negative impact on the fishery. Total costs per season to local fishermen resulting from equipment loss or damage, increased time and effort to catch same amount, reduced fish quality and increased overhead are estimated at $24,136.50. [UBC]

In 1977, after the James Bay Agreement was negotiated, the Cree band of about 2000 people at Fort George on an island at the mouth of the Grande River decided to move in order to improve conditions.

In 1980, the community moved into a new village named Chisasibi (meaning Grande River in Cree) located on the river 9 kilometers to the west. The community participated actively in the planning of this move with the team of consultants. One of the authors (Marie Lessard) was a planner with this team from 1977 to 1980 and worked on the organization of the relocation and on the planning of the new village...which was intended to be better adapted to the lifestyles and aspirations of the community. This article is based on research begun in 1983 with the aim of evaluating the environmental quality of Chisasibi from the point of view of the residents and to identify the effects of their participation in the planning of the relocation.

After providing background on the Chisasibi collaborative relocation planning and results, the authors review general literature on studies of perceptions of environmental quality. They then outline their conceptual framework and research framework which was based on this review. Their focus was on resident satisfaction with the various physical components of the new village, resident use made of these components at different times, and resident competence to adapt to these components; all three being considered in the context of culture, the actual physical environment and the planning.

The research methods involved principally interviews and observations. Household interviews were conducted with 42 Cree families (14% of the total), usually in Cree, and 2 non-Native families (5% of the total). Community leaders and other informed people were also interviewed. Observations were directed toward characteristics and uses of village spaces and public buildings.

The results are theoretically interpreted with regard to implications for participatory planning and resident satisfaction.


This article reviews the pre and post impact situation of three Cree bands affected by the Grand Rapids Hydro project built by Manitoba Hydro in 1962. It utilizes existing studies and reports, and a review of government files and correspondence. The time period is a 25 year retrospective look at the pre- and post project situation. The author describes community life prior to hydro development, the negotiations that took place with the Bands, the settlement reached and social consequences of the project for these communities. He reviews the effects of the relocation of the Chisasibi to Easterville, the reduced hunting and trapping opportunities, and diminished agricultural potential. Loney cites evidence of negative health impacts increased crime and violence, alcohol abuse, and family breakdown including separation and child neglect. The author concludes that these problems are due to the Grand Rapids Hydro Project. [UBC]

A study commissioned by Manitoba Hydro to investigate the merits of a request by Wabowden Council for compensation resulting from a change in water levels on Sigwiek Lake. The objective is to draw conclusions about the actual biophysical impacts, their social and economic effects and to assign values for actual impacts. Methodology involves reviewing available impact data from Hydro and government ministries and conducting key informant interviews. The study team concludes that Kelsey and Lake Winnipeg Regulation have adversely impacted the commercial fishery and trapping activity and that “final and final settlement” had already been made for these impacts. They also identify uncompensated impacts for degradation of wildlife habitat and recommend compensation of $13,140.00 per year (1998$). There are no adverse impacts to community social structure, infrastructure or residents' health; there appeared to be a general lack of understanding of the Northern Flood Agreement. Recommends a communications program with Wabowden residents to remedy this situation. Volume 1 of 2. Volume 2 contains technical appendices. (UBC)


A post-project evaluation of the environmental, social and economic impacts of the Grand Rapids Hydro Project on the native communities of Easterville, Moose Lake, Grand Rapids, The Pas and Cormorant, Manitoba. The commitment to build the project occurred 30 years prior to this study being conducted and some long-standing issues are still unresolved. The findings and conclusions of the evaluation were to be used to identify outstanding obligations of Manitoba Hydro and the provincial government. Methodology consists of reviewing available data, studies and archival material as well as notes of meetings between Hydro and the affected communities. The team also met with Band advisors on this matter. The time period for the impact evaluation is 55 years: from 1949 to 1989 for the period to date, and future impacts are estimated from 1990 to 2019. Documents resource impacts (fishing, hunting, commercial trapping, agriculture, forestry, wildlife, crops, fish, and integrated resource impacts) and community economic and social impacts. Tables summarize monetized value of resource impacts and comparative community income pre and post project. The study team concludes that the environmental, economic and social impacts caused by the project have generally been less than predicted prior to footing. Impacts are noted for the pertinent community. Maximum outstanding obligations range from $0.5 million for Cormorant to $11.3 million for Chemawatin/Easterville (1988). In general, the authors find that Hydro and the Province have an outstanding obligation to demonstrate good faith, care and sensitivity sufficient to remove the adverse perceptions which currently exist. See also technical background volumes I and II. (UBC)

Pelletier, Céline. 1991, Portée de sociét é: point de vue allochone sur le changement social chez les cris de la Baie James. Montreal: Centre de recherche et d'analyse en sciences humaines (ssDoc) for Hydro-Quebec.

See annotation of following entry for explanation of this report.
This series of monographs report on ex-post field studies which were to be undertaken on James Bay Project Phase I social impacts, "as they are perceived and experienced," in three Cree communities: Chisasibi, Wemindji and Eastmain.

"However, the state of relations between the Cree and Hydro-Quebec having made it impossible, for an indeterminate period, the presence of researchers in the Cree communities a new proposal concerning a prefield study was submitted...and it became the mandate given to nsDec Inc. It was to:

'carry out certain diversified but complementary tasks which will end in the acquisition of knowledge that will facilitate the possible conduct of field studies. These tasks will also represent a contribution themselves to a more exhaustive understanding of the human and social impacts generated by Phase 1 of the La Grande Complex' [quoting Hydro-Quebec].

More specifically, this mandate consisted of four objectives or parts which were:

1) Overview assessment of knowledge on the human impacts of Phase I,
2) Study of northern precedents,
3) Interviews with non-Natives on the social impacts of Phase I, and
4) Application of an analytical spatial model to the evolution of trapping.

This series of reports relates to the first objective... A major limitation is that it only inventories impacts, but such is necessary...since no compilation seemed to exist. A second limitation is that it has only been based on documentary sources. That constitutes perhaps its principal interest since it produces not only an overview assessment of social impacts but also a statement on what is already known." (from Volume I, pp. 1-4).

The synthesis report categorizes impacts under the headings of traditional activities, social organization, territorial organization, economy, health and life conditions, identity.

"...two principal issues predominated at the time of the negotiations of the James Bay and Northern Quebec Agreement: the survival of the way of life based on traditional activities and the control of territory. The latter has been formally resolved by the Agreement... The former has thus become the principal preocupation, indeed the fundamental criterion for evaluating impacts. Traditional activities will then be our gateway [in this report] to the Cree society and the changes it has known [as it has been] of central concern in the documents available to us. (Synthèse, pp. 2-3)"

The author describes life in Cree villages in 1971, then briefly sketches the events between 1971 and 1981. He examines five main areas of Cree life in 1981: hunting, involvement with the wage economy, educational system, political and internal administrative structure, and interaction with governmental and other bodies outside their territory. He finds that between 1971 and 1981 Cree society changed from a fragmented society of seven distinct Village Bands, into a regional society where the villages have close ties with each other and administer their own affairs through a Cree governmental structure staffed largely by Cree. Salisbury dismisses the simplistic notion that the James Bay and Northern Quebec Agreements caused the changes. [UBC]


Submitted by thirteen individuals to the Premier of Alberta and the Prime Minister of Canada. The report addresses the impacts caused by regulation of the Peace River by the WAC Bennett Dam in northeastern B.C. on the Peace-Athabasca Delta in Alberta. It examines hydrology, national park values, waterfowl use, fur trapping, fishing and hunting, the local economy, transportation, recreational values, tourist potential, human values and civil rights. It concludes that the flood regulation imposed on the Peace River by the WAC Bennett Dam is having grave consequences for northeastern Alberta. Makes several recommendations concerning remedial actions and future planning of major projects. [UBC]


This report examines how the construction of the Revelstoke Canyon Dam by BC Hydro affected local government services and finances. Three local governments are considered: City of Revelstoke, Regional District of Columbia Shuswap, and the Sicamous Waterworks District. The study was undertaken because of the City of Revelstoke's view that BC Hydro had not fully honoured its commitments under the Conditional Water Licence dated December 1976. Volume I develops a set of criteria for use in selecting impacts that should be considered for compensation and Volume II investigates basic infrastructure systems and costs in Revelstoke. This volume examines short term impacts such as river bank erosion, road damage, water system expansion, sanitary and storm improvements, ground water flooding, fire protection, garbage disposal and recreation, and general administration among others. These impacts are then considered against criteria for selecting impacts for compensation and actions for resolution are presented. In summary, most short term impact claims are discounted or are found to have been adequately compensated for. Long term impacts on Revelstoke's finances are found to be positive. Little in the way of uncompensated impacts were found for the Regional District or Water District. [UBC]


This annual report documents the changes in social, economic and cultural conditions in the Township of Atikokan from the beginning of construction of the Atikokan Generating Station in 1971 to the end of 1983 when construction was beginning to wind down. (Completion scheduled for 1985.) The

The author examines the case of the 'Pike Lake' (a pseudonym) community in Manitoba, which was one of several communities affected by the construction of the Churchill-Nelson River hydro project completed in 1976. The study method is not specified, although it appears to be a synthesis of existing studies. Available data are presented on native employment (in native employment records kept by contractors or Hydro), and the economic impact of construction. He concludes that local labour was not used extensively, that labourers received little certifiable training and that this marginal labour activity disrupted the existing economy. In order for mega-project employment to have a positive effect on native communities, it must improve the level of certifiable skills and develop economic activities to utilize these skills once the project is complete. [UBC]


The dissertation describes the impacts of the Churchill-Nelson River Hydro project (1975) upon the Cree Indians and Metis people of South Indian Lake, Manitoba. Utilizing both qualitative and quantitative data, the author links ecological, political, economic, socio-cultural and health impacts using dependency theory. The study also assesses the accuracy and utility of pre-project impact assessments as they relate to the South Indian Lake community. Chapters describe predicted and actual impacts on various aspects of the local economy (commercial fishery, commercial trapping, domestic production, wage labour, transfer payment sectors) and human-ecological factors. Methods include: participant observation (a lengthy residency in the community); surveys to determine pre-impact situation; post-impact situation and reasons for perceived changes; data from government offices, archives and private sources; key informant interviews; and pre-impact reports of the Churchill and Nelson Rivers Study Board. The author documents: a decline in the commercial and domestic fishery; a decline in trapping, increased levels of effort for fishing and hunting; a reversal of pre-impact food consumption patterns; and changes to the traditional lifestyle coincident with these impacts. He concludes that the process of underdevelopment in South Indian Lake has been the result primarily of changes in the local ecological system caused by the construction of the hydro project. These ecological changes have, in turn, resulted in secondary changes in the socio-economic system. [National Library of Canada]

A late published report (originally authored in 1964) summarizing the results of a retrospective assessment of the economic impact of the E.B. Campbell Dam on the primarily Metis people of Cumberland House. The author was hired by the people of Cumberland House to investigate these impacts for the purposes of their compensation claim for damages caused by the dam (completed in 1964). Research methods were: structured interviews of all working age males in the Metis community; interviews with selected groups of community residents (community meetings, existing group interviews and focus group interviews); and supplementary methodologies including participant observation and review of archival material and government records. It assesses the dam’s impact on: trapping, commercial fishing, and hunting and outfitting. The report concludes that the economy of Cumberland House has not changed in the post project period - it remains a community with strong economic and cultural ties to natural resources. However, impacts of the dam have been devastating for fishing, hunting and trapping, both commercial and domestic. Commercial activities are now characterized by high expenses and low net returns. The author estimates the economic loss, including both production losses and equipment losses, to be in the neighbourhood of $4.9 million in 1983 dollars to the status, non-status and metis Indians of Cumberland Lake. He qualifies this figure by a number of caveats and states that he views the figure as symbolic of the loss. Appendix contains tables. [National Library of Canada]

Oil and Gas

Twenty-seven studies examined oil and gas megaprojects. Generally, the studies documented strong leakages out of local and regional economies from drilling purchases. Experience with local employment suggests that development agreements with proponents are required to achieve positive impacts in jobs and spin-offs for existing residents. It appear that the impact of oil and gas in northern Canada on the native economy was less than expected. The tar sands megaprojects in Alberta exhibited fairly typical “boomtown” growth.


The study examines the factors essential for, and barriers to successful local (Newfoundland) business involvement in offshore oil development. It was prepared in the context of the Hibernia project. In the 20 years of exploration on the east coast, local content levels for most goods and services are at or below 20 percent. It contains a qualitative analysis of the findings of two surveys: one of local business representatives on their views of doing business with the oil and gas exploration industry and one of oil industry representatives' view of doing business with local companies. The study presents local business views on: initiating business with offshore industry, business development (including marketing and government assistance), barriers to increased involvement, elements of successful
business strategies, the role of government, and of industry companies. Oil industry views are presented on: barriers to local business involvement and recommendations on how to overcome them, the role of industry and the role of government. [UBC]


The Norman Wells Socio-economic Monitoring Program monitored the pre-construction, construction and post-construction phases of the Norman Wells Oilfield Expansion and Pipeline project in the Mackenzie Valley, NWT. It was the first mega-project monitoring exercise carried out in Canada according to the authors. The methodology and findings of the project are published in 28 reports covering the period from 1982 to 1986. The report cited here:

- describes the rationale for socio-economic impact monitoring;
- discusses methodological issues;
- describes the methodology employed for the monitoring program including data collection, survey design, field survey work, database creation and report preparation; and
- recommends improvements for future monitoring programs.

The report outlines the study methodology: community surveys of households and businesses to obtain basic socio-economic data and impact data. Annual business surveys and biannual household surveys employed a structured questionnaire. 1982 was the baseline year. Data collection was organized by race, aimed for 100 percent coverage, and was designed to be comparable over time. The study area comprised four communities directly affected by the project. The report concludes with some recommendations for improvements to future socio-economic monitoring efforts. Together with the 1986 Summary Report No 1-86 (Stewart and Bone, 1986) which summarizes the findings of the entire monitoring program, this document should provide readers with a good understanding of the methods and conclusions of this comprehensive monitoring program. Provides a list of all reports published in this series. [INAC Library Ottawa]


Describes the efforts of Syncrude Canada to achieve an employee population which is representative of the Athabasca region which is roughly 10 percent native. About 20 native companies supply Syncrude with business worth approximately $20 million. At the end of 1989, 290 people out of a workforce of 4500 are native or 6.6 percent. Syncrude undertakes three major activities to ensure aboriginal communities get a fair share of benefits from the oil industry: employment and training, community development and business development. With respect to employment, the emphasis is on meaningful jobs, not minimal, dead end jobs. Business development activities refer to designing jobs for native contractors, assisting with training, and making an initial agreement that the new company will be Syncrude’s sole supplier, with conditions. Interview with Jim Carberry, Syncrude’s advisor for native development. [UBC]

This brief report is one of the annual reviews required by Dome Petroleum's drilling program in the Beaufort Sea. The review covers socio-economic-cultural matters, environmental impacts and technical details. With respect to the former, it provides information on employment and training programs. In 1980, the greatest number of employees were from Tuktoyaktuk and Inuvik (62 percent - although the definition of northern resident is not clear). Provides some information describing hunting and trapping impacts and social impacts. Summarizes company financial support for various local organizations. The report contains estimates of the impact of the operation on the Canadian economy, but not the local economy. Methods used to obtain data are not stated. [University of Alberta]


Documents Dene perceptions of the Norman Wells Project's impacts on individuals and communities in the Mackenzie Valley. It reports that the Dene were not given a significant role in the regulatory and monitoring regime and were doubtful about the monitoring and analysis of socio-economic data commissioned by the government. They initiated their own study which was carried out following completion of the project in 1985. Data were collected through residents and worker surveys. It finds that workers are generally satisfied with work camps, working relationships, schedules, job safety, wages, job orientation, and benefits. They are dissatisfied with unions, job advancement and the hiring of Dene. Among the other findings: a majority of residents desire wage employment; trapping conditions do not seem to have declined; and trappers don't perceive a negative impact on trapping. It reports that country food consumption remained the same as in previous years. Most respondents did not receive direct or indirect benefits from the project, and are concerned about alcohol and drug abuse and family stress. The study concludes that there was not enough native control over project. [UBC]


This research examines the social impact of hydrocarbon development on the two Arctic communities of Tuktoyaktuk and Fort McPherson, NWT. It is a comparative case study using a model analyzing the communities' social processes and interaction. The primary mode of data collection was key informant interviews. Analysis reveals that Fort McPherson had a higher level of traditionalism than Tuk pre-development. After development both communities saw an increase in social problems, with Fort McPherson maintaining a greater proportion of its traditionalism functioning. In addition, both communities saw changes in the role of women, the adjustment of youth, attitudes towards materialism, volunteerism, and in traditional lifestyles. [National Library of Canada]


The report assesses training programs implemented using federal impact funding of $10.5 million during the pre-construction and construction phases of the Norman Wells Project. It attempts to determine if government and industry training commitments for the project were met. Using interviews, a review of correspondence and files, and secondary data sources, the authors conclude that the proponents met their training commitments as outlined in their socio-economic action plans, but
that these were vague and easy to fulfill. The number of business are documented for three years (1982 to 1985) but the report does not quantify the attainment of skills by native people which will be of use in the north following completion of the construction phase. Much effort is spent investigating institutional failures of the federal training commitment from the Dene perspective. [INAC Library
Ottawa]


A review of the economic and social impact of Donne/Canmar drilling operations in the Beaufort Sea from 1976 to 1979 inclusive. The report uses statistical information (secondary data) as indicators, with the exception of 1978 for which detailed fieldwork was carried out in the form of a business impact survey. Tables illustrate the findings for many socio-economic impact categories, showing for example, business expenditures by community (Tuktoyaktuk, Aklavik, Inuvik, Yellowknife, Hay River, Paulatuk, Coppermine and others), changes in northern employment levels and skill levels, comparison of five year employment projections with actual hires by skill category, annual earned income, average length of employment, earned income from fur sales, training by category, liquor sales, social assistance expenditures, child care cases, and crimes per 1000 people. The study concludes that: businesses in the region were cushioned from possible serious financial difficulties due to a slowdown in other local business activity; employment forecasts were exceeded during each operating season; and the study communities incurred no substantial negative socio-economic impacts. [Simon Fraser University]


This paper presents research intended to provide an initial ‘snapshot’ of the social and economic characteristics of the Newfoundland and Labrador offshore oil industry labour force. It also offers some conclusions regarding impacts on the fishery, unemployment and migration. The project aims to provide information so that future oil industry development could be based on the evidence gathered in the exploration phase. The data includes: a 1981 survey of oil rig labour force and supply vessel workers in the Labrador Sea, Mobil Oil Canada survey results for offshore Grand Banks rig and supply vessel workers and Dept. of Labour and Manpower monthly offshore labour force reports. Tables show total offshore employment by residence, by occupational structure, by regional distribution, by rural/urban participation, northern participation, and by other demographic and socio-economic variables. It concludes that offshore oil and gas exploration has had a limited impact on rural residents' income and employment opportunities due to the fact that the labour force originated from diverse communities all around the province (0.5 percent of rural male residents in labour force were employed in offshore positions). An average of 664 provincial residents worked in the offshore industry. Reports that 26 percent of offshore workers in two surveys had a previous residence outside the province. Evidence from this study shows that only 2 percent of those presently working in exploration left the fishing industry. Cites another study which found that 29 percent of all provincial offshore workers were previously unemployed and another 24 percent were only employed seasonally or part-time. There is some evidence that migration patterns for the offshore industry are from rural areas to St. John's which is the permanent supply base for supply and work boats. [Centre for Newfoundland Studies, Memorial University of Newfoundland]

This paper describes the empirical basis of the debate about the social consequences of resource town growth by reviewing existing case study information. The objective is to develop a research agenda. Case studies cited include: Drayton Valley, Alta., Fort McMurray, Alta., Grande Prairie and Peace River, Alta., Cold Lake, Alta., and Cartwright, Hopedale and Sagleak, Labrador. Concludes that the state of the art in the study of energy resource communities is primitive. "Despite many academic studies and social impact assessments of these communities, we know little about the influence of resource development on the social organization of small isolated communities... particularly occupation, class structure, and status attainment." The authors emphasize the importance of longitudinal studies, sociological theories and comparative studies. [UBC]


Between 1961 and 1979 population in Fort McMurray, Alberta grew from 2600 to 27,000 people with the construction of both the Suncor and Syncrude plants. Anticipating further growth in the region from oil sands development, the author wished to learn about the social impact of previous commercial development. The study is based on a survey of 430 adult Fort McMurray residents in 1979. Data from a 1969 survey was re-analyzed to provide a basis for comparison. Social indicators employed are: demographic composition and stability, perceived quality of housing and services, labour force activity, income and standard of living, social participation and support, and individual subjective reactions to life in Fort McMurray. Finds that the town does exhibit some characteristics of the stereotypical resource town - a high proportion of males, high population turnover, high proportion of young people, high proportion with unstable employment history, dissatisfaction with neighborhoods, community services, family breakdown and marital infertility. On the other hand, many of these traits are characteristics of the Canadian norm, and there are corresponding positive characteristics as well. [UBC]


The report is divided into two volumes: the first is an annual report containing a review of industrial activity and a review of community indicators; volume two presents basic data in the form of community profiles for nine Beaufort-Mackenzie Delta communities. It is the first of a series intended to establish a baseline. It uses existing data as indicators to monitor the socio-economic impact of oil and gas exploration activities in the region. Provides data on several companies' expenditures (Gulf, Esso and Chevron for example) for exploration activity. It is a pilot project report for a NOGAP project on socio-economic monitoring in Beaufort-Mackenzie Delta communities. There are many tables and charts but limited analysis. [UBC]


The authors analyze data from a survey of a sample of residents in the four communities affected by the Norman Wells Pipeline Project in Spring 1984. These communities are: Norman Wells, Fort
Norman, Wrigley and Fort Simpson. The open-ended questions were: "In your opinion, what negative(positive) effects has the project had on your community?" The top five positive impacts are: (1) jobs, training, and economic benefits; (2) water, (3) increased business (4) good wages; (5) increased access, cheaper goods. The most frequently cited negative project impacts are: (1) need more jobs, training, (2) too much traffic, noise (3) not enough business, long-term benefits, (4) too much alcohol, crime and (5) too many southerners, transients. The major findings are:

- 29 percent of respondents found little or no positive impacts;
- economic benefits were the most frequently cited positive benefits;
- social problems were the most often cited negative impacts;
- men tend to emphasize economic impacts, while women emphasize social impacts;
- the four communities possess sufficient uniqueness that they should be considered independently in impact assessment;
- groups defined by sex, ethnic origin, and community are relatively internally consistent in their responses; and
- the use of an open ended non-restrictive survey approach is reliable and provides meaningful results. [National Library of Canada]


This paper describes the impacts of commuting employment on Inuit workers employed by Gulf Oil between 1972 and 1977 in its Mackenzie Delta exploration program. Impacts are estimated for workers, their families and the community of Coppermine. Data consists of interviews with workers and their families, other longterm community residents, and company personnel. Unpublished data from the company and various government ministries are also used. The author describes: the recruitment process in Coppermine, the rotation work schedule; effectiveness of Coppermine workers; economic significance of employment to the community; community perception of the employment program; effects on traditional activity; social costs; reactions of Inuit employees and their wives; and future employment interests. It finds that for the last year of employment, 1977, Gulf Oil employment accounted for 34 percent of direct wage income in Coppermine (no indirect or induced income effects calculated). Furthermore, no less than 55 percent of the total male workforce was employed in a single season. Other conclusions: Coppermine residents are good employees; social impacts, such as increased crime and liquor sales, are transitional only. The author binds improvements in community life such as better clothing for children and better nutrition; acquisition of money management skills; and there was no decrease in traditional activity. [USC]


See other entries by same author. [INAC Library, Ottawa]

The author examines contacts between the oil exploration industry and three communities of coastal Labrador in the 1970s. The analysis is based on two periods of exploratory field work in 1977 and 1979 to determine general attitudes about oil development and specific impacts of oil related development. Total Eastmain Exploration was the main offshore operator during this period. In 1979, 20 people were employed onshore by Eastmain, ten of them were from Labrador. The article describes the hiring and training of residents in Cartwright and Hopodeala (a native community) and the local spin-off benefits of adjacent workshops. The latter are found to be negligible as most purchases occurred outside the area and accommodation consisted of ATCO trailers. It summarizes coastal residents attitudes towards offshore oil and gas as: "remote, uninformed, powerless, ambivalent, hopeful, skeptical, suspicious, worried..." Concludes with some general policy directives to increase the local benefits of offshore oil development. [UBC]


The Cold Lake Indian Band of Alberta commissioned this study of the major effects of construction and operation of the Syncrude, Syncrude and Amoco oil sands plants and related activities on selected Athabasca Tribal Council Indian communities to assess Enso Resources' proposal to build an oil extraction and upgrading facility adjacent to their reserve. Research consists of household and Band administration interviews and an analysis of available statistical records. Documents perceived as "actual" impacts: the former are based on interviews, the latter are based on records and statistics. Tables describe negative impacts: deterioration of the social fabric of communities through alcohol and drug abuse, and violence; no improvement in community infrastructure; degradation of the physical environment; deterioration of traditional economic life (hunting, trapping etc); limited meaningful employment opportunities; and an overall decline is local ability to control community life. It concludes that these projects have caused serious disruptions in the social fabric of affected Indian communities and that the Cold Lake Band must have a strategy for ameliorative and mitigating measures. [UBC]


Ms. Lange reports on a study of the employment interests and goals, and problems facing aboriginal women living in the four impact communities of the Norman Wells project. A survey questionnaire was administered to women with employment experience at Norman Wells and those without. Of 105 respondents, only 29 women had some Norman Wells experience. The questionnaire dealt with issues such as: basic demographic data; employment interests and attitudes; attitudes of those never employed at Norman Wells; experiences of those previously employed at Norman Wells; personal opinions or knowledge about Norman Wells project, and experiences of women whose men worked on the project. Of those who had Norman Wells job experience, most were employed in housekeeping or kitchen work. They liked their jobs for the most part and felt well paid. Shift work and company camps did not seem to present significant problems. Results are presented for each community and for all four communities. [INAC Library Ottawa]

This report is one of the initial exploratory studies undertaken in 1976 to determine the parameters of and the appropriate methods for research on the social impacts of oil sands development in the AOSERP study area (Fort McMurray). The author reviews available published and unpublished literature as well as various statistical data sources. No new data are collected. Topics include: the influence of marriage and family life on employment and life satisfaction in resource communities; factors involved in the geographical mobility of residents; the general characteristics of residents; and the culture and problems of natives affected by resource development. A descriptive summary of the Fort McMurray area is also presented. The author points out the gaps in knowledge about resource development social impacts. He concludes that while many studies have been conducted to describe social problems, few have systematically tried to explain why these problems tend to occur. The author identifies methodological deficiencies (little social impact research as he defines social i.e. interpersonal relationships, structure and frequency of community participation etc.) and recommends possible solutions. Proposes a theoretical model and research design for conducting future social impact research in the Fort McMurray area. [National Library of Canada]


This report describes the native perspective on Nova Corporation's efforts to meet the requirements of the Northern Pipeline Act in the construction of the Alaskan pipeline. The Act requires identification and protection of traditional native harvesting and cultural sites and company measures to ensure that Native people have access to training, employment and entrepreneurial opportunities. Information was obtained through interviews with Band Chiefs and other personnel. The author reports that the native Bands in the area did not feel they were adequately consulted regarding traditional harvesting sites nor regarding the employment and entrepreneurial opportunities associated with the project. The report contains recommendations for improving Nova's efforts to meet the terms of the Act. [NAC Library Ottawa]


A social and economic impact study of the first year of Canadian drilling operations on Beaufort Sea communities, primarily Tuktoyaktuk. Methods employed include: participant observation (a three month residency period); discussions with local representatives of interest groups and government officials; and a review of published information. Constructs a community profile of Tuktoyaktuk for 1975 to serve as a baseline prior to the first drilling season in 1976. The economic impact section summarizes the Canadian training program, showing that out of total drilling season employment of 400 persons, 127 employees were Northerners, of which 113 people were native, mostly from Tuktoyaktuk. This includes 15 northern women. A Northerner is defined as someone with three years residency in the north. The author estimates there was a 23 percent increase in community income in Tuktoyaktuk over the pre-drilling period. The majority of northern positions were in the unskilled category. Limited social impacts are reported. Those reviewed include local services, medical services, policing, social assistance, recreation services. The authors find some local concerns over industrial use of harbour sites. Contains recommendations to the company for future drilling seasons. [National Library of Canada]
A review of the social and economic impacts of Syncrude and Suncor oil sands development and subsequent population boom on the primarily new residents of Fort McMurray. The time period is 1961 to 1979. The discussion is based on a review of existing data and a synthesis of pertinent studies. Contains a brief discussion of municipal finance impact of growth on Fort McMurray and the school district. The town had per capita operating expenditures of $409 and debt of $425 in 1975 in comparison with $134 and $83 respectively in 1965. Property tax revenues could not cover operating costs of servicing existing population, let alone new residents. Reviews the difficulties associated with underestimating population growth and the corresponding lack of community services (e.g. children attended school in shifts). The authors also examine planning and legislation governing new towns and summarize these findings for planning new towns. A review of existing data and synthesis of existing studies and reports. (UBC)


This report documents the development of Dene Tha' Construction Ltd., a Dene contractor for Interprovincial Pipeline Ltd. (IPL) in the construction of the Norman Wells to Zama pipeline. The authors review files, and interview Band and IPL personnel, and contractors and clients of the construction company. IPL gave the Band its first contract, which the Band completed with a sub-contractor on a joint venture basis. Following another joint venture, the Band formed Dene Tha' Construction Ltd., purchased equipment and undertook several other contracts. Both parties' objective throughout was to create a viable company which could continue to operate after the pipeline was completed. [INAC Library Ottawa]


This thesis is a case study of a Community Advisory Committee (CAC) set up by the federal government to allow grassroots participation in the Norman Wells Pipeline Project. It attempts to determine if indeed this committee was a vehicle for grassroots empowerment. The methodology consists of a review of government policy and interviews with key informants about their participatory experience (residents of affected communities, the company, government representatives and Dene/Metis officials.) "One can only conclude that the CAC was not especially participative and was not very effective." However it likely had educative value for its members. Most policy analysts agree that participation which is initiated from below, voluntary, organized, direct, continuous, broad in scope, and empowered is the most participatory. The author concludes that, using this definition, the CAC had numerous difficulties. It was initiated from above, unorganized, lacked continuity, and was not empowered. It was voluntary, and it is unclear if it was broad in scope. [National Library of Canada]

The project in question is a gas pipeline from Pointed Mountain, NWT to Fort Nelson, BC, with a gas plant in the Pointed Mountain gas field. All of the materials and equipment for construction were purchased in the South. Estimates of peak total construction work forces of 465 men in 1972, or 12.5 percent were native. In general, native employment was intermittent and of short duration. Over 50 percent of jobs held by natives were in the unskilled category. Eight southerners are employed in operation of the plant. Using sample data, Scott estimates that total native income from the construction phase of the project was between $50,000 and $75,000 for Fort Liard, $40,000 for Fort Simpson and between $60,000 and $10,000 for Norman Butte. These totals are compared with total construction costs of approximately $15 million. A gas supply system to Fort Liard was not part of the project. The surrounding communities have experienced hunting and trapping impacts.


A summary of the findings of the Norman Wells monitoring program. Impacts covered include: demographic (population, length of residency and transient population), employment activity, regional income, particularly for permanent and native residents; consumer spending patterns (including benefits); country food consumption; perceived social impacts; and business impacts. Norman Wells experienced the most demographic impacts increased population and in-migration. There was little increase in household income for permanent residents from 1982 to 85 and the differences in native versus non-native incomes remained the same. In Norman Wells, the construction labor force peaked at 1498 employees in 1984. Fifty-five percent of these workers were commuters (most commuters were from the NWT). Native employment expanded at the same rate as all employment; total business expenditures in Norman Wells were $542 million and 54 percent of this amount leaked out of the regional economy in southern Canada. Consumer spending in Norman Wells rose, but there were leakage of $5.2 million during the construction period. Country food consumption among natives declined during the study. Perceptions about jobs and development generally were positive even after the construction. Identified three significant social impacts: improved community services and facilities; the transient "prohibit"; and increased alcohol and drug abuse. The majority of residents felt that the project resulted in no net social and economic impact for native residents. It concludes that actual benefits to northern residents from the project were less than expected and that social costs were lower than predicted. [INAC Library Ottawa]


This study documents the experiences of families and the problems presented by offshore employment in the oil and gas industry in Newfoundland. It focuses on Newfoundland residents working in several localities. The methodology employs a literature review of long distance commuting, personal and postal surveys of offshore rig and supply vessel workers and their families, and interviews with key informants. Tables and charts provide an overview of the demographic and work characteristics of the study families and summarize their reactions to the regime imposed by offshore work. The authors conclude that positive feelings towards offshore employment relate primarily to financial or material
well-being. The survey data show women experience more negative feelings towards offshore employment than men. The authors stress that the family has to be considered as opposed to individual reactions. The study highlights specific areas of concern and provides recommendations.

[Memorial University of Newfoundland]

Mining

Eleven studies examined mining megaprojects. The studies suggest that existing residents obtained direct jobs, but not in great number. Local residents tended to comprise less than 5% of the total megaproject workforce. Further, native people tended to be employed in seasonal and low-skilled jobs. In some cases, mining megaprojects appeared to stabilize regional economies during recessions.

Baffin Region Inuit Association. 1979. Socio-economic Impacts of the Nanisivik Mine on North Baffin Region Communities. [Ottawa: Indian and Northern Affairs Canada].

The study identifies the effects of employment at the Nanisivik lead-zinc mine in northwest Baffin Island on Inuit workers and their families, traditional activities, consumption of store-bought goods, community health, violence and crime, school retention rates and vocational aspirations of young people. Data sources are: company records, provincial and federal government records, and personal interviews with workers, their wives and children in seven communities. Findings include worker ambivalence due to the long absences from their family attributable to a rotation work schedule and the recognized need for money to pursue traditional harvesting activities. Community effects are found to be initiated in terms of local income with the exception of Arctic Bay. The study finds no significant impacts on traditional activities or social costs. There is some evidence of marital problems and negative socialization of children due to their father's employment at the mine. [York University Library]


The authors examine the pattern of decline in a mining region using Schefferville as the case study. Discussion centers on the characteristics of community and corporate winding down in Schefferville: the restructuring of the local workforce, disinvestment, relocation of capital, and company withdrawal from housing, municipal affairs and public services. Bradbury and St.-Martin report that data for the study were collected in several ways: fieldwork consisting of a sample household survey, key informant interviews, company and union records, and participant observation throughout fieldwork. A literature review was also conducted. Reports that some of the results of decline are increased economic insecurity, community instability, and emigration. The research was conducted prior to the closure of mine and community. [UBC]


A summary of a seven volume report prepared by the Center for Settlement Studies on behalf of the Economic Staff Group, DIAND to examine and evaluate the effect of the Consecor Pine Point lead-zinc mine on native employment in the area south of Great Slave Lake, NWT. As the Department had participated financially in the development of the mine and related infrastructure, an ancillary
objective of the study is to determine if federal financial assistance had resulted in native employment and regional economic development in general. Methodological information is not contained in this condensed version. The study documents mine employment of the native people of Fort Resolution, Hay River, Fort Smith and Fort Providence. In 1967, natives comprised 4.6 percent of the Pine Point Mine labour force. By 1970 this had increased to 17 percent. Direct income from employment is estimated for three communities for three years. The author provides reasons why more native employment was not achieved. There was a lack of clear federal focus on regional development as a goal for this natural resource development project. In addition to a lack of company commitment to native hiring, inadequate and ad hoc government employment, townsite planning, transportation and housing policies and programs all contributed to a marked lack of employment benefits for natives in the area. Most importantly, although $100 million was spent by the government to facilitate the mine opening in 1964, as all weather road between Pine Point and the native community of Fort Resolution was not built until 1972. [UBC]


Identifies the actual socio-economic impacts of construction (underway at the time) of the Hemlo gold project on Marathon, Ont. Contains pre-project description of Marathon, identifies social, economic and infrastructural impacts which have already occurred; and, looks at likely future impacts, as well as mitigative measures. Authors do not state their methods. Actual impacts considered include: direct and indirect construction employment (source not identified i.e. local or in-migrant), increase in permanent residents, new business development, housing, community services and facility impacts, and municipal services. [UBC]


The aim of the thesis is to determine the underlying causes of native unemployment and underemployment in industrial economies using the case of the Naskapi in Schefferville Quebec. In order to accomplish this the author examines the employment experiences of the Naskapi Indians in the 25 years since their relocation to Schefferville, Quebec in 1956. It considers employment in general but also focuses on native employment with the Iron Ore Company of Canada at Schefferville. Socio-economic profile information was obtained from IOCC employment files, the Band Office, and interviews with Naskapi workers and families. Extensive employment histories of all working age Naskapi were compiled from this information. Pertinent socio-economic impact findings are: Naskapi workers were restricted to seasonal and token employment in the form of temporary, hard labour positions at IOCC, not for reasons of lack of skills or training. The author also found tension between the need to become incorporated into the industrial wage earning work force and the need to maintain close ties to their subsistence activities to supplement an unstable and marginal employment situation. Only 26 percent of total jobs held by Naskapi in 1981 were at IOCC. Unemployment rates of Naskapi were 63 percent in 1981 (pre-closure). The correlation of educational attainment, language skills, training, etc with job attainability/stability was investigated and no relationship found. (National Library of Canada)

This study assesses the relative accuracy of two techniques commonly used in demographic analysis: economic base analysis and income expenditure analysis. The research addresses the lack of empirically based assessment of these methods. Using the case of British Columbia's Northeast Coal Project, the author compares pre-project analyses of population and employment impacts using information available when the project was under construction. These analyses are compared to a post-project analysis of the NECP's regional employment and population impacts. The author finds the two pre-project analyses produced similar impact predictions, when two technical innovations in economic-base analysis were incorporated. The pre-project and ex post analyses were also remarkable similar. In both case the pre-project figures over-estimate actual regional growth by 6 percent and 9 percent respectively. Actual employment impacts of the NECP by 1986 were 3471 FTE and population impacts were 6330 people. The author notes that the pre-project impact assessment, which was based on an economic base analysis, over-estimated actual impacts by about 50 percent. An appendix contains detailed information on use of the income-expenditure technique. [UBC]


Contains a case study of BC's North East Coal Project (NECP) from the point of view of actual economic impacts. Expectations regarding the economic development impacts of the NECP contained in relevant technical analyses are evaluated by comparing them to other information available at the time and actual outcomes. Actual outcomes are assessed by completing a comprehensive ex post regional economic impact analysis. This post project analysis is comprised of analysis of census data for changes in selected indicators over the 1981 to 1986 (construction and operation) period and interviews of key informants regarding their perceptions of regional and community economic impacts of the project. The author concludes that the expectations regarding the NECP's contribution to regional economic growth and development were overly optimistic given the information available at the time and far exceed the actual outcomes to date. The NECP stabilized the south Peace region during the recession of the early 1980s and produced some growth in employment, population and income levels. Education levels increased and some entrepreneurial development occurred. However, the mega-project did not alleviate the unemployment situation in the region, did not improve the distribution of income, and did not diversify the regional economic structure. Despite early planning emphasis given to maximizing opportunities that the NECP could provide for members of regional target groups such as natives and women, few individuals from these groups obtained mining employment. In 1986 most of the economic development benefits associated with the NECP such as new employment opportunities, high incomes and training opportunities, were captured by in-migrants to the region. [UBC]


Traces the development of the Pine Point Mine by Cominco in the NWT, including government policy and assistance, from a regional development perspective. Describes social and environmental impacts on neighbouring native communities of Fort Resolution and the barriers to native employment at the

Traces the history and development of the Cyprus Anvil Mine (opened in 1969) in the Yukon, including government northern development policy and assistance offered to the company. A section on socio-economic and environmental impacts on the community of Ross River, Yukon is included. Considers the following impacts: exploitation, construction and operational employment, boom town effects including increased traffic with improved road access, overhunting due to improved road access, new patterns of social interaction, while in-migrants' predominance in political development, alcohol abuse, violence, and loss of hunting and fishing skills. Concludes that the introduction of whites into the Ross River settlement as a direct result of Anvil mine exploration and construction has had a profound negative social impact upon the community. Finds no significant employment impacts. Methods are not stated. [UBC]


A discussion of the factors limiting native employment in the mine and the impacts of the Iron Ore Company of Canada's Schefferville mining operations on Naskapi and Montagnais of the region, both during operation and closure. Traces the history of Indian labour in the region in building the railway and townsites of Schefferville, and their work experience at the mine. cites sources which state that the IOC was the single major source of employment for both the Naskapi and Montagnais of Schefferville and Montagnais of Sept-Iles until at least 1978. In 1981, 41 percent of Montagnais engaged in wage labour in Sept-Iles were employed by IOC and in Schefferville, 37 percent of the total employed worked at IOC. States that the winding down of IOC had a greater impact on Montagnais than the Naskapi due to other opportunities the Naskapi had arising out of the James Bay Agreement. [UBC]


Traces the expenditure of money earned by Clyde River Inuit as rotational employees at the Nanisivik mine, NWT in the 1970s. Clyde River was a predominantly traditional community (little participation in wage labour) prior to members obtaining Nanisivik mine employment. Methods include: interviews with workers, and estimated sales made at a local Hudson Bay store and elsewhere. Report includes figures on employment, earnings and expenditures in the community. Finds that a good proportion of the Nanisivik wages earned by Clyde River Inuit were spent directly on purchases of equipment for use in hunting. This is more true of older employees with families. Also finds a benefit for the community at large through sharing of snowmobiles, boats etc. Concludes that one of the results of this employment is to stabilize the subsistence component of the economy. [UBC]
Six studies examine several different megaprojects or different industries.


A synopsis of a three-day program focusing on the psycho-social problems of resource development, research studies and findings on the impacts and preventive planning strategies. Several papers summarized in this document are pertinent. Complete versions of the papers can be obtained from the Mental Health Division of Health and Welfare Canada. The report contains symposium conclusions including a list of common problems, such as dislocations of families and delays in getting standard health care. The review of relevant literature concludes that although there is a considerable body of research, little is accessible as such is in government or industry reports, and is not indexed in scientific literature. Authors include: Berger, Hobart, Gartrell, and Fuchs. The report contains an article on Kemia in Kiritim by Robert Wilson. [UBC]


An independent review of the economic impact of the operation of Ocelot Industries Ltd. chemical grade methanol and anhydrous ammonia plants in Kitimat B.C. The methanol plant was completed in 1982 and the ammonia plant in 1987. Ocelot's 1988 operations are used as a representative year for the impact analysis. Estimates are provided for direct regional income, jobs, and government revenues as well as provincial, national, and international income. Using company accounting records, the report estimates that $7.3 million in direct expenditures were made in the Kitimat area in the 1988 operating year, approximately 6 percent of total direct expenditures. Direct expenditures on wages in the region were approximately $4.5 million or 72 full-time jobs. Property taxes paid by the company accounted for 12 and 7 percent of Kitimat's revenues for District and School purposes respectively. Indirect and induced impacts of the company's operations on the provincial and national economies are also estimated using the Statistics Canada interprovincial Input-Output Model. [UBC]


The author attempts to answer the question: does increased industrial employment jeopardize traditional culture, as evidenced by resource harvesting? He reviews fur harvest and trapping data and compares it with wage income for three communities in the Northwest Territories where a significant number of natives were employed in the oil and gas industry or mining: Coppermine, Arctic Bay and Pond Inlet during the 1970s. Conclusions state that harvests did not decline in any of the three communities as a result of industrial employment, in fact harvests may have increased. In all cases but Arctic Bay, workers were involved in rotation employment, where they return to the home community at the end of a rotation period. [UBC]

Article reviewing the findings of Hobart's and others' work on native employment at several northern sites. Analyzes the consequences of industrial employment of Indian and Inuit during the preceding 20 years. Special emphasis on relocation and commuting employment. Looks at workers' mastery of industrial skills, stressful effects of employment on workers and their families, community impact and effect on traditional harvesting activities. Considers evidence from work experiences at the Nainisivik lead-cine mine, Rankin Inlet nickel mine, and Coppermine, NWT as well as other projects in northern Quebec, Alberta and Saskatchewan. Finds mostly positive effects of relocation or commuting employment. The author closes the discussion by trying to draw parallels with other countries. [JBC]


A literature review and empirical research on the effects of differing work rotation schedules on native workers, their families and their communities in isolated locations in the NWT. The author recommends regulations to safeguard the well-being of workers and families affected by such employment. Detailed case information is provided on the effects of the rotation cycles used at: Rabbit Lake Mine in northern Saskatchewan, Gulf Oil Canada's hydrocarbon exploration in the Mackenzie Delta; Pan Arctic Oil's hydrocarbon exploration in the High Arctic; the GNWT Hire North Project and Strathcona's Mineral Service's construction employment at their mine on northern Baffin Island. A comparison of attitudes and work performance of Coppermine, Mackenzie Delta and white workers to Gulf Oil Canada Mackenzie Delta oil operations is also provided. Attitudinal and work performance data is obtained from previously conducted unpublished studies and data acquired specifically for this study. Provides information on native employment at each site. Hobart finds that for work periods of 3 to 20 days there is no consistent evidence of negative effects on workers. For 30 to 42 days schedules, there is evidence of worker difficulties due to prolonged separation. He also examines impacts on families, children and communities. [National Library of Canada]


This report is an inquiry into the significance and meaning of the fishery to the Indians of the Grassy Narrows and Whitehead reserves. It documents social and economic consequences of the loss of the domestic, commercial and sports fishery due to mercury pollution in the English-Wabigoon River system caused by pulp and paper operations in Dryden. It is based on research conducted in 1977 and 1978. The report was originally commissioned in support of litigation by the Bands. Data sources include: academic and popular literature, archival material including government and band files, official published social and economic data, participant observation, personal interviews, and questionnaires administered to reserve households. Concludes that the loss of the fishery was a most serious event in the history of the two reserves. Current levels (1977-8) of domestic fish production are estimated to be about 10 percent of those prior to the closure. The closure had effects on the entire country food production system, causing a loss of income from guiding, poor nutrition as people continue to eat fish and make poor substitutes, and disruption of the family. [INAC Library Ottawa]
4. Related Studies

Reports not available

Items in this section were not reviewed either because they were unavailable through interlibrary loan or by other means, or time did not permit. Some citations are incomplete.


Boulet, Elisabeth et Jo Ann Gagnon. 1979. *Poste-de-la-Baleine après la Convention de la Baie James et du Nord québécois/Poste-de-la-Baleine after the James Bay and Northern Quebec Agreement*. Quebec: Bureau de la Baie James et du Nord Québecois, Environnement Canada.


Moe, Christine E. 1979. Effects of Offshore Oil and Gas Development on Coastal Communities.


no author. nd. Kugmallit: A Follow-up Assessment of Process. Student publication. Edmonton: University of Alberta, School of Planning and Environmental Design.

no author. nd. Tuktoyaktuk: A Community Study. Student publication. Edmonton: University of Alberta, School of Planning and Environmental Design.


Kingston, Ontario: Queen University, Centre for Resource Studies.


Related Reports

The following items did not meet all the criteria for inclusion in this annotated bibliography. Citations are provided on the basis that they may provide background or contextual information to other researchers. Where available, the location of the item is also provided in brackets.


Follas, Earl K. and Shirley Smith Matheson. 1989. This Was Our Valley. Calgary: Detalig Enterprises Ltd. [UBC]


Appendices
Appendix A

Survey Respondents

This list contains the names of individuals who responded to this project’s request for assistance in identifying relevant studies. Names are listed alphabetically by province.

Barnett, B. E. (Ed.)
Corporate Librarian
Canadian Utilities Ltd. Library
Edmonton, Alberta

Donna M. Gonet
Librarian
Alberta Economic Development and Trade
Edmonton, Alta.

Mr. E. W. MacAulay
Administrative Officer
Canadian Museum Project, Assiniboine
Edmonton, Alta.

David MacKenzie
Econ. Ginger
EOC Resources Ltd.
Drayton Valley, Alta.

Susan Martin
Librarian
Alberta Department of Energy Library
Edmonton, Alta.

G. D. LeBlanc
Librarian
Edmonton Power
Edmonton, Alta.

Ray Ross
Librarian
Gulf Canada Ross-Forestry Ltd.
Edmonton, Alta.

Mary Kay
Corporate Librarian
PetroCanada Petroleum Ltd.
Calgary, Alta.

Shelby Jagg
Supervisor, Information Services
Shell Canada Ltd.
Calgary, Alta.

Peter R. Bone
Information Specialist
Synchronex Canada Ltd.
Edmonton, Alta.

Jean-Louis Liberman
Taxi Oil Opportunities Ltd.
Calgary, Alta.

Michael Robinson, Director
Arctic Institute of North America
University of Calgary
Calgary, Alta.

Don Davison
Associate VP Planning
University of Calgary
Calgary, Alta.

J. G. Curwick
Sociology Department
University of Alberta
Edmonton, Alta.

Eric Tall
Northern Studies Library
University of Calgary Library
Calgary, Alta.

Ms. Della Jackson
4946 Faye Maxwell
Humanities and Social Sciences Library
University of Alberta
Edmonton, Alta.

Estelle O'Brien
Librarian
Interprovincial Pipeline Co.
Edmonton, Alta.

Evelyn Ross
Librarian
Aero International Ltd.
Calgary, Alta.

Brian Free
Environment Council of Alberta
Edmonton, Alta.

Ms. Robin Lidstone
Librarian
Canadanian Museumpary Library
University of Alberta
Edmonton, Alta.

Cathy James
Environmental Resources
B.C. Hydro
R. E. Smith

Mary Anne Prosperity
Tecora Corporation Library
Vancouver, B.C.

S. M. F. Smith
Liberarian
Ministry of Energy, Mines and Petroleum Resources
Victoria, B.C.

Susan Eakler, Librarian
Ministry of Forests
Victoria, B.C.

Maggie Moline
Ministry of Regional and Economic Development
Victoria, B.C.

David Hall
Economic Planning Group
Victoria, B.C.

Mike Yance
Director of Planning
Whistler Landscaping
Whistler, B.C.

John O'Sullivan
Manager, Tourism Development
Innovation, Science and Technology Canada
Vancouver, B.C.

Anne-Marie
Librarian
Ministry of Municipal Affairs, Recreation and Culture
Victoria, B.C.

Rice, J. O.
Ph.D. Chemistry
Vancouver, B.C.

Guy Robertson
Librarian
Therese Constable
Vancouver, B.C.

Concours Ltd.
Corporate Library
Vancouver, B.C.

H. A. Shimo Library
Vancouver, B.C.

David Witte
Vancouver, B.C.

Mary Scott Consultant
Vancouver, B.C.

Larry Wolfe
QuantiFina Consulting Ltd.
West Vancouver, B.C.

Margaret Davison
Environmental Resources
B.C. Hydro
Vancouver, B.C.
Lévy-Leduc, Professeur
Département d’Économie
Université Laval
Québec, Québec

Centre de documentation
Environnement Canada
Montréal, Québec

Misc.:

M. Stuart Amory-Steele
GRADECHEEQAM
Institut des sciences de l’environnement
Université de Montréal
Montréal, Québec

GeIDEQ
Université de Montréal à Rimouski
M. Jean-Lucide
Rimouski, Québec

Centre de documentation
Ministère de l’Environnement
Sté-Foy, Québec

M. J.J. Samuel
GETIC
Université Laval
Sté-Foy, Québec

M. Jean-Dubois
GGETIC
Université Laval
Sté-Foy, Québec

Boutilier, associé, Groupe-consultants
Environnement
Sté-Foy, Québec

Secrétariat aux affaires scientifiques
Centre de documentation
Québec, Québec

Monierq Gilles Bouchard-Waynq
Consort, Environnement H.J. inc
Montréal, Québec

Monierq André Beaudoin
Président Directeur, Environnement inc
Montréal, Québec

Monierq Paul Charon
Département d’anthropologie, Université Laval
Clair environnement
Sainte-Foy, Québec

Monierq Jean-Yves Gauthier
Environnement Canada
Sainte-Anne, Québec

Monierq Martin Gramont
Vice-Président Opérations, SOTFATTQ
Montréal, Québec

Monierq David Côté
Département d’environnement et affaires mariniques
Montréal, Québec

Monierq Michel Daviau
Président de BIFREE
Hull, Québec

Monierq Jacques Dupl
SOTFATTQ
Québec, Québec

Monierq Michel Lemoyne
Directeur général adjoint
Environnement Canada
Sainte-Foy, Québec

Monierq Jean-Pierre Lemieux
Division Environnement
Gilles Lattin Bell, Québec

Monierq Robert Lasare
Coordonnateur, Société Malouin
Lachine, Québec

Monierq Pierre Landry
Vice-président Environnement, H.J.Q., 5e étage
Montréal, Québec

Monierq Daniel Vaize
BAPF
Québec, Québec

Monierq Claude Veinot
Biotologie, reclame int. Groupe-E-consult
Sainte-Foy, Québec

Monierq Gordon Wath
Gestion et Techniques Canada
Mont-Joli, Québec

Monierq Paul F. Wilkinson
Paul F. Wilkinson et Associés inc
Montréal, Québec

Cyberbase
Shibunkai
Green White Public Review Support Office
Montréal, Québec

Jean-Émile Bouchard
BSDCC
Montréal, Québec

Marie Lavoie
Visiteurs au stade de nature
Université de Montréal
Forêt de l’environnement
Montréal, Québec

Jean-Nol Vigneault
Chef du Bureau de l’analyse environnementale
Bureau des Affaires publiques et de l’environnement
Québec, Québec

Appendix B

Study Approach: A Detailed Description

For the purposes of this study, public domain literature was defined as those reports that would be identified through a search of:
- the National Library of Canada and the Bibliothèque Nationale.
- university library catalogues available through the Internet on-line system.
- theses indexed in Dissertation Abstracts.
- journals indexed in Econlit, Socialfile, Gensabstracts and Baiduq.
- articles indexed in the Canadian Periodical Index, and
- government reports indexed in Microlog.

A review of these sources represents a reasonable and thorough search process for the subject matter of this research project. Efforts beyond this would not typically be undertaken.

Reports identified from sources other than those listed above were classified as unpublished or non-public domain. It was believed that these reports would be found primarily in libraries of government departments, megaproject proponents or private consultants.

Several challenges appeared in designing the study approach. First, “megaproject” is not a commonly used term in library science. Stemming from this, literature searches tended to produce inclusive, and large, lists of studies. Second, cataloguing or indexing terms varies among the catalogue systems and journal abstracts or indexes. The general search terms had to be customized for each new database. Finally, separate strategies were required to identify relevant reports in the public domain and the non-public domain literature. A pilot study was conducted to address these issues.

The Pilot Search

Search terms are difficult to define for this study because it is interdisciplinary. Consequently, the first task was to define a set of search terms that could reasonably be expected to identify appropriate studies.

A preliminary list of search terms based on Library of Congress subject headings was established and tested in searches of:

1) University of British Columbia library collections including Microlog, and
2) selected national databases, including the National Library of Canada, ELIAS (Environment Libraries Integrates Automated System), and CISTI (Canada Institute for Scientific and Technical Information).

The preliminary search terms were deliberately inclusive to ensure a reasonable assessment of their relative and overall effectiveness. The pilot study search terms are listed below:

a) The subject headings of:

- community life
- environmental impact analysis
- environmental monitoring - Canada
- environmental auditing - Canada
- socio-economic impact analysis - Canada
- economic development - social aspects
- economic development - economic aspects
economic development projects - social aspects
economic development projects - economic aspects
economic development projects - evaluation
northern development
regional economics
regional planning - (geographic place)
inlands (or) inlands of north america - economic conditions
inlands (or) inlands of north america - social conditions

b) names of specific projects, natural resource industries or geographic locations with the subdivisions:

- economic aspects
- social aspects
- environmental aspects
- economic conditions
- evaluation
- case studies.

Examples of specific projects, natural resource industries or geographic locations are:

- Atlanco Energy Ltd.
- Canada - northern
- Coal mines and mining
- Dams
- Energy industries
- Gas industry
- Gas, natural - Canada - Pipelines
- Hydroelectric power plants
- Offshore oil industry
- Oil fields
- Oil sands
- Peace River region (BC and Alta.)
- Petroleum industry and trade
- Water resources development

- impact
- assessment
- social
- economic
- socio
- megaproject, and
- case study.

Reports identified in this search were obtained and reviewed. The results suggested that the most successful search strategy included the following terms:

1) Geographic place - economic or social conditions
   For example: Canada, northern
   Beaufort Sea region
2) Project name - economic or social aspects
   For example: James Bay Hydroelectric project -
               Norman Wells project -

3) Industry type - economic or social aspects
   For example: Hydroelectric power plants -
               Coal mines and mining -
               Oil sands industry -
               Petroleum industry and trade -

4) Economic development projects - economic or social aspects
   combined with a title keyword search
   For example: TW3-impact (truncated)

5) Environmental auditing -
   Environmental monitoring -
   Environmental impact analysis

The results also suggested that, because of the inability to precisely target and identify post-project studies, a full library search for potentially relevant reports would be required to complete a preliminary selection.

The pilot study also assessed several approaches to searching unpublished and non-public domain literature sources. In the pilot, personal contacts were made with librarians in various provincial government departments and in companies involved in natural resource development. Search terms and strategies were developed in consultation with the individual librarians depending on their particular cataloguing methods. The agencies and organizations contacted in the pilot were:

1) several departmental libraries in the BC provincial government including the Ministry of Regional and Economic Development, the Ministry of Environment, the Ministry of Forests, the Ministry of Energy, Mines and Resources and the Ministry of Municipal Affairs, and

2) several in-house libraries of companies involved in natural resource development, including BC Hydro and Power Corporation, Placer Dome Inc., Tekk Corporation, H.A. Simons and Cominco Ltd.

Based on the results of the pilot search, the final search strategy was developed. It is presented below.

The Public Domain Literature Search

The search for public domain French-language reports was conducted by Dr. Christiane Gagnon of the Universite du Quebec a Chicoutimi. The search method, summarized in Appendix C, included on-line searches of the Bibliotheque Nationale and journals covered by Biodiaq.

Generally, the search terms used to identify English-language books and reports in the public domain were:

A) Library of Congress Subject Headings
   1) Name of specific geographic region - economic conditions
   2) Economic development projects - Province name - social or economic aspects
   3) Environmental auditing
   4) Environmental monitoring
   5) Environmental impact analysis - case studies
   6) Specific project name - social or economic aspects
   7) Specific industry - social or economic aspects
B) Title word - Impact (truncated) combined with:

- socio (truncated to include socio, social, socioeconomic etc.)
- economic
- project(s)
- region(s) or community(ies)
- assessment
- etc.

Specific search terms used for selected university libraries are provided below as examples of how this general approach was applied.

University of Calgary and associated collection at the Arctic Institute
Specific search terms included:

- Nainivik mine
- Inuit
- Pine Point
- Vay River
- Polaria Mine
- Coppermine Rivers
- Oil well drilling
- Offshore oil industry
- Mackenzie Valley Gas Pipeline
- Oil sands
- Cold Lake
- Indians
- Offshore oil industry

University of Manitoba (Telnet to library Brandonu.ca)
Online access to the catalogues of the University of Manitoba, the University of Brandon and the University of Saskatchewan was available. Specific terms included:

- Limestone Generating Station
- Churchill River
- Nelson River
- Long Spruce
- Manitoba Hydro
- Lafl Rapids
- Hudson Bay Mining and Smelting Co.
- Nuclear energy-Manitoba
- Electric power plants
- Hydro electric power plants

University of Western Ontario (Telnet to :gened.lib.uwo.ca)
University of Waterloo (Telnet to: wucau.uwaterloo.ca)
The online search of the catalogues of the above universities includes the following terms:

- Economic development projects-Canada
- Economic development-Social aspects
- Energy development
- Elliot Lake
- Uranium mines and mining
- Ontario Hydro
- Hydroelectric power plants
Universities of the Atlantic provinces (Telnet to: novanet.nms.nsc.ca)

NOVANET, the online public access catalogue includes seven universities. Specific subject terms included:
- Point Lepreau
- Newfoundland and Labrador Power Corporation
- Regional Economics
- Hydroelectric power dams
- James Bay
- Economic development projects
- Tidal power

Catalogues of major Canadian universities were searched either by a University librarian or by remote access via Internet of the University's online catalogue.

For those libraries not available through Internet, the librarian was contacted by letter and a set of search terms was suggested that included the most effective Library of Congress terms plus the names of relevant megaprojects and regions in their province. Because the search terms were broad, the librarians were asked to include the full listing for any publications identified in the documentation sent to the study team. These listing facilitated the screening of the hundreds of reports that were identified as potentially relevant.

The university libraries searched were:
- University of British Columbia
- University of Alberta, including Canadian Circumpolar Library
- University of Calgary, including Arctic Institute collection
- University of Saskatchewan
- University of Brandon
- University of Manitoba
- Lethbridge University
- Laurentian University
- University of Western Ontario
- University of Waterloo
- University of Toronto
- Université du Québec
- Universities of the Atlantic provinces, including Centre for Newfoundland Studies

To identify relevant journal articles, both computer-based and printed indexes and abstracts were searched. The search strategy relied on the use of keywords in both the title and subject (descriptor) fields. Considerable adaptation of search terms was required due to the variation in categorization employed in various abstracting and indexing services.

Two computer-based indexes (Econlit and Sociofile), and two printed indexes were searched. The printed indexes were:
- Geoabstracts (C - Economic Geography, D - Social and Historical Geography, F - Regional and Community Planning) from 1972 to present, and
- Canadian Periodical Index (1970 to present).

The following search terms were used to identify potentially relevant journal articles in the Econlit computer-based index:
- economic development project - social aspects,
- environmental monitoring,
- environmental impact analysis,
- economic impact,
- Industry studies - extractive industries; electrical energy; oil and gas.
- Natural resources - regional economic studies; economic development, and
- Regional economic studies.

Similar terms were used to search the Sociofile computer-based journal index.

Subject terms used to search the Cenabstracts index included: economic assessment, impact assessment, large scale project, socioeconomic impact, social impact resources development, resources exploitation, regional impact, regional development.

For the Canadian Periodical Index, the following search terms were used: coal, community development, dams, economic development, gas industry, hydroelectric power, Indians of North America, industry and the environment, mines and mineral resources, natural resources, petroleum industry, resource development, regional development, social conditions.

Finally, Dissertation Abstracts and Microlog were searched to identify relevant theses and government reports, respectively.

Search terms used to identify potentially relevant theses referenced in Dissertation Abstracts were:
- Environmental monitoring.
- Economic development - social aspects.
- Economic development project - social aspects.
- Environmental impact analysis.  
- Revelstoke Canyon Dam.
- Norman Wells Project.
- James Bay Hydroelectric Project.
- Socio-economic impact.
- Impact assessment.
- Natural resources - project, and
- Regional economic development.

Search terms for Microlog included:
- Inuit - employment.
- Native peoples - employment.
- Northwest Territories - economic conditions and social conditions.
- MacNutt Valley Pipeline.
- Northern development.
- Norman Wells (N.W.T.) - economic conditions.
- Norman Wells project.
- Labour supply and demand - Northwest Territories.
- Pipelines.
- Petroleum industry and trade.
- Regional development, and
- Community development.

The Non-Public Domain and Unpublished Literature Search

The original study approach proposed that specialized consultants in every major centre of the country would be hired to identify and collect relevant unpublished and non-public domain reports. This was based on the reasoning that consultants involved in the practice of socio-economic impact assessment would be most familiar with studies that had been done and where to get them. However, the study's eventual budget did not allow this approach.
Appendix C

Method Used to Identify French Language Reports

Bases de Données

1) Badadouq
Le système badadouq est le support du catalogue des ressources documentaires de réseau de
télédocumentation de l'Université du Québec. La banque de données contient la description
bibliographique des documents (livres, périodiques, documents audio-vidéos, etc.) acquis par les
bibliothèques et les centres de documentation de l'UQ.

Je me suis servi de cette base de données pour tester les sujets ou vedettes-matières et faire la proposition
qui était jointe à la lettre (voir description du projet)

2) Bibliothèque Environnement Canada—Centre de Documentation Saint-Laurent
Production d'une bibliographie analytique à partir du thème: interventions socio-économiques des
interventions environnementales.

3) Ministère de L'environnement du Québec: Enviroduq

4) Banque de Données d'Hydro-Québec
Interrogations:
- Aluminium impét
- Mine impét
- Industrie impét
- Centrale électrique impact

5) Bibliothèque Nationale
Interrogations:
- Aluminiumerie
- Aluminium + Québec
- Environnement + étude d'impact
- Aluminium + Québec + Environnement
- McGill Subterrán Research Region
- Gagnonville
- Shefferville
- Béarnais = Bétôonites
- Abitibi + conditions économiques
- Abitibi + conditions + sociales
- Gaspésie + conditions + sociales
- Gaspésie + conditions + économiques
- Manicouagan + conditions + économiques
- Manicouagan + conditions + sociales
- Saguenay + conditions + économiques
- Saguenay + conditions + sociales
- Baie + Jarry + conditions
- Conseil de la planification et du développement du Québec
- Iron ore
- Mines + Noranda
- Asbestos
- Complexe La Grande
- La Baie
- Atuan
- Beaucourt

6) Collection Catalogue sur le mogen Nord-Colloque Université du Québec 3 Chicoutimi-1974

Revue Consultées

1) Cahiers de géographie du Québec 1971
2) Revue canadienne des sciences régionales 1988
3) Interventions économiques pour une alternative sociale 1982
Instead, relevant government agencies, companies, consultants, academics, and community groups were contacted by mail, explaining the research project and requesting their assistance. The mail request was followed up with a personal telephone call.

The search for English-language reports generally included government departments of energy, mining, environment and native affairs in every province and territory, along with the federal government. A list of private natural resource companies, large consulting firms, industry associations, crown corporations and academics was also prepared based on the megaproject database and personal knowledge.

Where possible the principal contact for this part of the study was the in-house librarian. Otherwise, contact was made with departmental directors in charge of project assessments or company presidents. The list was supplemented with individuals known to the project team. Based on the initial mail-out and some follow-up calls, another small mailing to several additional contacts was undertaken.

The search for French-language non-public domain reports was conducted by Dr. Christiane Gagnon. The survey of government departments, academics, companies, consultants, and community groups incorporated a broader coverage of potential sources than the English-language search; about 150 potential sources were contacted in Quebec compared to about 130 in the rest of Canada.

In total, 278 requests for assistance in identifying relevant reports were made; 147 in Quebec and 131 in the rest of Canada. Of the total 278 requests, 152 (55%) were directed to government departments, megaproject developers and consultants, 109 (39%) to academics, and 17 (6%) to university libraries.

The response rate to our request was gratifying and attests to the cooperative spirit of Canada's many librarians, policy-makers, project proponents, planners, analysts, consultants, academics, and community groups. A total of 111 responses were received (40% response rate); 25 (17%) from Quebec, and 86 (66%) from the rest of Canada. The Quebec rate is lower due to the broader search process employed. In Quebec, the response rate was best (27%) for the government/proponent/consultant set of contacts. In the rest of Canada, all but one university librarian responded, nearly half the academics and more than two-thirds of the government/proponent/consultant set of contacts.

### TABLE B1: NUMBER OF INFORMATION REQUESTS MADE AND RESPONSES RECEIVED IN SEARCH FOR NON-PUBLIC DOMAIN AND UNPUBLISHED LITERATURE

<table>
<thead>
<tr>
<th>REST OF CANADA</th>
<th>TYPE</th>
<th>SENT</th>
<th>RECEIVED</th>
<th>% RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Agencies, Proponents and Consultants</td>
<td>81</td>
<td>55</td>
<td>68</td>
<td></td>
</tr>
<tr>
<td>Academics</td>
<td>33</td>
<td>15</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>University Libraries</td>
<td>17</td>
<td>16</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>131</td>
<td>86</td>
<td>68</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>QUEBEC</th>
<th>TYPE</th>
<th>SENT</th>
<th>RECEIVED</th>
<th>% RESPONSE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Agencies, Proponents and Consultants</td>
<td>71</td>
<td>17</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Academics</td>
<td>76</td>
<td>6</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>147</td>
<td>23</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>
Screening the Study Lists for Relevant Reports

The results of this nation-wide search were many pages of library printouts listing hundreds of potentially relevant reports. These printouts were reviewed to identify those studies that appeared to fit our study focus. Criteria employed during this screening process consisted of:

a) was the report a post-project study of socio-economic impacts,
b) did the report focus on local or regional communities and impacts on existing residents,
c) was the report scholarly or technical in nature, and
d) did the report present primary data.

The first two were the primary screening criteria at this stage. Basic information regarding 190 potentially relevant reports was entered into a database which tracked the status of the report in the review process and recorded decisions made regarding relevance. In some cases, additional information was required to ascertain whether particular studies were relevant. The selected reports were obtained through the University of British Columbia library system, through interlibrary loans, or through the generosity of unpublished or non-public domain literature sources.

Twenty-four of the 190 reports were pre-project rather than post-project studies and consequently were rejected. A number of the remaining 165 reports did not meet all the criteria for this research, but have been included as 'related report' in Section 4. These studies may be useful to someone wishing to gain a range of perspectives on the impacts of mega-project or methods of socio-economic impact assessments. Section 4 also includes reference to 25 reports that could not be located. The relevance of these reports to the focus of the bibliography is unknown.

Eventually, 75 reports were selected for annotation. Annotations were prepared to include information, where possible, on:
- the project name,
- the type of impacts covered by the study,
- the general findings of the study,
- the methods employed,
- what phase of the mega-project was studied and
- the library location of the study.

Copies of relevant unpublished studies were made. First-level cataloging was completed for these reports. They are housed in the University of British Columbia's library system, where they are available on interlibrary loan.