Land Competition Issues Affecting Agriculture In Newfoundland and Labrador

By

© R. Douglas Ramsey

A thesis submitted to the School of Graduate Studies in partial fulfilment of the requirements for the degree of Master of Arts

Department of Geography
Memorial University of Newfoundland

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ABSTRACT

This thesis examines one particular constraint faced by agriculture: the implications of land competition and the resulting land use conflicts. This is done by identifying and describing land competition issues at two scales: a provincial overview and a detailed case study of one agricultural region in the Province, the Lethbridge-Musgravetown Agricultural Development Area (LMADA). The issues were identified through questionnaires completed by professionals in the Agriculture Branch of the Department of Forestry and Agriculture (provincial overview) and to the farmers in the LMADA (case study). These issues were then clarified and reinforced with key informant interviews with resource users and agencies identified as competing for land with agriculture.

Following this examination, two main policy options are described. These options are drawn from the existing literature, including experiences in Newfoundland and Labrador. The first option is for the implementation of farmland preservation policies, including restrictive zoning, differential taxation, Purchase of Development Rights (PDRs), and "Right-to-Farm" Legislation. The second option is for a policy of Integrated Resource Planning (IRP), also known as Integrated Resource Management (IRM). These options are presented with reference to both the existing literature,

examples of such policies in other jurisdictions throughout North America, and information obtained in the questionnaires and key informant interviews.

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DEDICATION

To my grandparents

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INTRODUCTION

"What is stopping the development of agriculture?"

Leith Lake, Farmer,
Bloomfield, NF.

1.1 Research Problem

Agriculture is a resource-based activity which is dependent on such conditions as an amenable climate, a relatively flat terrain and proximity to markets and transportation networks. However, these conditions are also favourable for other social and economic activities, such as recreation and urban development. In addition, these activities ultimately lead to other land use requirements such as waste disposal sites, water supply areas, and transportation corridors. Therefore, it is common to have many competing demands for lands with agricultural potential and, in this regard, the Province of Newfoundland and Labrador is not different from other regions of Canada.

This thesis examines the competition for agricultural land in Newfoundland and Labrador. While in some ways this competition is similar to the rest of Canada, in other ways it is very different. The Province was settled for the fishery, not agriculture. As a result, traditionally, agriculture was important only as home "gardens" which supplemented the fishery. Commercial agriculture was slow to develop beyond local markets as, even historically, food products could be

more easily imported.

Occasionally in the past, interest has been shown in developing commercial agriculture in Newfoundland and Labrador (Shaw, 1955; E.C.C., 1980; and House, 1986). The most recent example is the Report of the Task Force on Agrifoods released in 1991 (Hulan, 1991). This task force made substantial recommendations supporting the development of agriculture in the Province, including the development of secondary processing of agricultural products (Hulan, 1991). However, even with this type of support, basic physical constraints such as cool climate, rough terrain and poor soil quality will always persist, constraining any enthusiasm for the development of agriculture.

Also problematic for the development of agriculture in the Province are socio-economic factors such as the dominance of the fishery (although this is clearly changing), the increasing importance of forestry and mining to the provincial economy, the lack of agricultural tradition, and the fact that agriculture accounts for less than one percent of the provincial Gross Domestic Product (GDP) (Government of Newfoundland and Labrador, 1992). As a result, commercial agriculture has not been given high priority, has rarely been recognized through the establishment of its own government department, and has never been a major focus of provincial development strategies (Hulan, 1991).

All of these factors must be recognized when examining the competition for land in agricultural areas. This competition is of two general types. First, conflicts arise between agriculture and other resource uses such as wildlife, sawmilling, domestic wood-cutting, urban expansion and cottage development. Second, conflicts result from existing legislation which regulates land use such as urban development, water supply areas and forestry reserves. Regulatory legislation protecting lands only exists in two agricultural areas, the St. John's and Wooddale Agricultural Development Areas (ADAs) (Runka, 1981 and Hulan, 1991). Legislation for the remaining agricultural areas in the Province only designates land with the potential for agriculture as such, but does not actually offer protection for it.

The issue of land use competition gives rise to a number of questions: what are the particular problems of competition facing farmers in Newfoundland and Labrador?; how are these problems currently being addressed?; and how could these problems be otherwise addressed?

1.2 Purpose and Objectives

The broad purpose of this thesis is to examine the question of competition for land in Newfoundland and Labrador as it affects current and potential agricultural operations. If competition exists, the extent and various components of it

will be defined and identified.

In the 1970s, twenty Agricultural Development Areas (ADAs) were identified by the Government of Newfoundland and Labrador as areas with the potential for the development of agriculture. Of these, seventeen are currently recognized as having development potential. In this thesis, all seventeen have been reviewed in order to identify land use competition issues, and one which is considered representative of the issues facing farmers in the Province was selected for more detailed analysis. This area is the Lethbridge-Musgravetown Agricultural Development Area (LMADA), located at the base of the Bonavista Peninsula.

More precisely, the objectives of this study are:

1. to provide an overview of the competition for land that affects agricultural development across the Province.

2. to identify and illustrate how the competition for land affects the development of agriculture in the case study area, the LMADA.

3. to identify policy options that could be considered by the Province to resolve conflicts arising from competition for land, while ensuring an adequate land base is maintained for agriculture.

With these objectives addressed, this study provided an understanding of the role competition for land plays in the development of the agricultural sector in Newfoundland and Labrador and specifically in the case study area, the

Lethbridge-Musgravetown Agricultural Development Area.

1.3 Scholarly Context and Research Approach

1.3.1 Scholarly Context

Apart from agricultural activities near St. John's, Newfoundland, this thesis looks primarily at land competition issues affecting agriculture beyond the urban fringe. This places the thesis research essentially within two sub-fields of geography: Agricultural and Rural. Agricultural geography has traditionally described and explained the spatial variation between agricultural regions throughout the world (Grigg, 1984, 13). More recently, agricultural geographers have focused on the decision-making of farmers, incorporating the behaviourial approach within agricultural geography (Ilbery, 1985). More specific to the research problem is one of the focuses within rural geography: the examination of the allocation of resources in the rural environment (Bryant 1989 and 1991; Cloke and Park, 1985; Cocklin, Smit and Johnston, 1987a and 1987b). Studies in the field of rural geography have also specifically examined land use competition (Butler, 1984; Clout, 1972; Gilg, 1985; and Pacione, 1983).

Two elements which involve the agricultural and rural perspectives within the field of geography and are relevant to the thesis research can be identified. First, the emphasis on allocation of rural resources and the competition that subsequently arises among resource users is a research theme

within rural geography. The second element refers to attitudes and perceptions of resource users (Saarinen, 1971 and 1976; and Bath, 1989). Both relate to the role of geographers in resource management and analysis (Krueger and Mitchell, 1977; and Mitchell, 1989). Mitchell (1989) stated that, as a resource analyst:

> the geographer seeks to understand the fundamental characteristics of natural resources and the processes through which they are, could be, and should be allocated and utilized (p.3)

Two ideas presented in Mitchell's conceptualization of resource allocation are relevant to this study. First, this thesis identified and described the location of agricultural activities relative to competing resource uses. This refers to Mitchell's concept of the "spatial organization" of resources. Second, the concept of "regional development and planning", as described by Mitchell, included the issue of "conflicting uses relative to different activities in a specified regional environment" (p.70). This represents the core of this thesis: land use competition and ways to resolve conflicts while at the same time managing the limited resource base for agriculture. This explanation helps to place this thesis within the field of resource management and analysis as it recognizes the need to provide an understanding of both land competition and the process which allocates resources, which are two broad objectives of this thesis research.

In placing this study within the broad scholarly context, it is also useful to look at Mitchell's categorization of research by what he calls the "description-prescription hierarchy". This hierarchy includes four levels: description (what, when, where), explanation (why and how), prediction (into the future) and prescription (what ought to be). Following Mitchell's categorization, this thesis is primarily descriptive in nature. It describes "what" the different types of land competition are and "where" they are most prevalent. The temporal ("when") dimension of describing land competition is introduced by reviewing the existing literature and describing the historical development of agriculture in the Province. In analyzing the competition being described, this thesis goes beyond the descriptive level into the explanatory by attempting to answer the questions of "why" land competition occurs in a particular instance and "how" these conflicts can be resolved.

There is a significant body of literature which has described and explained the existence of land use conflicts (Boschken, 1982; Lisansky, 1986; Lockertz, 1987; and Manning, 1986). However, research looking specifically at conflict resolution is not as prevalent. One notable exception is Corbett (1990), which includes papers focusing on farmland preservation (Mooney, 1990 and Nelson, 1990) and conflict resolution (Aaron Brooks, 1990; Conaway, 1990; and Penfold,

1990).

To summarize the scholarly context of this thesis, reference must be made to research, albeit limited, regarding agricultural resource issues in Newfoundland and Labrador. Because of the focus on the competition for a limited resource base, the study is an extension of Shaw (1955) and Crabb (1975), who examined the constraints on the development of agriculture in the Province. The thesis is also an extension of work which has recommended the need to both preserve the limited land base for agriculture (Runka, 1981 and Squires, 1989) and improve the resource management process (Draper, 1984 and Environment and Lands, 1989).

More specifically, this study is based on recommendations made by the Task Force on Agrifoods in 1991, and in particular Chapter 7, "Sustainable Agriculture and Resources" (Hulan, 1991). The two main recommendations of this chapter which are relevant to this study relate to policies which protect farmland and address land use conflicts.

1.3.2. Research Approach

The primary approach for identifying land use competition in Newfoundland and Labrador, for both the provincial overview and the case study, was questionnaires. For the provincial overview, a questionnaire was distributed to all soil and land management professionals in the Agriculture Branch, Department of Forestry and Agriculture, Government of Newfoundland and

Labrador (Chapter 5). For the case study, a questionnaire was distributed to all farmers within the boundaries of the case study area (Chapter 6). The issues identified in these questionnaires were then further investigated by conducting personal and telephone interviews with professionals in other resource agencies, as well as by reviewing past institutional documents.

Following this stage of the research, policy options were developed for the Province to address conflicts while at the same time maintaining an adequate land base for agriculture (Chapter 7). This was done using the existing literature, both scholarly and institutional (Chapters 2 and 4), and suggestions from the questionnaire distributed to the professionals in the Agriculture Branch. Examples of policy options regarding farmland preservation and resource management were drawn from throughout North America. In presenting these policy options, reference was made to the land competition issues that were identified in the research (Chapters 5 and 6). Reference is also made to the limited land base that exists for agriculture in Newfoundland and Labrador (Chapters 3, 4 and 6).

1.4 Limitations of the Survey Research

Three limitations of the research must be acknowledged. First, although a response rate of 100 percent was achieved, there are only twenty professionals in the Agriculture Branch

directly involved, at the planning level, in the soil and land management process. Similarly, in the LMADA there were only sixteen commercial farmers operating at the time of the survey. Although a response rate of 75 percent was achieved, statistical analysis was not possible with such small numbers. Having said this, the surveys did accomplish their purpose, which was to identify land competition issues affecting agriculture. The issues identified in the surveys were then clarified in more detail through key informant interviews with people involved in the sectors that respondents to both questionnaires believed were competing for land with agriculture.

The second limitation of the research is related to the wording of closed-ended statements. Certain statements could mean different things to different people. While every attempt was made to reduce this possibility it is still a caution in survey research. Where a possible discrepancy in interpretation occurs in the analysis of the surveys, this issue is discussed.

The third limitation of the research relates to the issue of confidentiality. This was less of an issue with the questionnaire to the professionals in the Agriculture Branch because the analysis was based on regions, which allowed for aggregation of the results. However, in the case study, while responses to the closed-ended statements were aggregated for

the population, expanding on these issues was more difficult.

1.5 Thesis Outline

A review of the existing literature relating to the research problem is presented in Chapter 2. This review focuses on how agricultural resource issues and land competition, and the conflicts that arise from this competition, are located within the broader framework of environmental resource and land use issues. A background description of agriculture in the Province is provided in Chapter 3. This includes a physical description of the Province and an overview of the structure of agriculture. In doing so, trends from 1951 to 1991 are examined. In Chapter 4, the existing policy framework for Land Use Planning in Newfoundland and Labrador is presented. This includes a review of the legislative framework for land use planning in the Province and a description of key aspects of the land use planning process in the Province. In addition the concept of the Agricultural Development Areas (ADAs) is defined and described.

Chapter 5 provides a description of the land competition issues facing agriculture in Newfoundland and Labrador as a whole. First, the agricultural background reports conducted for the ADAs are reviewed. Second, an overview of the methods used in identifying the issues affecting agriculture is provided. Third, the results of the questionnaire distributed

to the twenty professionals in the Agriculture Branch are analyzed.

Chapter 6 provides a description and analysis of the land competition issues specific to the case study area, the Lethbridge-Musgravetown Agricultural Development Area (LMADA). First, background information on the study area is provided. This includes a physical description of the LMADA and a brief description of the present structure of agriculture in the LMADA. This is followed by an analysis of a questionnaire on land competition issues which was distributed to all sixteen commercial farmers operating in the LMADA as of May 1992.

Chapter 7 provides policy options which could be explored by the Government of Newfoundland and Labrador. First, responses from the Agriculture Branch regarding resource planning are analyzed. This is followed by suggested policy options, particularly resource management and farmland preservation policies. These are not recommendations for the Province, but rather examples of approaches taken by other jurisdictions in an attempt to reduce land use conflicts and preserve farmland. These could be explored by the Province.

Chapter 8 provides a summary of the thesis, highlighting key ideas.

CHAPTER 2

REVIEW OF THE RELEVANT LITERATURE

2.1 Introduction

Different disciplines, including Geography, have addressed agricultural resource and resource management issues. Where agricultural activities are concerned, the research emphasis has been concentrated on regions with so-called "prime" agricultural lands near urban centres such as the Niagara Fruit Belt in southern Ontario (Krueger, 1977). Little research has been done on agricultural resource issues in marginal agricultural regions. However, as is argued in Newfoundland and Labrador, numerous conflicts can arise as agriculture attempts to expand into traditionally non-agricultural lands.

The purpose of this literature review is to identify and describe the research relating to land use conflicts which arise from the competition for land. The review places these works in the context of the research problem: land competition in agricultural areas in the Province of Newfoundland and Labrador.

2.2 Agricultural Resource Issues

The rural landscape of Canada is composed of a diversity of land uses and environmental resources. Agriculture represents only one of the rural resources requiring management and conservation. Attempts to develop agriculture

and preserve lands for agriculture has resulted in conflicts and competition between agriculture and other resource-uses. As described in the following, different approaches have been taken in identifying and describing these issues.

Hilts and FitzGibbon (1989) reviewed six rural environment resource issues they believed required addressing: land allocation and development, land and farm ecosystem degradation, water resources, waste management, forest resources, and wildlife habitat and natural heritage (which refers to maintaining and enhancing the natural landscape through private land stewardship). Whereas the first two issues are directly related to agricultural lands, the remaining four issues affect agriculture through competition for land. This study is important for investigating land use conflicts in Newfoundland and Labrador as Hilts and Fitzgibbon (1989) recognized the need to preserve land with the potential for agriculture and the existence of competing resource uses.

In a similar fashion, Manning (1987) identified and described ten land use issues prevalent in Canada. These were: ecosystem maintenance, loss and degradation of prime agricultural lands, forest land maintenance, loss of wildlife habitat, access to energy and mineral resources, coastal zone issues, northern development and conservation, issues of ownership and control of resources, anticipating future land requirements, and influencing the decision-making process. In

addition, Manning (1987) recognized the need to include the issue of decision-making processes into the broader framework of land-use issues and their possible resolution. As is argued in the case of Newfoundland and Labrador, although the existence of land competition and processes to minimize land-use conflicts have been identified, to date very little has been implemented. This lack of policy development and implementation is indicative of the importance placed on agriculture in the Province.

More specific to agriculture, several studies and reports have illustrated the ecological issues facing agriculture in Canada (Dyer, 1982; Sparrow, 1984; and Manning, 1986). For example, Dyer (1982) reviewed seven examples of "current unsustainable practices" occurring in Canadian agriculture. These were soil erosion, soil salinization, monoculture farming, grazing and pasture practices, soil compaction, the use of heavy equipment, and loss of prime land. It is the last of these issues that Dyer (1982) stated could be "the most important consideration in maintaining a sustainable food production system" (p.25). While Newfoundland and Labrador has negligible amounts of "prime" agricultural lands, Dyer's viewpoint is useful in that he illustrates the need not only to manage agricultural land, but to preserve land necessary for agriculture. This need has been recognized more recently at the policy level in several jurisdictions throughout North

America, such as in the State of Hawaii (Ferguson, et.al., 1991) and the provinces of Ontario (O,M.A.F., 1992) and Newfoundland and Labrador (Hulan, 1991 and Government of Newfoundland and Labrador, 1992).

In examining agricultural resource issues, one of the more recent approaches has been the evaluation of the "sustainability" of Canadian agriculture generally, and sustainable land use in particular. Reinforcing the need to preserve prime agricultural lands by undertaking an ecosystems approach to land use planning and management in Canada, the Federal-Provincial Agriculture Committee on Environmental Sustainability proposed four elements to attaining this goal:

> 1. reform assessment, property taxation and land use zoning policies
> 2. increase multi-purpose land use planning by all levels of government
> 3. enforce existing legislation and review where appropriate
> 4. eliminate conflicts between agriculture and wildlife uses;
>
> (LeBlond, 1990, 29)

These elements relate to land competition in Newfoundland and Labrador as they recognize the existence of land use conflicts and the need to review legislation and the recognition of the need for "multi-purpose" or integrated resource planning. The need to resolve these issues to allow for the development of agriculture has been recognized by the Task Force on Agrifoods in Newfoundland and Labrador (Hulan, 1991).

Research has also focused on identifying and describing

the causes of agricultural land conversion. Of the ten causes of agricultural land conversion in Ontario identified by Rodd (1976), the following directly relate to agricultural land in Newfoundland and Labrador: urban expansion, infrastructure expansion, increased leisure residences in rural settings, property investment which takes lands out of production, people leaving farming and selling land, absentee ownership of land, and legislation which allows for the infiltration of rural non-farm development.

However, the bulk of studies regarding agricultural resource issues in Canada has focused on the rural-urban fringe (Beesley and Russwurm, 1981; Bryant, 1986; Bryant, Russwurm and Shuang-Yann, 1984; Coppack, Russwurm and Bryant, 1988; FitzSimons, 1985; Joseph and Smit, 1981; and Walker, 1987). Primarily focused on the so-called "Golden Horseshoe", between St. Catharines and Metropolitan Toronto in Ontario, these studies have tried to describe and explain the causes and effects of urban encroachment into areas where prime agricultural lands exist. While these studies are useful, they are more related to the issues in the St. John's Metropolitan Region of Newfoundland than agricultural resource issues and land competition affecting agriculture for the Province as a whole.

Many geographers have studied the issue of land-use conflicts in the rural-urban fringe. Joseph and Smit (1981)

analyzed the implications of rural non-farm residential (exurban) development in Ontario. Bryant (1986) compared the relationship between urban development and agriculture in the urban heartland in Canada. FitzSimons (1985) explored the possible impacts of urban development on both farming and the rural community in Ontario. Again, these issues are useful in the St. John's Metropolitan Region, but are less important in analyzing agricultural resource use issues across the Province.

Many geographic studies have explored the issue of farmland preservation policy in general (Furuseth and Pierce, 1982a and 1982b;) and specifically in the rural-urban fringe areas in Canada (BCALC, 1990; Giroux, 1992; Jackson, 1982 and 1985; Joseph and Smit, 1981; Johnston and Smit, 1985; and Mooney, 1990;). Krueger (1977) investigated the general issue of agricultural land preservation in Canada. Troughton (1981) analyzed policy and legislative responses to the loss of prime agricultural lands in Canada. This work relates to Runka (1981), who examined the legislative framework for farmland preservation in Newfoundland and Labrador. At that time only two agricultural regions of the Province were protected by such legislation. This situation has not changed.

Studies such as these, and others which explore the morphology within the rural-urban fringes in Canada, represent a comprehensive information base regarding agricultural land

use issues and, more specifically, the issue of land conversion. However, little research has been conducted on land use issues in marginal agricultural regions in Canada. The exception has been in the Yukon Territory (McTiernan, 1990; Smith and Dlugos, 1992; Yukon Government, 1990, 1991) and the Northwest Territories, where Livingston and Bastedo (1990) examined resource management policy in terms of developing policies which meet the demands of sustainable development.

2.3. Land Use Conflicts

A diverse range of demands for rural resources results in land competition and, more specifically, land use conflicts. As the research problem involves identifying land use conflicts arising from competition for land, the issue of "conflict" requires further exploration via the existing literature.

2.3.1. Clarifying "Issue" and "Conflict"

Identifying the major issues and conflicts facing agriculture is a complicated process in itself. Before identification can occur, however, the difference between "issue" and "conflict" needs to be clarified. Manning (1986) provides a clear and concise clarification of terms relative to the study of agricultural lands. He uses a three-issue typology to describe agricultural resource issues. These are: issues of allocation, issues of management and issues of

conflict.

Issues of allocation are quantitative considerations and refer to the amount of agricultural land that exists. Approaches to resolving these issues include farmland preservation policy and resource management policies. Issues of management are qualitative considerations and refer to the state of the agricultural resource base. Approaches to resolving these issues include agricultural codes of practise guidelines and land stewardship. Issues of conflict, on the other hand, refer to the actual land use conflicts that result from competition for land, and therefore ultimately affect the agricultural resource base. Explicit in Manning's explanation is the interaction of allocation and management in conflicts regarding agricultural lands (Manning, 1986).

For example, land use conflicts can result because of poor techniques of allocating land. In addition, management issues, such as poor soils, combined with the scattered location of land with the potential for agriculture, can affect the competition for land. While the typology proposed by Manning (1986) may be narrow in how the three types of land use issues affecting agriculture are classified, it is a useful model as it places land use conflicts within the greater context of land use issues affecting the development of agriculture. It is this component of the typology which is the focus of this thesis.

2.3.2. Land Use Conflict Studies

The following review of literature relevant to the research problem provides examples of research conducted to identify land use conflicts in rural regions. Cocklin, Smit and Johnston (1987a) provided a series of studies investigating the issue of demands that exist on rural resource lands. For example, the conflicts between the agriculture sector and conservation demands were investigated by Munton (1987). Using surveys of 256 farm businesses and 31 landlords in three different farming regions in Great Britain, Munton illustrated that, unless the structural pressures for change facing agriculture were fully understood, policy formulation would be misguided and favour conservation and therefore further constrain the agricultural sector. This approach is useful to the research problem as it uses the survey technique to identify conflicts, the method used in this study.

As with the studies identifying agricultural resource issues (Section 2.2), studies which address land use conflicts arising from urbanization have also been dealt with in significant detail (Lisansky, 1986; Lockertz, 1987). Boschken (1982) analyzed the issue of land use conflicts in the United States. Using three case studies in land use control, forestry conflicts in the Sequoia Valley, the San Onofre Nuclear Reactor controversy in California, and the Nettleton

Lakes recreation community controversy in Puget Sound, Washington, Boschken analyzed the issue of land use conflicts and the administrative responses to these conflicts. These case studies are useful as they involve competing resource uses such as forestry and recreational demands and industrial development in rural areas. These are comparable to the approach taken in this study, that is, identifying land competition issues in a case study and relating these to land use conflicts in rural regions in general.

Cloke and Park (1985) analyzed resource conflicts resulting from resource extraction, resource preservation for recreational uses, the role of the "built environment", access issues in the rural environment, and the conflicts between forestry and agriculture. Regarding the latter, Cloke and Park explored issues such as nature conservation and forestry, woodlands versus forestry activity, the recreational potential of forests, nature conservation versus agriculture, landscape amenity versus agriculture, and the changing farming environment. Following this examination, Cloke and Park (1985) presented an integrated management strategy for resolving conflicts. By identifying land competition issues and presenting proposals for resolving conflicts, Cloke and Park (1985) addressed each of the three objectives of this thesis.

Corbett (1990), aptly entitled **Protecting Our Common**

Future: Conflict Within the Farming Community, focused on conflicts faced by the agricultural community from non-farm interests. Using examples from Canada (Mooney; Penfold) and the United States (Aaron-Brooks; Conaway; and Nelson), the papers presented in Corbett (1990) are important both in terms of recognizing land use conflicts and offering policy alternatives to resolve these conflicts. However, like most of the literature regarding land use conflicts, there is little work done in marginal agricultural regions.

2.3.3. Canadian Context

Apart from development issues, very few studies have addressed land use conflicts between agriculture and competing uses in rural regions in Canada. Here, two studies valuable to the research problem are evaluated.

Bryant (1989) stated that land use conflicts in Canada primarily involve agriculture and other uses. This is because of the importance of agriculture to the national economy, agriculture's location proximal to other uses and the associated widespread settlement patterns. The primary land use conflicts facing agriculture include conflicts resulting from the conversion of agricultural lands, changes in agricultural productivity, changes in tenure patterns and the abandonment of marginal agricultural lands. It has also been argued that, increasingly, land use conflicts are occurring between agriculture and recreational land uses specifically,

and, more generally, those advocating the preservation of the natural environment (Bryant, 1989).

This analysis is useful for this study for a number of reasons. First, Bryant explicitly recognized that land use conflicts in rural Canada were weighted between agricultural and other land uses. Second, Bryant emphasized the dynamism in the agricultural sector. His reference to land abandonment and changes in land tenure were two issues described in this thesis research. Third, Bryant offered what he feels is a new trend in conflicts between agriculture and recreational and conservation demands. Recreational demands such as cabin development, as will be illustrated, are becoming increasingly problematic for agriculture in rural Newfoundland and Labrador.

The conflict between agriculture and recreation and conservation was also addressed in the Canadian context by Butler (1984). Here the impacts of recreational uses on rural land are placed into five categories: environmental, social, economic, legal and other impacts. Butler argued that differences in "attitudes, expectations and demands" (Butler, 1984, 227) between the permanent residents such as farmers and the recreational users, regarding rural lands, is the primary source of land use conflicts. This is useful to the research problem as it incorporates attitudes towards resource use when examing land competition.

2.4. Policy Responses to Land Competition in Newfoundland and Labrador

Reviewing examples of policy responses to land competition in jurisdictions outside of Newfoundland and Labrador is beyond the scope of this thesis. However, policy responses to land competition in other provinces in Canada and states in the United States are referred to in Chapter 7, where policy options for farmland preservation and Integrated Resource Planning (IRP) are presented. The purpose of this section is to review the literature regarding two general policy responses, resource management and farmland preservation, in Newfoundland and Labrador. This will help place this thesis research within the broader context of land management studies in the Province.

2.4.1. Resource Management

The body of literature regarding resource management and planning in the Province of Newfoundland and Labrador is small (Draper, 1984; Environment and Lands, 1989; Fugate, 1986; Government of Newfoundland and Labrador, 1980). However, in the past the Province has recognized the need to manage its resources (Environment and Lands, 1989; Government of Newfoundland and Labrador, 1980, 1991 and 1992; Gushue, 1959; and Murray, 1959).

The resource planning process has in the past been recognized as one with mechanisms integrating the planning of

resources simultaneously (Fugate, 1986). However, this has since been disputed (LeDrew, 1989 and Environment and Lands, 1989). The existing process is described in Chapter 4 and evaluated in Chapter 7.

The Task Force on Agrifoods identifies the "lack of comprehensive land-use policy" (Hulan, 1991, 148) for the Province as a contributing factor in the allocation of lands in the Province. Reference is made to the conflicts which result between forestry and agriculture in the Deer Lake region. In this case, lands with agricultural capability designated for forestry are not being utilized, although farming is restricted by lack of suitable agricultural lands outside the areas designated for forestry (Hulan, 1991). The issue of land-use conflict in Newfoundland and Labrador is described in detail in Chapters 5 and 6. Policy options for conflict resolution through integrated resource management are given in Chapter 7.

2.4.2. Farmland Preservation

The recognition of a limited land base for agriculture in Newfoundland and Labrador has long been recognized. The Royal Commission on agriculture in 1955 stated that, in order for agriculture to develop in this province, measures for maintaining the limited land base were necessary (Shaw Commission, 1955). Between 1954 and 1959 a series of seminars on renewable resource conservation in Newfoundland were held,

which resulted in a symposium on land use in Newfoundland in 1959 (Gushue, 1959). Preserving the limited land base with agricultural potential for agricultural purposes were given only brief mention, limited to the keynote address (Keough, 1959). Chancey (1959) referred to the fragility of Newfoundland soils and the need to implement soil and water conservation practises to ensure productivity in the future.

The implementation of policies addressing the need to preserve the limited agricultural land base for agriculture did not occur until 1973 with the designation of Agricultural Development Areas (ADAs). This initiative was followed in 1978 when the St. John's and Wooddale ADAs were brought under legislative control through restrictive zoning (Runka Ltd., 1981). This zoning has been commonly referred to as the "land freeze". However, public opposition to the "land freeze" in the St. John's ADA has been increasing in recent years (Simmons, 1993). Groups have formed both opposing and defending the "land freeze". In response, the provincial government established a Commission to study the freeze (Simmons, 1993).

To ensure that a viable land base for agriculture is maintained, the Task Force on Agrifoods recommended that certain ADAs in the Province should be brought under legislative protection. The Task Force called for the Humber Valley and Lethbridge-Musgravetown ADAs to be legislated

similar to the St. John's and Wooddale ADAs as soon as possible. Two to three years following this legislation, the recommendation was for the Codroy Valley and Robinsons-St. Fintan's ADAs to be legislated for protection. Finally, the Task Force recommended that a "longer-term plan" be developed to protect lands in the remaining 14 ADAs (Hulan, 1991, 155).

In addition to the establishment of the ADAs and the implementation of restrictive zoning, the Province has shifted from granting to leasing Crown Lands in order to ensure agricultural lands are not lost to other uses (Lands Branch, no date and Squires, 1989). The land lease program is a form of land ownership, however, restrictions on the development of the land are made. Whereas under the land grant system it was difficult for the Province to ensure lands were not sold to non-farmers, under the land lease program, farmers are required to follow farm development plans. If the requirements of the lease are not met, the Province can cancel the lease and take back the land (Lands Branch, no date; Squires, 1989). While monitoring leases has proved difficult due to lack of personnel (Agriculture Branch, 1993), the change in tenure policy has resulted in less land being lost from agriculture, which had been the case under the previous land grant system.

Three other programs have been implemented as a response to the restrictions that the aforementioned policies placed on

farmers. In 1985, the Land Consolidation Program was implemented to respond to the concerns of farmers located in the St. John's ADA who could not obtain fair market value for their lands due to the "land freeze". The intent of the program was to allow the farmer to sell the land to the Province for fair market value. In return, the Province can lease back the land to those wishing to farm (Squires, 1989). However, due to high costs and low funding allocations, only 31 properties totalling 364 hectares have been purchased by the Province (Agriculture Branch, 1992; Simmons, 1993).

Two programs have been implemented to bring idle agricultural lands back into production. The Real Property Tax Exemption Program provides tax relief to farmers bringing agricultural lands back into production (Squires, 1989). In 1992, 203 farmers and 67 landlords were involved in the program, resulting in 7,018.3 Ha of land being exempt from taxation (Agriculture Branch, 1992). The Rental Subsidy Program is intended to subsidize landowners to rent idle land to those in need of land for agricultural purposes (Squires, 1989). However, this program, while in use, is not actively promoted by Government. In 1992, six landowners were involved in the program, for a total of 11.2 hectares (Agriculture Branch, 1992). While the intent of these programs is to ensure land is used for agriculture, their effectiveness has been reduced because of the high cost of land purchase under

the Land Consolidation Program, communities substituting Farm Business Taxes for lost revenues on Real Property Exemptions and low incentives under the Rental Subsidy Program. In addition, the Land Consolidation and Rental Subsidy Programs apply only to the St. John's ADA.

2.5 Summary

This review looked generally at agricultural resource issues and, more specifically, at the literature relating to land conflicts. Evident in the existing literature is the emphasis on competition for land in the rural-urban fringes, where agriculture on "Prime" lands is concerned. Little academic work has been done on conflicts resulting from the competition for land between farmers and other land users in marginal agricultural regions, such as in Newfoundland and Labrador.

While some literature specific to Newfoundland and Labrador was introduced in this chapter, these and other works are examined in more detail throughout the thesis.

CHAPTER 3

AGRICULTURE IN NEWFOUNDLAND AND LABRADOR

> Newfoundland was not meant for farming. Dominated by rock and water, limited by climate, and distant from markets and suppliers, the geography is not inviting.
>
> (Hohenadel, 1981, 20)

3.1 Introduction

The issues of land competition will be better understood if seen against a background of the modern practise of agriculture in the Province and the physical environment it operates within. In describing the agricultural sector, specific reference is made to trends over the 1951 to 1991 census periods.

Hindered by climatic and physical land base restrictions, development of agriculture in Newfoundland and Labrador is difficult. Up until Confederation in 1949, the number of people engaged in commercial agriculture was small in comparison to those who depended on "home gardens" as a supplement to their fishing activities. The commercial farms that did exist were themselves small compared to mainland farms in Canada. Since Confederation, commercial agriculture in this Province has expanded significantly, and indeed continues to expand (Hulan, 1991). If agriculture is to continue to expand, however, there is the need to provide an adequate land base for agriculture, and ensure that any losses as the result of competition for this land are minimized

(Hulan, 1991).

There are seventeen ADAs in the Province (Figure 3.1). These are located in thirteen Agricultural Areas which comprise four Agricultural Regions: Eastern, Central, Western and Labrador. The boundaries of these regions are not coincident with those used by Statistics Canada. Consequently, while the same regional classification is used by both levels of government, the LMADA is considered to be in the Eastern Region by the Provincial Department of Forestry and Agriculture and the Central Region by Statistics Canada (Figure 3.2). The problem was how to delineate the LMADA: in the Eastern or Central Region. In consultation with personnel in the Agriculture Branch it was decided to include the LMADA as part of the Central Region.

3.2 Physical Description of the Province

Agriculture in Newfoundland and Labrador is hindered by cool climate, a short growing season and a rough terrain with poor soils. The Province is located on the east coast of Canada between 46° 30′ North Latitude and 60° 00′ North Latitude (Figure 3.1). The Island of Newfoundland itself is located approximately between 46° 30′ North Latitude and 51° 30′ North Latitude. Located at the most easterly point of North America, Newfoundland and Labrador is greatly affected by the moderating influence of ocean currents. As a result, the Province lacks the extreme high and low temperatures

Figure 3.1. The Agricultural Development Areas (ADAs) in Newfoundland and Labrador.

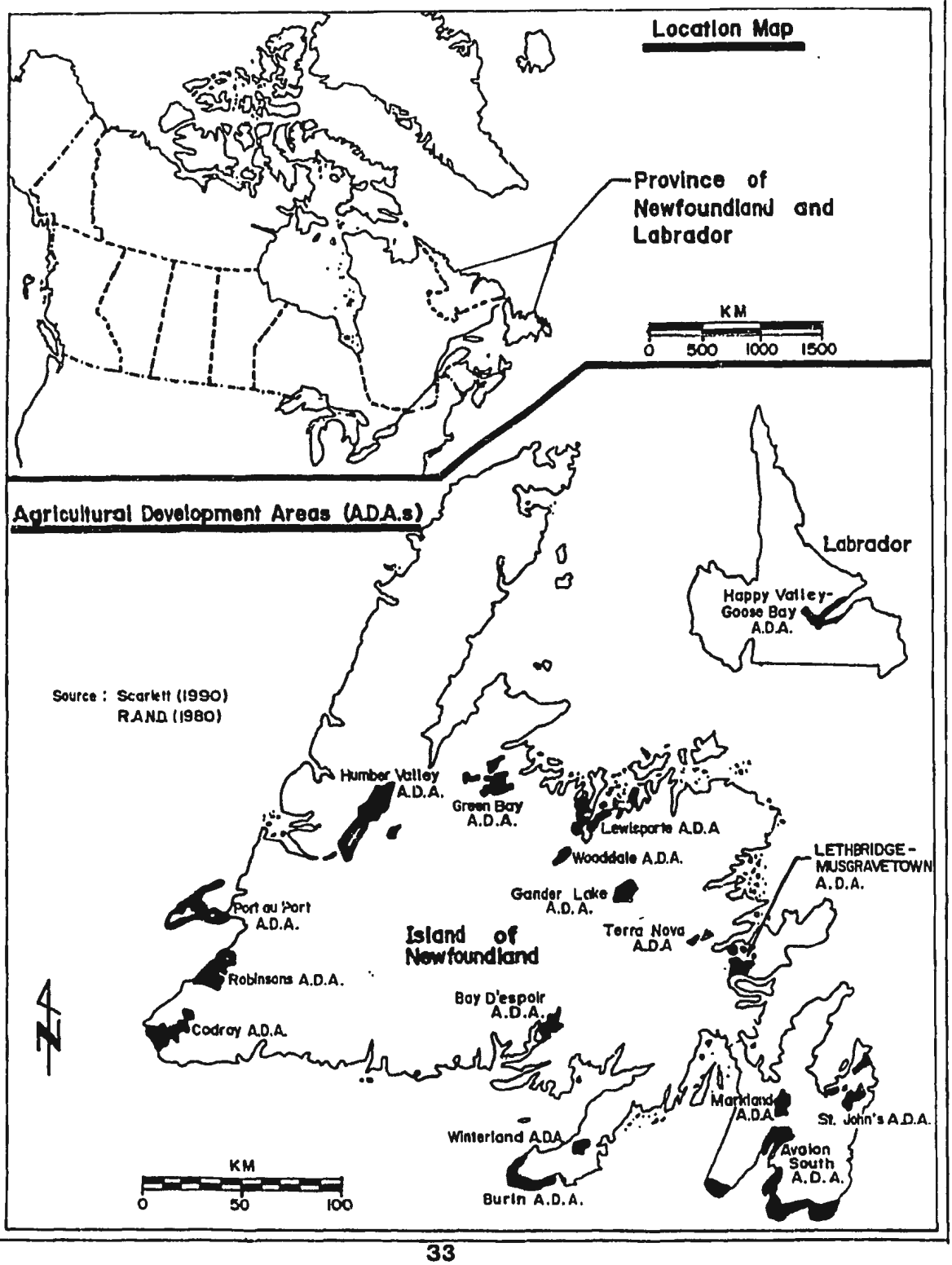
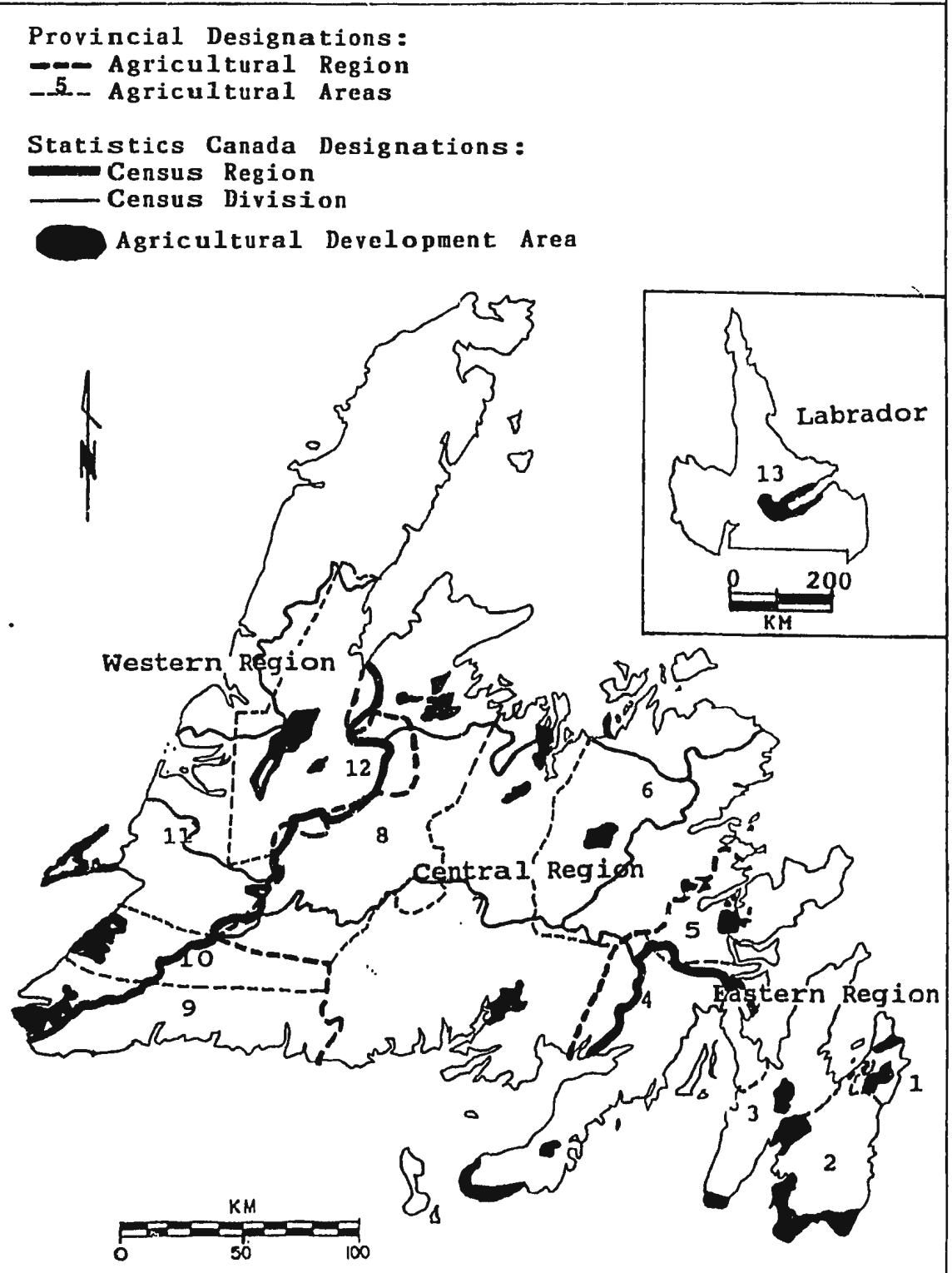


Figure 3.2. The Agricultural Regions and Census Divisions in Newfoundland and Labrador.



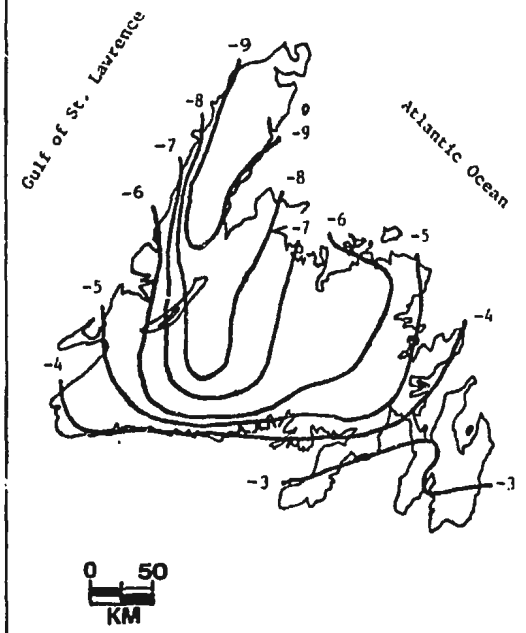
affecting mainland regions of Canada at similar latitudes.

The exception is Labrador, which is subjected to severe weather conditions. This restricts agriculture to the central region, primarily near Happy Valley-Goose Bay (Figure 3.1). Generally, on the Island the Western and Central Regions have more extreme temperatures than the Eastern and Avalon Regions. Newfoundland has an average annual temperature range of between -2 and -10 degrees Celsius in January and between 12 and 17 degrees Celsius in July (Figures 3.3 and 3.4 respectively). Figure 3.5 illustrates the annual precipitation data for the island, between 1,000 and 1,500 mm. Labrador receives between 800 and 1,400 mm of precipitation annually (Squires, 1989).

The length of the growing season ranges from 130 days in the Northern Peninsula to approximately 200 days on the Avalon Peninsula (Figure 3.6). Stated in terms of "frost free days", another indicator used in determining the length of the growing season, Labrador experiences between 50 and 110 frost free days, while the Island has between 70 and 150 frost free days. Each indicator shows that the Province of Newfoundland and Labrador has a harsh climate for agriculture.

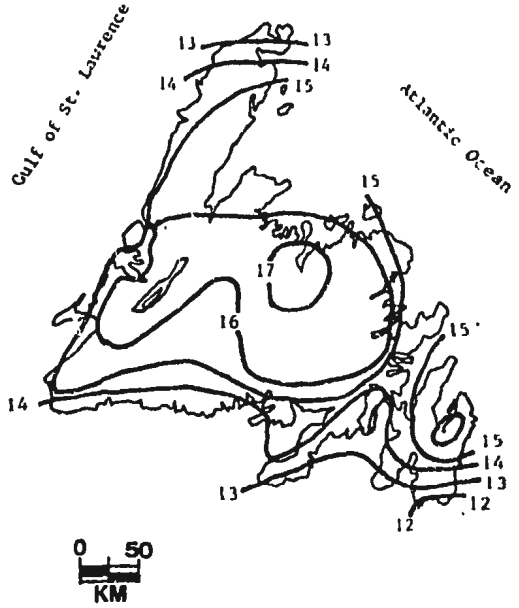
In addition to the climatic restrictions, the land base of the Province also presents problems for agriculture. Labrador follows the general pattern of vegetation regions found throughout Canada, with Boreal Forests in the southern

Figure 3.3. Average January Temperature (°C).



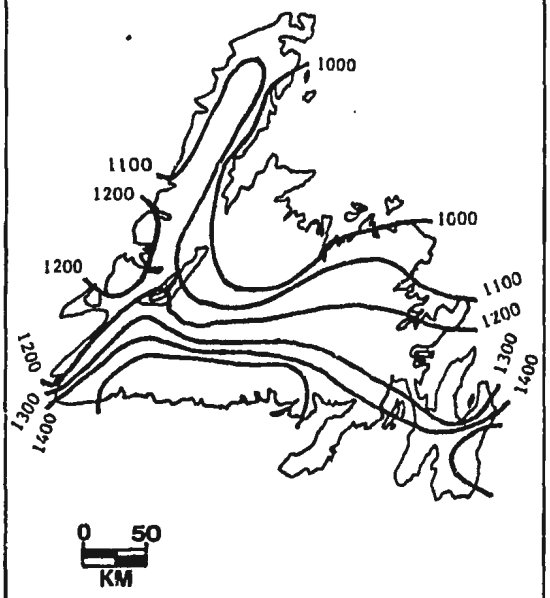
Source: A.D.C.A. (1984) in Squires 1989.

Figure 3.4. Average July Temperature (°C).



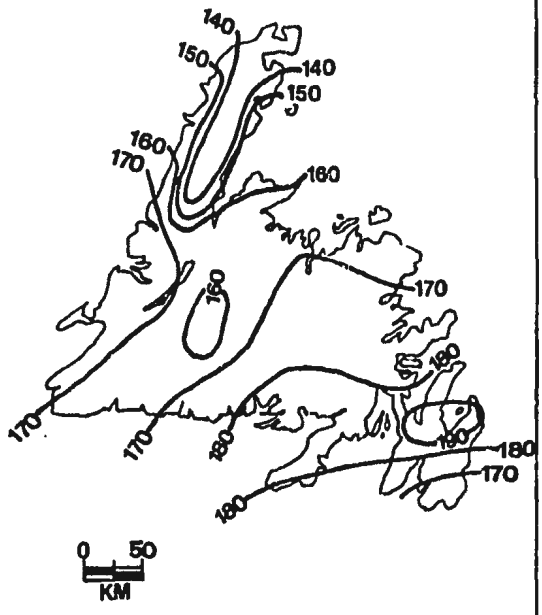
Source: A.D.C.A. (1984) in Squires (1989).

Figure 3.5. Average Annual Precipitation (mm).



Source: A.D.C.A. (1984) in Squires (1989).

Figure 3.6. Average Length of the Growing Season. (days)



Source: A.D.C.A. (1984) in Wood and McManus (1991).

region progressing to tundra in the north. Two anomalies are a large area of peatland in the west and barren land in the south-east region of Labrador. The vegetation cover on the Island is comprised primarily of Boreal Forest. However, the extreme southern tips of the Burin and Avalon Peninsulas are classified as peatland. In addition, the south coast, northeast coast and the interior of the Northern Peninsula are classified as barren regions. Thus the land base, including the anomalies, is less than inviting for agriculture.

More specifically, the forest vegetation of Newfoundland and Labrador is comprised primarily of Balsam Fir, Black Spruce, White Spruce, White Birch and Poplar (Squires, 1989, 40). The landscape of the Province is characterized by extensive forests, bogs, rock outcrops, water bodies and along the Long Range Mountains along the Western Region, which is part of the Appalachian Cordillera (Squires, 1989, 40).

Most of the soil in the Province was formed with the recession of glaciers approximately 10,000 years ago. This retreat left behind poorly sorted, coarse-grained glacial deposits ranging in size from clay to boulders (Grant, 1989). For the most part, these are shallow soils that are greatly characterized by stoniness and rock outcrops. In addition, a shallow, acidic soil base with low fertility has been produced in regions where cool climatic conditions, poor drainage and vegetative influences have interacted (R.A.N.D. and D.R.E.E.,

1983, 5). These soils are predominantly peat and podzolic, most of which are either stony or with rocky outcrops. The Boreal Forest surrounding the interior barrens produces deeper but more acidic soils (R.A.N.D., 1986, 3).

Less than one percent of the total land base of the province has any soil with agricultural potential and these lands are scattered in pockets throughout the Province, including Labrador. These pockets were identified in the 1970s by the Canada Land Inventory (CLI) classification system and were one of the considerations for the designation of the ADAs illustrated in Figure 3.1.

The CLI places soils on a scale of 0 to VII, Class I having no limitations for agricultural production, and VII having no capability for agricultural production (Appendix 1). Class 0 soils are classified as organic. In Newfoundland there are no Class I or II soils and only 0.7 percent of the agricultural lands are Class III or IV (Table 3.1). The remaining 99.3 percent of agricultural lands in the Province are in classes IV, V, VI and VII, which have varying limitations for agriculture, and Class '0'.

The higher quality soils and most favourable climates are found along river terraces, coastal lowlands and elevated ridges (R.A.N.D., 1986, 3). However, in most cases there are some constraints to agriculture. Stoniness results in higher costs for land clearing. Soils with compact sub-soil layers

restrict root crop penetration and cause excessive moisture, resulting in high drainage improvement costs. Where organic matter is present, the coniferous vegetation produces an acidic soil base with low fertility requiring regular inputs of basic material to offset acidity and fertilizers to increase fertility. In addition, the use of farm machinery is hindered by complex topography and steep slopes, which are susceptible to erosion (R.A.N.D., 1986, 4).

Table 3.1. Land With Capability for Agriculture in Newfoundland and the Canadian Total, According to the Canada Land Inventory (CLI).

	Canada		Newfoundland	
Land Class	(000s) Hectares	% of Land Classified	(000s) Hectares	% of Land Classified
Class I	4,332	2.2	0.0	0.0
Class II	16,991	8.5	0.0	0.0
Class III	26,312	13.2	5.5	0.1
Class IV	25,042	12.6	62	0.6
Class V	27,379	13.7	388	3.6
Class VI	14,130	7.1	2,891	26.8
Class VII	50,545	25.4	3,742	34.7
Organic ('0')	20,316	10.2	3,460	32.0
Other *	14,129	7.1	226	2.1
Total Land Classified	199,176	100.0	10,775	100.0
Total Land Area **	922,042,556		37,163,736	

Notes: * Includes Water, Parks and Urban Areas;
**** Statistics Canada (1991a);**

Source: Nowland and McKeague (1977:112, 113) and Statistics Canada (1991a);

The combination of a harsh physical landscape and cool climate has made the development of agriculture a difficult venture. Nevertheless, proponents of the sector continue to promote its development, but at the same time recognize the need for regulatory controls to preserve the limited land base with the potential for agriculture (Hulan, 1991). These limitations are the primary reason for the presentation of farmland preservation policies as options for the Government of Newfoundland and Labrador to consider.

3.3 The Value and Structure of Agriculture in Newfoundland and Labrador.

Several government studies in the past have supported the development of agriculture (Shaw, 1955; E.C.C., 1980, Government of Newfoundland and Labrador, 1980 and 1981; and Delaney, 1986). House (1986) recommended that a task force be established to investigate the development of the agrifood industry in the Province. The result was the formation of a Provincial Task Force which produced The Report of the Task Force on Agrifoods (Hulan, 1991).

This report cites the benefits of developing the agricultural sector. However, only a small number of these recommendations were endorsed by the provincial government in their 1992 blueprint for economic recovery, The Strategic Economic Plan (Government of Newfoundland and Labrador, 1992). None of the recommendations requiring major funding or program

development have as yet been implemented. However, even if the recommendations of these studies were implemented, the agricultural sector would still be small relative to other sectors of the provincial economy. Nevertheless, agriculture creates employment and represents a possible growth sector in the provincial economy at a time when the fishery is in collapse and forestry and mining appear to be stagnant, if not declining, in importance.

3.3.1 Value of Agriculture in Newfoundland and Labrador

Agriculture plays a small role in an economy dominated by the fishery and to an extent forestry and mining. In 1990, primary agriculture contributed to 0.3 percent of the total Gross Domestic Product (GDP) of Newfoundland and Labrador (Table 3.2). Further, the goods producing sector accounted for only 29 percent of the Province's GDP, whereas the services sector represented 71 percent. Within the service sector in 1991, the construction industry (8.1%) accounted for approximately the same proportional contribution to the GDP as the entire fishing, forestry, and agricultural sectors combined (8.7%).

It is important to note that these GDP figures include secondary processing of fish and forest resources. However, the contribution of agriculture to the provincial GDP only includes farm gate receipts. While this by itself represents a small percentage of the GDP, it is believed agriculture

offers an opportunity for expansion both at the primary and secondary levels and in the service sector. This is reinforced in the Task Force on Agrifoods recommendation for developing secondary processing of agricultural goods in Newfoundland and Labrador (Hulan, 1991).

Table 3.2. Distribution of GDP in Newfoundland and Labrador, 1979 and 1990.

	1979	1990
Goods-Producing Sector		
Agriculture	0.6	0.3
Forest-Primary	1.3	1.2
Pulp and Paper	4.5	1.7
Fish Harvesting	3.1	2.6
Fish Products	4.3	2.9
Mining	10.8	3.2
Construction	9.7	8.1
Other Manufacturing	4.2	4.1
Electric Power	N/A	4.9
Total	38.5%	29.0%
Services Sector	61.5%	71.0%
TOTAL GDP	**100.0%**	**100.0%**

N/A indicates inclusion in the Services Sector.

Source: Government of Newfoundland and Labrador (1980), Government of Newfoundland and Labrador (1992);

3.3.2 Structure of Agriculture

Table 3.3 compares the trends in number of farms in Newfoundland and the total number of farms in Canada for the forty year period between 1951 and 1991. While the number of farms in Newfoundland decreased in each census period between

1951 and 1981, between 1981 and 1991 the number of farms increased by 46 (6.9%), from 679 to 725. Not shown is the further decrease of 28 farms (4.3%) between 1981 and 1986. The number of farms then rebounded between 1986 and 1991, increasing by 74 (11.4%) from 651 to 725. In contrast, the number of farms in Canada has decreased steadily since 1951, with a total of 38,318 farms (13.7%) being lost between 1981 and 1991 alone.

Table 3.3. Number of Farms in Newfoundland and the Canadian Total, 1951 to 1991.

	1951	1961	1971	1981	1991
NF	3,626	1,752	1,042	679	725
Canada	623,091	480,903	366,110	318,361	280,043

Source: Statistics Canada, Census of Agriculture, 93-348, 1991.

The 725 farms in 1991 represented only 20 percent of the 3,626 farms that existed in 1951, illustrating the transition from supplementary to commercial agriculture that was being encouraged by the provincial government after Confederation. In comparison, the 280,043 farms in Canada in 1991 represented 45 percent of the 623,091 farms reported in the 1951 Census.

Table 3.4 shows the total area of farms in Newfoundland and the total area of farms in Canada between 1951 and 1991. While the number of hectares of agricultural land in Canada

has decreased slightly in each census period between 1951 and 1991, in Newfoundland the total area of farms has increased over each census period between 1961 and 1991. During this period the area of agricultural land in the Province has more than doubled, rising from 22,080 hectares to 47,353 hectares, an increase of 25,273 or 114.5 percent. It is interesting to note that the area of farms in 1951 was not surpassed until 1991. The decrease in area of farms in the Province between 1951 and 1961 is due to people with granted land leaving agriculture following Confederation.

Table 3.4. Total Area of Farms in Newfoundland and the Canadian Total, 1951-1991 (Hectares).

	1951	1961	1971	1981	1991
Nfld.	34,414	22,080	25,375	33,454	47,353
Canada (000s)	70,432	69,829	68,661	65,889	67,754

Source: Statistics Canada, Census of Agriculture, 93-348, 1991.

This resurgence in farm area indicates an increasing demand for land for agricultural development, illustrating the need to manage the limited land base available for agriculture. This demand can also lead to increased competition for the limited land base.

However, the statistics on area of farms need to be

further explained. Table 3.5 lists the differences between improved and unimproved farmland in the Province between 1951 and 1991. While nearly one-third of the total farmland was improved in 1951, this had decreased to 24 percent by 1991. The reasons for this trend involve a combination of the transition from a large number of small land-granted farms with land cleared for supplementary reasons in the 1950s to fewer commercial farms and the implementation of the Land Lease Program in 1978. This change could be due to the persistence of granted land not being cleared in addition to more recent land leases which have yet to be fully cleared.

As indicated, total farmland increased significantly between 1961 and 1991. This is consistent with the implementation of the Land Lease Program in conjunction with other programs of agricultural support. Under the Land Lease Program, farmers are required to clear a certain area of their lease each year. These statistics suggest that less land is being cleared proportionately to the total farmland under the Land Lease Program each year. However, it should be noted that the land being cleared each year could be masked by new leases being allocated, which in the first year would report little improved land.

Table 3.5. Agricultural Land in Newfoundland and Labrador Between 1951 and 1991.

	1951	1961	1971	1981	1991
Improved Farmland	11,278	8,278	7,749	10,452	11,345
Unimproved Farmland	22,686	13,802	17,626	23,004	36,327
Total Occupied Farmland	34,414	22,080	25,375	33,454	47,353
% Improved to Total Farmland	32.8	37.5	30.5	31.2	24.0

Source: Statistics Canada, Census of Agriculture, 1951 to 1991.

The improved land currently being farmed must also be examined. In 1991, only 13.6 percent of the 47,353 hectares of farmland was in either crops or used as summer fallow (Table 3.6). Improved pasture accounted for 4,606 hectares (9.7%). The remaining 76.7 percent, or 36,327 hectares, is classified as "all other land". This land is either cleared but idle or land held by a farmer but not yet cleared for agriculture. As indicated in Table 3.6, the total number of farms does not add up to 725, the number of farms in the Province in 1991. This is due to farms reporting a combination of the four categories.

Only 468 of the 725 farms reported in the census had land in crops in 1991, a total of 6,274 hectares. In addition, 27

farms reported 145 hectares of land for summer fallow and 251 farms reported 4,606 hectares as improved pasture. The 11,025 hectares reported as either land in crops, summer fallow or improved pasture represents an average of 15.2 hectares per farm.

Table 3.6. Land Under Cultivation in Newfoundland, 1991.

	Number of Farms	Hectares
Land In Crops	468	6,274
Summer fallow	27	145
Improved Pasture	251	4,606
All Other Land	663	36,327
Total	725	47,353

Note: Does not add up to 725 because of farms reporting more than one land use.

Source: Statistics Canada, Census of Agriculture, 95-306.

3.4 Summary

The purpose of this chapter was to provide a background description of agriculture in Newfoundland and Labrador. From the early history of agriculture up to Confederation in 1949, the dominant form of agriculture included small commercial producers and "home gardens" (supplementary or subsistence agriculture). In the post-Confederation era, the trend in Newfoundland and Labrador has clearly been toward fewer, larger commercial producers. This is consistent with the trend across Canada, where the number of farms is steadily decreasing.

However, while across Canada the total land area devoted to agriculture is decreasing, in Newfoundland it is marginally, yet steadily, increasing. This increase, combined with a small increase in farm numbers in the last census period, illustrates the need to ensure that a viable land base is maintained for agriculture. The Task Force on Agrifoods emphasizes this point (Hulan, 1991). One problem in maintaining this land base is the existence of conflicts arising out of the competition for land, the theme of this study. The increasing area under agricultural production illustrates the need to address the issues of conflicts arising from the competition for land.

CHAPTER 4

EXISTING POLICY FRAMEWORK FOR LAND USE PLANNING IN NEWFOUNDLAND AND LABRADOR

4.1 Introduction

Approximately ninety percent of the land base of Newfoundland and Labrador is considered to be Crown Land (Fugate, 1986, 219). Because of competing demands for these lands, the Province has responded with a land use planning process for the management and allocation of land. This process provides the legislative context through which land-use conflicts may arise (eg. designation of lands for agriculture where a demand for forestry exists) and through which they may be resolved (eg. process to resolve conflicts).

As such, it is important to describe the main elements of the process. First, the legislative framework is outlined. This is followed by a review of three key components of current land-use planning: the Interdepartmental Land Use Committee (ILUC), the "Land Use Atlas", and "Regional Crown Land Plans". Third a brief overview of the agricultural planning region system, the Agricultural Development Areas, is provided. The chapter concludes with a summary, linking the existing legislation and the current land-use planning process to the administration of the ADAs. In doing so, the argument is made that the agricultural sector lacks the legislative basis for planning and that the current resource planning

process is inadequate for planning land designated with the potential for agriculture. The result is that the agricultural sector is unable to adequately respond to land competition.

4.2 Legislative Framework

Seventeen government agencies across a broad range of interests have some responsibility for resource planning in the Province. These resource agencies include federal and provincial divisions and departments and crown corporations. They are listed in Appendix 2 together with the key pieces of legislation under which they operate. The following provides a departmental list to illustrate the main agencies involved in resource planning:

Provincial:
- Development
- Environment and Lands
- Fisheries
- Forestry and Agriculture
- Municipal and Provincial Affairs
- Mines and Energy
- Newfoundland and Labrador Hydro (Crown Corporation)

Federal
- Environment Canada
- Fisheries and Oceans
- Federal Environmental Assessment Review Office (FEARO)

The key act affecting the planning and allocation of Crown Lands in the Province is An Act To Revise and Consolidate the Law Respecting Crown Lands, Public Lands and Other Lands In the Province, 1991, which received Royal assent

on December 11, 1991. Commonly referred to as the Lands Act, 1991, all development on Crown Lands is subject to this act.

A second act important to land use planning in the Province is the Urban and Rural Planning Act, 1974, which was given Royal assent in 1970 and amended in 1974. This act is administered by the Department of Provincial and Municipal Affairs, and affects municipal plans, joint municipal plans, local area plans, regional plans, protected areas and protected roads in the Province. In developing land in the Province, the Urban and Rural Planning Act, 1974 must be adhered to when these plans, areas or roads are affected. This act pertains to both private and crown lands.

The primary agency responsible for land use planning of crown lands in the Province is the Department of Environment and Lands. This department, as the implementor of the Lands Act, 1991, coordinates resource development in the Province. Three major elements in this coordination process are the Interdepartmental Land Use Committee (ILUC), the "Land Use Atlas" and "Regional Crown Land Plans". Although some view it as coordinated or integrated (eg. Fugate, 1986), the actual process appears to be reactionary to land use competition rather than proactive to prevent conflict. This view has been supported in the past (LeDrew, 1989).

While the Lands Act, 1991 and the Urban and Rural Planning Act, 1974 are the two principal planning acts, it is

important to note that certain resource sectors have legislative frameworks for planning, including the: Mineral Act, 1975, Quarry Minerals Act, 1975, Wildlife Act, 1970, Water Resources Act, 1989, Waste Material (Disposal) Act, 1973, Forest Land Act, 1973, and the Wilderness and Ecological Reserves Act, 1980 (Appendix 2). For example, Ecological Reserves (Wilderness and Ecological Reserves Act, 1980) and Forest Management Plans (formerly the Forest Land Act, 1973; now the Forestry Act, 1990) both establish a framework for land planning, while quarry lands are allocated under the Quarry Minerals Act, 1975. Section 25(1) of the Department of Environment and Lands Act, 1981 allows municipalities to designate protected water supplies. The impact of this legislation will be referred to in Chapters Five and Six.

The agricultural sector lacks such frameworks for land allocation, making it difficult to respond to issues of land competition. In other words, the Agriculture Branch lacks its own specific legislation by which it can plan and manage agricultural land. However, there are two notable exceptions. First, in the past the Crown Lands Act, 1973 (now the Lands Act, 1991) has been used to reserve areas as Blueberry Management Units. Second, the Development Areas (Lands) Act, 1970 (now incorporated into the Lands Act, 1991) has been used to legislate ADAs for protection (Wooddale and St. John's ADAs in 1978) (Kunka, 1981). However, it is important to note that

actions such as these are out of the control of the Agriculture Branch. In comparison, the Forestry Branch (in the same department: the Department of Forestry and Agriculture) under the recently passed the Forestry Act, 1990 now has both the authority and the process for forestry planning, including the reservation of lands for silviculture. As they affect the competition for land in the LMADA, these various pieces of legislation are looked at in more detail in Chapter Six.

4.3 Interdepartmental Land Use Committee

Land use planning of Crown lands in Newfoundland and Labrador is done primarily through the Interdepartmental Land Use Committee (ILUC), a committee coordinated through the Land Management Division of the Department of Environment and Lands. Formerly known as the Crown Lands Committee, ILUC became officially recognized in August, 1983, as the provincial agency responsible for coordinating resource development in Newfoundland and Labrador (Fugate, 1986). ILUC was one response to a plethora of resource-oriented legislation affecting resource agencies (eg. Urban and Rural Planning Act, 1974, Waste Material (Disposal) Act, 1973, Quarry Minerals Act, 1975, Minerals Act, 1975, Wilderness and Ecological Reserves Act, 1980, Environmental Assessment Act, 1980, and the Development Areas (Lands) Act, 1970) and to an increased intensity of resource demands, particularly

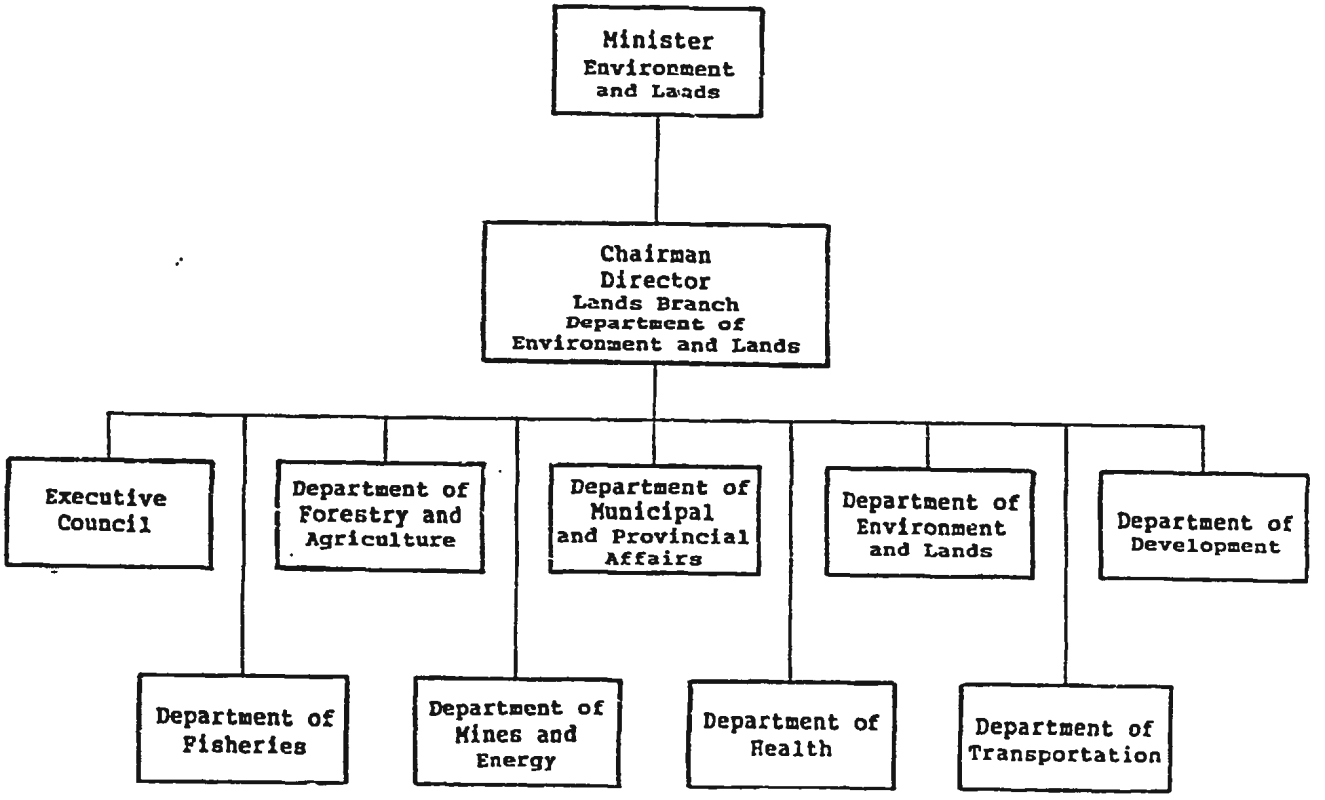
agriculture, forestry, water supply areas, mining, municipal development, tourism and fishery related uses (Fugate, 1986, 217). In addition, since this time new legislation has been implemented (eg. the Forestry Act, 1990).

The representatives on ILUC are listed in Figure 4.1. These representatives are at the director level within departments. For example, the Agriculture Branch of the Department of Forestry and Agriculture is represented by the Director of the Soil and Land Management Division, the division responsible for agricultural land management, planning and development. As indicated, the Minister of Environment and Lands is responsible for the management of all crown lands in the Province and has the final decision-making power. Where conflicts arise, proponent and opponent agencies, represented through their respective directors, have the option of going to Cabinet if they are not satisfied with the decision of ILUC or the Minister. Types of development proposals reviewed by ILUC include:

1. municipal or regional plans
2. community and regional watersheds
3. waste disposal sites
4. municipal boundary changes
5. agriculture, forestry, wildlife, park, mineral aggregate, ecological and wilderness reserves
6. cultural, historic and recreational sites
7. major road, hydro and other service corridors
8. legislation, regulations or guidelines affecting the use of Crown or public lands; (Fugate, 1986, 219)

The major limitation of ILUC is that it is primarily a

Figure 4.1. Members of the Interdepartmental Land Use Committee



Source: Adapted from Fugate (1986).

reactive planning group, utilized for crisis management. Second, it only takes one member of ILUC to turn down an application. For example, if the Agriculture Branch presents a proposal for a farm within an ADA, the Forestry Branch can turn the application down. The only recourse the Agriculture Branch has is to appeal to the Minister of the Department of Environment and Lands, which can be a time consuming process. In fact, the Agriculture Branch has gone to this stage only once, and the decision was made in their favour (Earle, 1991). Unfortunately, records of ILUC votes for and against agricultural applications were not available for comparison.

4.4 The "Land Use Atlas"

In response to the competition for land and resources in the 1970s and to assist in the decision-making processes of the then Crown Lands Committee, the Department of Environment and Lands prepared a series of maps in the Province locating all "land management boundaries" (Environment and Lands, no date, 1). These included jurisdictional and administrative boundaries and exclusive use zones (Fugate, 1986, 216). These maps are updated on an ongoing basis.

The manual which accompanies the "Land Use Atlas", states that its primary purpose is to provide planners with a tool for identifying existing or potential land use conflicts and to provide an "awareness of land administration jurisdiction" (Environment and Lands, no date, 1). With the "Land Use

Atlas", planners can assess which resource agencies have an interest in a development application, and thus send referrals only to those agencies (Fugate, 1986, 216). For example, if a farmer desires a certain parcel of land, the Soil and Land Management can refer to the "Land Use Atlas" to determine if other land uses have been designated in that area. For example, is this parcel located within an area designated as a forestry reserve? These uses are explored in detail in the case study (Chapter 6).

The six components and the land management boundaries included in each component of the "Land Use Atlas" are:

I. Land Use (Scale - 1:50,000)
    A. Administrative Areas
        1. Municipal and Planning Area Boundaries
        2. Protected Roads Regulations
        3. Regional Pastures
        4. Blueberry Management Areas
        5. Agricultural Development Areas
        6. Provincial Parks
        7. Newfoundland Light and Power Watersheds
    B. Designated Areas
        1. Designated Watershed Areas
        2. Waste Disposal Sites
        3. Designated Cottage Areas
        4. Remote Cottage Areas
        5. Limited Access
        6. Forestry Reserves
        7. Archaeological Sites
        8. Commercial Outfitting Camps
        9. Proposed Hydro Corridors
        10. Commercial Agricultural Operations
    C. Restricted Areas

II. Community Infilling Maps (Scale - 1:50,000)
III. Scheduled Salmon Rivers (Scale - 1:500,000)
IV. Aggregate Potential Maps (Scale - 1:125,000)
V. Wilderness Areas, Ecological Reserves and International Biological Program (IBP) Sites
VI. Wildlife Reserves, Sensitive Wildlife Areas

(Environment and Lands, no date, 2-7);

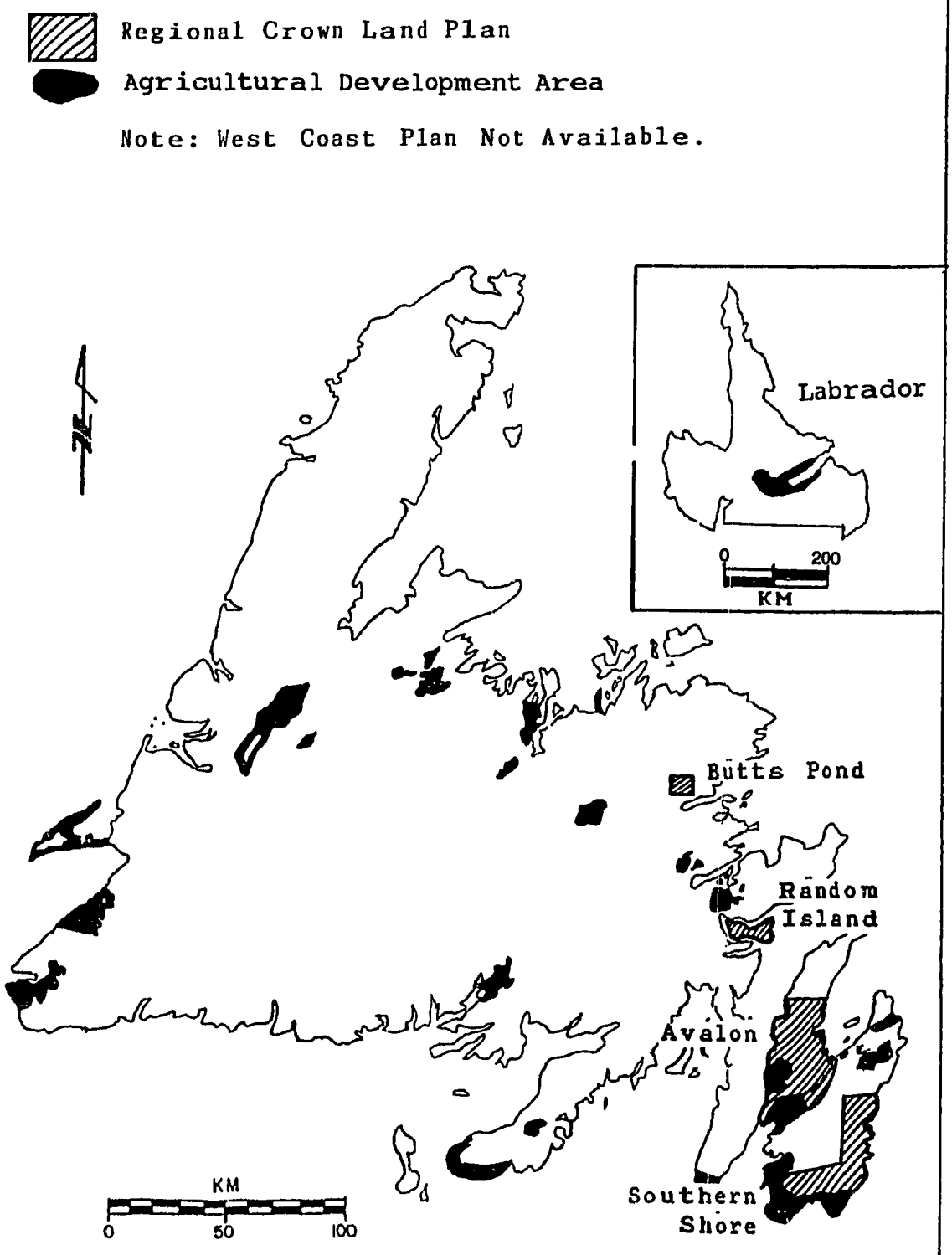
Full descriptions of each land management boundary, as indicated in the "Land Use Atlas", are provided in Appendix 4. The case study (Chapter 6) illustrates the overlap between Agricultural Development Areas (ADAs) and other land management boundaries.

The "Land Use Atlas" is a useful tool in identifying the various land management boundaries and areas. However, one limitation is that it is not always an up-to-date reflection of land management boundaries and areas. According to the Agriculture Branch, their ADA mapping is more accurate than those used by the Department of Environment and Lands.

4.5 "Regional Crown Land Plans"

Where specific conflicts have arisen in the past, the Department of Environment and Lands has developed "Regional Crown Land Plans". These are similar to zoning by-laws which identify existing development in communities, and municipal plans, which attempt to guide the future development of communities. To date five such "Regional Crown Land Plans" (Figure 4.2) have been developed in the Province for: Random Island, Bonavista Bay; Southern Shore, Avalon Peninsula; the

Figure 4.2. Regional Crown Land Plans Developed in Newfoundland.



Central Avalon (Land Management Division, 1986); West Coast of the island; and Butts Ponds, Freshwater Bay (Land Management Division, 1989). A sixth plan (Figure 4.2), for the Northwest Gander Region, is currently being prepared (Earle, 1993).

The primary purpose of the "Regional Crown Land Plan" is to "coordinate government activities" by integrating "land use requirements and government policy" (Fugate, 1986, 220), and as such assist the Land Management Division in its operations and ILUC in their decision-making activities. The plans themselves are a combination of a report and a set of maps which identify existing land uses and administrative responsibilities. The reports describe the land uses and the goals, objectives and planning responsibilities of government agencies within each planning area.

These plans enable decision-makers to gain an understanding of existing land uses and the scale of demand and potential for competing land uses and provide a basis for determining the acceptability of individual development applications. For example, if a proposal for a building lot is found in the "Regional Crown Land Plan" to be located within an agricultural zone or in a watershed area, it can be refused before going through any further stages in the planning process.

One example is the Butts Pond Crown Land Plan, which was prepared in response to concerns from the local farming

community about land use conflicts with recreation, forestry and mining development (Land Management Division, 1989). Plans such as these appear to illustrate how competition for land can be addressed by integrating the planning of different resource uses simultaneously. However, according to Ricketts (1993), these plans were simply reactions to conflicts and provide little more information than is provided in the "Land Use Atlas" mapping. At the very least, these plans do recognize where competition for lands exists. What is needed is a process that allows for resolving the conflicts arising from this competition.

4.6 Agricultural Development Areas (ADAs)

The planning areas utilized by the Agriculture Branch are the Agricultural Development Areas or ADAs. Soil surveys conducted in the 1960s under the Canada Land Inventory Programme (Appendix 1) revealed that less than one percent of the total land base of the Province had any potential for agriculture. The Province recognized that if commercial agriculture were to be pursued, there was a need to develop agricultural development plans for specific regions where commercial agriculture was considered viable.

In response, through the Development Areas (Lands) Act, 1970, the Provincial Government identified 20 potential ADAs across the Province (Figure 3.1). These ADAs included areas where agricultural activities were already located and other

areas where preliminary information, such as a good soil base, revealed the potential for commercial agriculture. In reviewing farmland preservation in Newfoundland and Labrador, Runka (1981) interpreted the concept of the ADA as a response to the recognition of the potential for agriculture and the need to "proceed in a more orderly and efficient manner" (p.8). ADAs were designated based on:

> factors such as present land use, land ownership, land capability, markets, environmental impact, human resources, and social implications. The regions will be evaluated in the context of provincial production goals and markets in order to establish local priorities for each agricultural community. Conflicting land use pressures will be assessed based on present and projected requirements for agricultural land and background information will be collected with the objective of providing recommendations and alternatives to poor land use development
>
> (Runka, 1981, 32)

Between 1976 and 1983, in accordance with the Agricultural Development Areas Regulations (Section 5 of the Development Areas (Lands) Act, 1970), background reports were prepared by the Agriculture Branch for 17 of the 20 potential ADAs (Ricketts, 1993). No reports were prepared for the Red Indian Lake, Burin or Avalon South ADAs (Figure 3.1). In addition, not all of the 17 ADAs are priorities for agricultural development. Presently only six of the original areas identified are actually "designated" by the Province as ADAs: St. John's, Wooddale, Humber Valley, Lethbridge-Musgravetown, Robinsons-St. Fintan's, and Codroy Valley. The

other eleven are at this time still viewed as potential ADAs (Ricketts, 1993; Hulan, 1991).

Two of these six ADAs have been legislated for protection. The St. John's ADA was first designated on October 31, 1973 under the Land Development Act. In 1978, it was designated under the Development Areas (Lands) Act as the St. John's ADA (originally Newfoundland Regulation (N.R.) 10/78, now N.R. 40/86) along with the Wooddale ADA (originally N.R. 225/78, now N.R. 199/83). These current regulations state that land within these two ADAs are to be used for agricultural development. Other development is not permitted unless it is determined that it will have a minimal agricultural impact. However, agriculture has been affected by competition for land in both ADAs since the legislation was enacted. In the St. John's ADA, urban development has occurred within the boundary. In the Wooddale, water supply area legislation enacted in 1981 has overridden the agricultural land protection regulations.

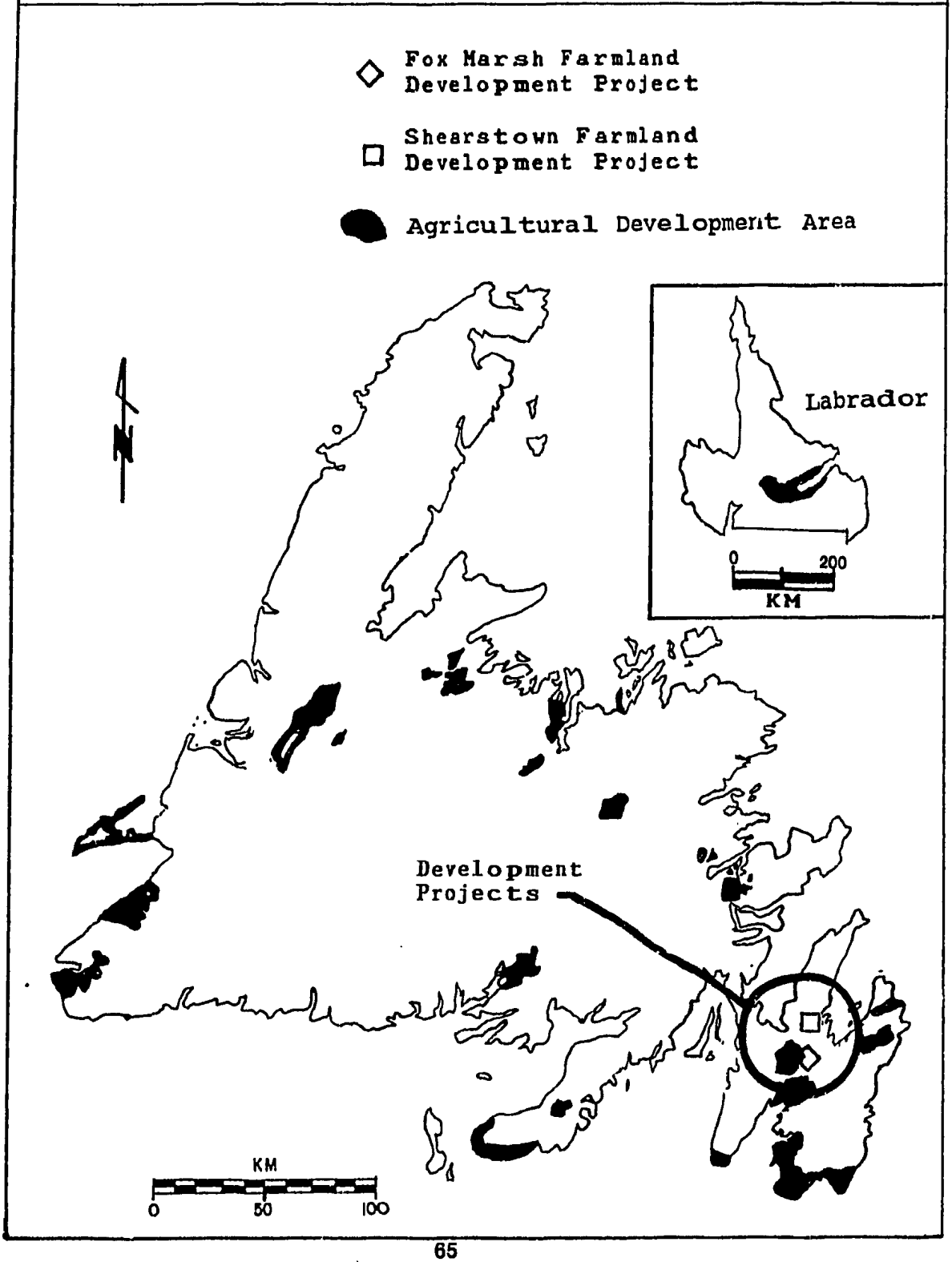
In 1991, the Task Force on Agrifoods prioritized the ADAs for further legislative protection. First, they recommended the Humber Valley and Lethbridge-Musgravetown ADAs be legislated for protection similar to the St. John's and Wooddale ADAs. They further recommended that if this legislation was successful, the remaining two ADAs should also be legislated for protection. One final recommendation on the

ADAs called for a "longer-term plan" to protect the other 14 areas originally recognized as "potential" ADAs (Hulan, 1991, 155).

In addition to the identification of ADAs, the Province has identified key land areas through the creation of Agricultural Development Projects such as the Jack's Pond Development Project in the LMADA and the Wooddale South Development Project in the Wooddale ADA. Attempts have also been made at developing such projects in areas not within identified ADAs, such as the Fox Marsh and Shearstown proposals (Figure 4.3). These are areas where farms have existed in the past and where there have been requests for further agricultural development. The Agriculture Branch has responded by initiating development projects, including constructing a road access (if one does not exist), in an area with high quality land and subdividing the land into agricultural lots which are subsequently offered for lease to interested or potential farmers. These leases are important in attracting new entrants as well as helping existing farmers to increase the viability of their operations.

The Agriculture Branch estimates that approximately 65 percent of existing farms are located in ADAs. The other 35 percent are primarily farms developed before the establishment of ADAs (Agriculture Branch, 1993). While the Agriculture Branch supports agricultural development regardless of

Figure 4.3. Shearstown and Fox Marsh Farmland Development Projects.



location on either side of the ADA boundary, new agricultural development is encouraged primarily inside the ADAs and agricultural development projects.

As a final note, not all land within ADAs have the potential for agriculture. The ADA boundaries were approximations based on the factors given above. This issue is described in the case study of the LMADA, where, in fact, much of the land has little or no potential for agriculture.

4.7 Summary

Because land with the potential for agriculture is scattered across the Province, developing a standard system for administration has proven difficult. While this system began with the identification of potential ADAs, over time some have been abandoned by the Province and others have been legislated for protection. This is described in the next chapter. In addition, agricultural development has been supported outside of the ADAs, in particular the Shearstown and Fox Marsh agricultural development projects. This, combined with other ad hoc programs such as the Land Lease Program and the Land Consolidation Program (described in Chapter 2), has resulted in small incremental gains in the scale of agriculture.

It appears that the "Land Use Atlas" is an adequate tool for planners and that regional crown land plans provide a basis for preparing integrated land use plans. What is

lacking, however, is an integrated process for managing resources in the Province, such as lands designated for agriculture through the ADAs. This problem is amplified by the plethora of legislation from competing interests.

As this study is about the effects of land competition on agriculture in Newfoundland and Labrador, it is important to recognize the lack of legislation specific to the sector. Certain legislation does support agriculture, such as the Department of Forestry and Agriculture Act, 1989 which simply outlines departmental operating procedures, and the Lands Act, 1991, which has been used in some circumstances by the Provincial Government to support the protection of land for agriculture. However, the Agriculture Branch has no authority for the planning and management of land for agriculture. While in the same department, the Forestry Branch, through the Forestry Act, 1990, has such authority.

Chapter Seven provides policy options which could be implemented to resolve land use competition and at the same time preserve the limited land base with the potential for agriculture.

CHAPTER 5

LAND COMPETITION ISSUES AFFECTING THE DEVELOPMENT OF AGRICULTURE IN NEWFOUNDLAND AND LABRADOR

> Almost all planned forestry activities conflict with one or more of the following agencies: wildlife, recreation, historic resources, mining and agriculture
>
> Forestry Branch, D.F.A. (1988)
> Response to Questionnaire on
> Integrated Resource Planning

This chapter presents the research findings on the affects of land use competition on agriculture across the Province of Newfoundland and Labrador. First, to provide some background, land competition issues identified in the agricultural background reports conducted by the Agriculture Branch between 1976 and 1983 are reviewed. Second, using responses to a questionnaire distributed to professionals in the Agriculture Branch, the land competition issues currently affecting the development of agriculture are analyzed.

It is important to note at the outset that this was a population survey. That is, there are only twenty professionals employed in the Agriculture Branch who have a role in soil and land management.

As indicated previously, the Province has been delineated into four regions: Labrador, Central, Western and Eastern. As illustrated in Figure 3.2, these four regions are used both by Statistics Canada and by the Agriculture Branch, with one

variation. This is the location of the Agriculture Branch's Area Five, which is included in the Eastern Region. Based on the Census boundaries and advice from the Agriculture Branch, Area Five has been included in the Central Region for purposes of analysis in this Chapter.

5.1 Agricultural Background Reports: A Review

As stated in Chapter 4, between 1976 and 1983 agricultural background reports were prepared for 17 of the 20 areas in the Province designated with the potential for agriculture. These reports provided site-specific detail on climatic conditions, soil quality, topography and the history of agriculture in the area. In addition, these reports provided an outline of the competing land uses that were or had the potential to conflict with the development of agriculture. It is important to note that no standard format was followed in the preparation of these background reports. In addition, they were written by a variety of authors, in most cases land use planners and technicians. As a result, the quality of the reports and the details provided vary.

However, these reports represented the first attempts to study the effects of land competition issues on agriculture at the local level across the Province, and are important in gaining a perception of how land competition was affecting agriculture in the newly identified ADAs. The following is an overview of the land competition issues provided in these

reports by region: Labrador, Western, Central and Eastern.

5.1.1 Labrador

Agriculture in Labrador is restricted to the Happy Valley-Goose Bay area (Figure 3.1), the only area designated as a potential ADA. While the greatest obstacles facing agriculture in Labrador are the severe climate, a lack of suitable soils and marketing constraints, specific land use conflicts can also be identified. In addition to these constraints, the background report for Labrador identified vandalism of farm produce and equipment and the lack of municipal support for agricultural development proposals in the Happy Valley-Goose Bay area as the main constraints to agricultural development (R.A.N.D., 1980a).

5.1.2 Western Newfoundland

Four potential ADAs have been identified in the Western Region of Newfoundland: the Port au Port ADA, the Humber Valley ADA, the Robinsons-St. Fintan's ADA, and the Codroy Valley ADA (Figure 3.1). However, the first two have not been officially designated as ADAs.

R.A.N.D. (1980e) recommended that the Port au Port ADA be classified as having low priority for agricultural development and that it not be officially designated as an ADA. Reasons cited included the fact that agriculture was primarily a supplemental activity, with little commercial agricultural potential. A small fragmented land base with the potential

for agriculture and a local economy dominated by the fishery have also hindered the development of commercial agriculture. In addition, the report indicated that the local population of the Peninsula has turned to agriculture only in times of high unemployment (R.A.N.D., 1980e).

Pursuing agriculture in the Humber Valley ADA has been difficult due to idle lands and urban pressures for the subdivision of agricultural land by non-farm landowners. In the original agricultural land settlement within the ADA, it was estimated that approximately 65 percent of the land was controlled by non-residents, non-farmers and the elderly who have retired from farming (R.A.N.D., 1980c, 9). Concerns have also been expressed over the need to preserve lands in the ADA from competing demands from forestry, residential, recreational, industrial and quarry development (R.A.N.D., 1980c, 17).

Idle land and the difficulty that active farmers have in expanding operations on suitable lands are significant factors hindering the development of agriculture in the Robinsons-St. Fintan's ADA. R.A.N.D (1983a) indicated that in 1984 non-farmers owned over 69.8 percent of privately owned land. In addition, non-farmers owned 68.6 percent of all undeveloped land with the potential for agriculture (p.12). Due to the ownership pattern, farmers wanting to expand their operations were left to lease land with lower soil quality, poor road

access and no electrical services (R.A.N.D., 1983a, 27).

Compared to other regions of Newfoundland, the Codroy Valley ADA has the advantage of higher soil quality, 53.8 percent of which is rated between Class III and V according the Canada Land Inventory. However, the Codroy Valley ADA is affected by issues similar to those in the Robinsons-St. Fintan's ADA, in particular the issues of idle lands and non-farm ownership, which make expansion of existing agricultural operations difficult. In addition, development in both ADAs has been restricted by the lack of infrastructure and distance to markets (R.A.N.D., 1980b and 1983a).

5.1.3 Central Region

As indicated in Figure 3.1, the Central Region has ten ADAs, including the LMADA which is addressed in the case study. The other nine ADAs are: Baie D'Espoir, Green Bay, Buchans, Wooddale, Gander Lake, Brown's Arm-Laurenceton, Comfort Cove, Terra Nova, and Red Indian Lake. No agricultural report has been conducted for the Red Indian Lake ADA and the Agriculture Branch has abandoned attempts at developing agriculture in this area (Ricketts, 1993). The Central Region has the largest geographic area and the greatest number of ADAs, which are scattered throughout the region. This has resulted in a large number and diverse range of land use competition issues.

Three main land uses competing with the development of

agriculture in the Baie D'Espoir ADA were identified as forestry, recreation, and waste disposal sites. The forestry conflicts include competition with sawmill operations, silviculture projects, and the pulp and paper industry (R.A.N.D., 1983b, 4). The designation of the Conne River as a salmon river, which, under provincial regulations, restricts any activity within 30 metres either side of the bank as per provincial regulations, removed some land with the potential for agriculture. However, the existing camper trailers and cabin development within the buffer have had minimal impacts on agriculture, as they are located within the buffer. Finally, there is an automobile dump and a waste dump within the ADA, which restricts agricultural development within a 1.6 kilometre radius of each dump (R.A.N.D., 1983b, 5).

However, in 1983 there was only one vegetable farm and, due to the small population, the Agriculture Branch indicated that future development of agriculture would be small-scale producers providing produce for the local population of about 10,000. As a result, the Agriculture Branch foresaw few conflicts, apart from silvicultural activity, resulting with the three other land uses (R.A.N.D., 1983b, 5).

Poor soils and the fragmented nature of land ownership restrict the development of commercial agriculture in the Green Bay ADA. In addition to these constraints, three significant land use conflicts have been identified in the

ADA: with forestry, particularly with pulp and paper operations; with waste disposals sites, which remove approximately 1230 hectares of land (approximately twelve percent of the total area of the ADA) within the ADA boundary from agriculture; and, with water course buffer zones (R.A.N.D., 1982b, 22-23).

The Buchans ADA, has been identified has having some potential for agriculture. However, poor climatic conditions, stony soils, the high cost of development, and limited local markets limit the development of agriculture more so than any specific land use conflict (R.A.N.D., 1976). This was reinforced in a follow-up report in 1991, which cited these problems (Ricketts, 1991, 1 and 2). In addition, Ricketts (1991) cited specific land use conflicts, including, forestry, dump sites, gravel pits, cottage development, protected rivers and roads.

The Wooddale ADA is only one of two ADAs (the St. John's ADA being the other) in the Province that have been legislated under the Development Areas (Lands) Act (Newfoundland Regulation 225/78), which protects lands within the ADA for agriculture. The most important issue cited with respect to the Wooddale ADA was the proportion of land cleared for agriculture that was idle (R.A.N.D., 1977, 2). In 1979, 385 hectares or 48.4 percent of all improved land in the ADA were owned by non-farmers, accounting for 66.8 percent of the idle

land in the ADA (R.A.N.D., 1979, 11).

In 1983, the Agriculture Branch prepared a report initiating a farmland development project in the Wooddale ADA. In the report, more specific detail was provided regarding different land uses in the ADA. A water supply area, scheduled salmon river, forestry leases, a municipal planning area, and a designated quarry development area were identified (R.A.N.D., 1983f, 2 and 3). While no significant conflicts were identified at the time of the report, since then the designation of a water supply area has been problematic for agriculture.

Agricultural development in the Gander Lake ADA is restricted by the difficulty in acquiring idle agricultural lands controlled by non-farmers. In 1970, a consortium of lawyers operating under the name Northwest Gander Farms Ltd. obtained a 15 year lease with subdivision clauses (R.A.N.D., 1982a, 8). In addition, forestry conflicts arise as most of the ADA is located within the "Bowaters Lease Lot 74", and recreational conflicts have occurred as a result of cabin development and the existence of a scheduled salmon river (R.A.N.D., 1982a, 8).

The Brown's Arm-Laurenceton ADA and Comfort Cove ADAs have since been amalgamated into the Lewisporte ADA (Figure 3.1). In the Brown's Arm-Laurenceton portion of the ADA, it was stated that, although agriculture was primarily

Province: the St. John's ADA; the Markland ADA; the Whitbourne ADA; the Avalon South ADA; and the Burin ADA. The latter two have only been identified as having future potential for agriculture and no agricultural background reports were prepared for them. The Avalon South ADA, for example, is primarily peat land and would require extensive draining before agricultural activity could proceed.

In the Markland ADA, the primary focus of agricultural development is the "Bond Block", an 809 hectare tract of land originally granted to Sir Robert Bond. This land was transferred back to the Crown in 1986. The existing land uses in the area include agriculture, forestry, aggregate industries, urban development (a portion of the Town of Whitbourne and community infilling limits in the Town of Markland), institutional (the Provincial Department of Public Works and Services construction of a Corrections Centre) and recreational (salmon rivers under the Federal Department of Fisheries and Oceans) (R.A.N.D, 1988, 4-6). The primary land use conflict identified by R.A.N.D. (1988) is between forestry and agriculture, although the potential for the development of aggregate industries also represents a significant prospective conflict (p.6).

The Winterland ADA lacks a suitable land base because of fragmentation which restricts large-scale agriculture. In addition, approximately 130 Hectares, of which 70 percent was

supplemental, future development would be constrained by ribbon development and quarry development (R.A.N.D., 1983d, 6). Other potential conflicts cited were a forest management area and three dump sites located on the most arable soils in the ADA (R.A.N.D., 1983d, 7). In the Comfort Cove portion of the ADA a lack of arable Crown land has also been identified as an issue affecting the development of agriculture in the ADA. However, more significant issues constraining the development of agriculture were identified as the small markets and the lack of interest by landowners (R.A.N.D., 1983e, 8).

Development in the Terra Nova ADA is restricted by its location within Terra Nova National Park. In fact, there are presently no active farm operations in the ADA. Land ownership issues were identified as the primary concern, the most significant constraint being the inability to acquire crown land leases in the area due to the National Park status. In addition, the timber rights restrict agricultural development on large parcels of land (R.A.N.D., 1980f, 11). The viability of these limited parcels with potential capability for agriculture, even if available for agriculture, has placed the Terra Nova ADA as a low priority for agriculture.

5.1.4 Eastern Region

There are five ADAs in the Eastern Region of the

Class 4 land, was idle in 1980 (R.A.N.D., 1980h, 6). Furthermore, a road bisects the ADA and uncontrolled ribbon development has caused difficulties for agricultural development (R.A.N.D., 1980h, 11).

Describing the land competition affecting agriculture in the St. John's ADA is a thesis in itself. Both agricultural activity and urban development are most concentrated in this portion of the Province. In 1980, it was estimated that 26 percent of all farmers and 40 percent of all farms worth more than $100,000 were located in the St. John's ADA (R.A.N.D., 1980g, 1). The City of St. John's is the largest urban centre in the Province. As a result, urban encroachment on agricultural lands is the primary land use conflict in the St. John's ADA. In response to this competition, the Province established a Boundaries Review Commission to study the "St. John's Urban Region (Agriculture) Development Area". The mandate of the Commission was "to ensure that only lands of agricultural importance are included" in the ADA (Simmons, 1993).

Following a process of public consultation, the Commission made recommendations to the Province, including deleting some land from the ADA. The results of this process, published in January 1993, were released to the Public in March, 1993 (Simmons, 1993). It is obvious from the report that any solution to the current problem will not satisfy all

parties. Both non-farmers and farmers want to be able to develop lands they own, regardless of agricultural quality. The farming community, as represented through the Newfoundland and Labrador Federation of Agriculture, want the "land freeze" to be retained and enforced by the Province. However, clearly not all farmers agree with this position, which further complicates the issue. The main problem is that these lands, which are among some of the most productive in the Province and are adjacent to its largest market, are also the most populated part of the Province, resulting in demands for land for urban expansion.

5.2 Analysis of Land Competition Issues, 1992.

5.2.1 Methods

The agricultural background reports were vague in parts and conducted in an ad hoc manner over a span of approximately seven years from 1976 to 1983. However, it is important to note that these were the first and only attempts to identify issues affecting the development of agriculture in the Province. The purpose of this section is to provide an update of these concerns. The data were generated from a questionnaire survey directed to the twenty professionals having soil and land management responsibilities in the Agriculture Branch (Appendix 4).

In developing the questionnaire, a scoping exercise was first undertaken. A small number of farmers (n=6), sawmillers

(n=5) and agricultural professionals (n=3) were interviewed to identify a base list of issues affecting the development of agriculture. The sawmill operators were included in this process as preliminary research had indicated that the dominant land use conflicts were between agriculture and forestry in the Province and specifically, in the LMADA.

Conducted in May 1992, this process resulted in the identification of 148 issues by the 14 respondents: 93 from the five sawmill operators, 28 from the three Agriculture Branch personnel and 81 from the six farmers. These issues are listed in Appendix 5.

With this base list of issues, plus the information obtained from reviewing the background reports and other literature and through informal interviews with government professionals from various departments, a formal questionnaire consisting of two parts was developed. The first section contained 29 closed-ended statements, involving issues that affect the development of agriculture in the Province. Respondents were asked to respond to each statement on a five-point Likert Scale: strongly agree, agree, neutral or no opinion, disagree, and strongly disagree (Dillman, 1978).

Of the 29 statements, 15 were "resource-related" issues. The results of these are presented in Appendix 6. Where applicable, reference will be made to these statements. The remaining 14 statements have been classified as "land

competition issues" and are the focus of this analysis.

The second part of the questionnaire provided the respondents with the opportunity to first describe the "resource-related issues or conflicts" affecting agriculture in their areas of jurisdiction. They were then asked to rank these issues. The results of this section of the questionnaire are described following the analysis of the closed-ended statements.

To identify province-wide issues, the questionnaires were distributed by mail to the twenty professionals in the Agriculture Branch, in November 1992. An important point to note is that this was a population survey and not a sample, as these twenty professionals represent the total number of Agriculture Branch personnel with soil and land management responsibilities. Their positions are as follows:

```
 1 Director of Soil and Land Management
 3 Regional Supervisors
       1 - Western Region
       1 - Central Region
       1 - Eastern Region
 4 Land Use Planners
12 Agriculture Representatives
       1 - Labrador
       3 - Western Region
       4 - Central Region
       4 - Eastern Region

20 Professionals, Agriculture Branch, DFA
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After a follow-up questionnaire was mailed to those failing to respond initially, all twenty questionnaires were

returned, for a response rate of 100 percent. The following is an analysis of the data from these questionnaires. The purpose of the close-ended statements was to attempt to gain a sense of the importance of specific land competition issues relative to each other by providing a descriptive analysis of the issues identified by the twenty respondents.

5.2.2 Land Competition Issues Affecting Agriculture: Responses to the Closed-ended Statements.

The responses to the fourteen statements are presented in Table 5.1, beginning with the statements with the highest degree of similarity of response, that is, indicating either strongly agree/agree or strongly disagree/disagree. The purpose of Table 5.1 is to provide an aggregate list of the closed-ended statements. Table 5.2 ranks, by region, the fourteen closed-ended statements beginning with the highest degree of similarity of response. The intent of Table 5.2 is to provide an estimation of the regional importance of the fourteen land competition issues relative to each other and is referred to throughout the remainder of this chapter.

To simplify the analysis, the 14 land competition issues have been aggregated into seven broad issues:

1. urban and residential development
2. forestry
3. water supply areas
4. wildlife
5. availability of land for agriculture
6. dump site regulations and,
7. protected road regulations;

Table 5.1. Responses to Statements About Land Competition Issues Affecting Agriculture in Newfoundland, 1992.

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
"Urban expansion has negative impacts on agriculture."				
5	14	0	1	0
"Residential development on agricultural land has a negative impact on agriculture."				
6	12	1	1	0
"Forestry development is favoured over agricultural development."				
5	11	2	2	0
"Water supply areas restrict agriculture."				
5	11	2	2	0
"Wildlife has no negative impact on agriculture."				
0	3	1	12	4
"Pulp and paper operations have a negative impact on agriculture."				
3	13	4	0	0
"Obtaining agricultural lands outside the agricultural boundary is more difficult than inside the boundary."				
0	3	2	14	1
"Cottage development has a positive impact on agriculture."				
0	3	4	11	2
"It is difficult to access suitable lands for agriculture."				
1	12	3	4	0

(continued)

Table 5.1. Responses to Statements About Land Competition Issues Affecting Agriculture in Newfoundland, 1992 (continued).

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
"Idle lands should be brought back into production before more land is cleared for new farmers."				
3	9	1	7	0
"Saw mill operations have a negative impact on agriculture."				
0	5	4	11	0
"Domestic wood-cutting areas have a negative impact on agriculture."				
0	7	3	10	0
"Dump site regulations negatively impact agriculture."				
1	9	7	3	0
"Protected roads regulations have a positive impact on agriculture."				
0	9	6	4	1

5.2.2.1. Urban, Residential and Cottage Development Issues.

Urban expansion was perceived by 19 of the 20 respondents as having negative impacts on agriculture (Table 5.3). Related to urban expansion, residential development was indicated by 18 respondents as having negative impacts on agriculture (Table 5.3). The similarity in response to the two statements is not surprising. However, both were included to recognize non-urban residential development.

Table 5.2. Ranking of Land Competition Issues Affecting the Development of Agriculture, by Region.

Issues	All	Western	Central	Eastern
Urban expansion has a negative impact	1	6	2	2
Residential development has a negative impact	2	5	3	1
Forestry is favoured over agriculture	3	6	3	3
Water supply areas have a negative impact	3	8	1	4
Wildlife has a negative impact	4	3	1	12
Pulp and paper operations have a negative impact	5	1	2	5
It is no more difficult to obtain land outside the ADA boundary	6	2	5	9
Cottage development has a negative impact	7	4	6	7
It is difficult to access suitable land	8	7	4	9
Idle lands should be developed first	9	8	7	8
Saw milling has a negative impact	10	7	5	10
Domestic wood cutting has a negative impact	11	7	7	11
Dump site regulations have a negative impact	12	9	4	6
Protected roads have a positive impact	13	10	8	6

Table 5.3 Urban, Residential and Cottage Development Issues.

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
"Urban expansion has negative impacts on agriculture."				
5	14	0	1	0
"Residential development on agricultural land has a negative impact on agriculture."				
6	12	1	1	0
"Cottage development has a positive impact on agriculture."				
0	3	4	11	2

As discussed in the literature review, urban expansion is generally considered to be the major source of competition for lands with the potential for agriculture. While urban expansion has not occurred at a rapid rate in Newfoundland and Labrador, land with the potential for agriculture is typically relatively flat and well-drained and, subject to its location, is also suitable for residential development. The larger problem in this Province is that there is such a small percentage of the land base that is suitable for agricultural purposes. However, a much larger area is available for housing, such as land with poor soil quality (eg. Class VI).

Table 5.2 illustrates these issues as being of greatest importance in the Eastern Region of the Province, followed by the Central Region. Of lesser importance, residential development and urban expansion ranked fifth and sixth

respectively in the Western Region.

Cottage development can take place on land with the potential for agriculture, specifically near rivers and ponds which are accessible by agricultural and forestry access roads. Examples include the Green Bay (R.A.N.D., 1982b) and Humber (R.A.N.D., 1980c) ADAs. In addition, other conflicts can arise associated with cottages, for example, nuisance complaints, trespassing and vandalism. Thirteen respondents indicated that cottage development is having negative impacts on agriculture (Table 5.3). Cottage development ranked seventh overall, fourth in the Western Region and sixth and seventh respectively in the Central and Western Regions (Table 5.2).

5.2.2.2 Forestry Issues

Because of the need for adequate soils, the forestry and agriculture sectors must compete for the same land. This competition is reinforced in the recent 20 Year Forestry Development Plan 1990-2009 (D.F.A., 1992) which states that:

> Less than 0.3% of all land in the province is suitable for farming. Prime agriculture land is usually prime forestry land and the loss of productive land is critical to both industries. The result is a continuous land use conflict that has yet to be resolved (D.F.A., 1992, 26)

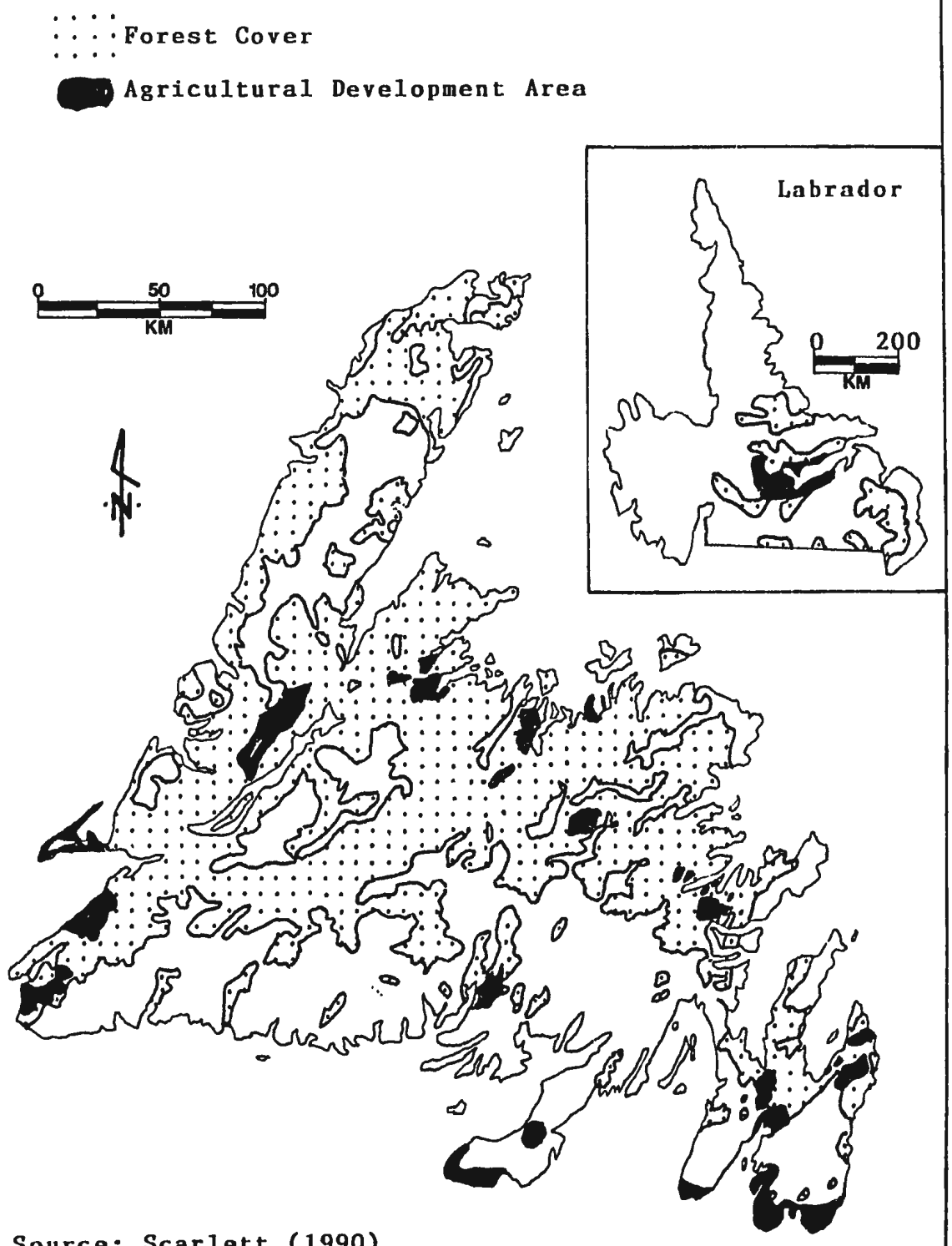
However, while the Forestry Branch recognizes this conflict, this is the only mention of the conflict with agriculture in their twenty year plan. This is similar to other competing

land-uses. There is no mention of the need to develop integrated approaches to managing the limited land base that both sectors compete for.

Two maps help to provide an understanding of the competition for land between forestry and agriculture. Figure 5.1 illustrates the overlap between lands identified with the potential for agricultural development and the lands presently under forest cover. Figure 5.2 illustrates the control that existing pulp and paper company leases have over land-use throughout the Province, as these leases preclude other development, including agriculture. In addition, von Mirbach (1993) estimates that approximately thirty percent of pulp wood cut in the Province comes from areas outside the forestry company leases. This has resulted in conflicts within the forestry sector regarding the utilization of the forest resource, although an examination of this issue is beyond the scope of this thesis.

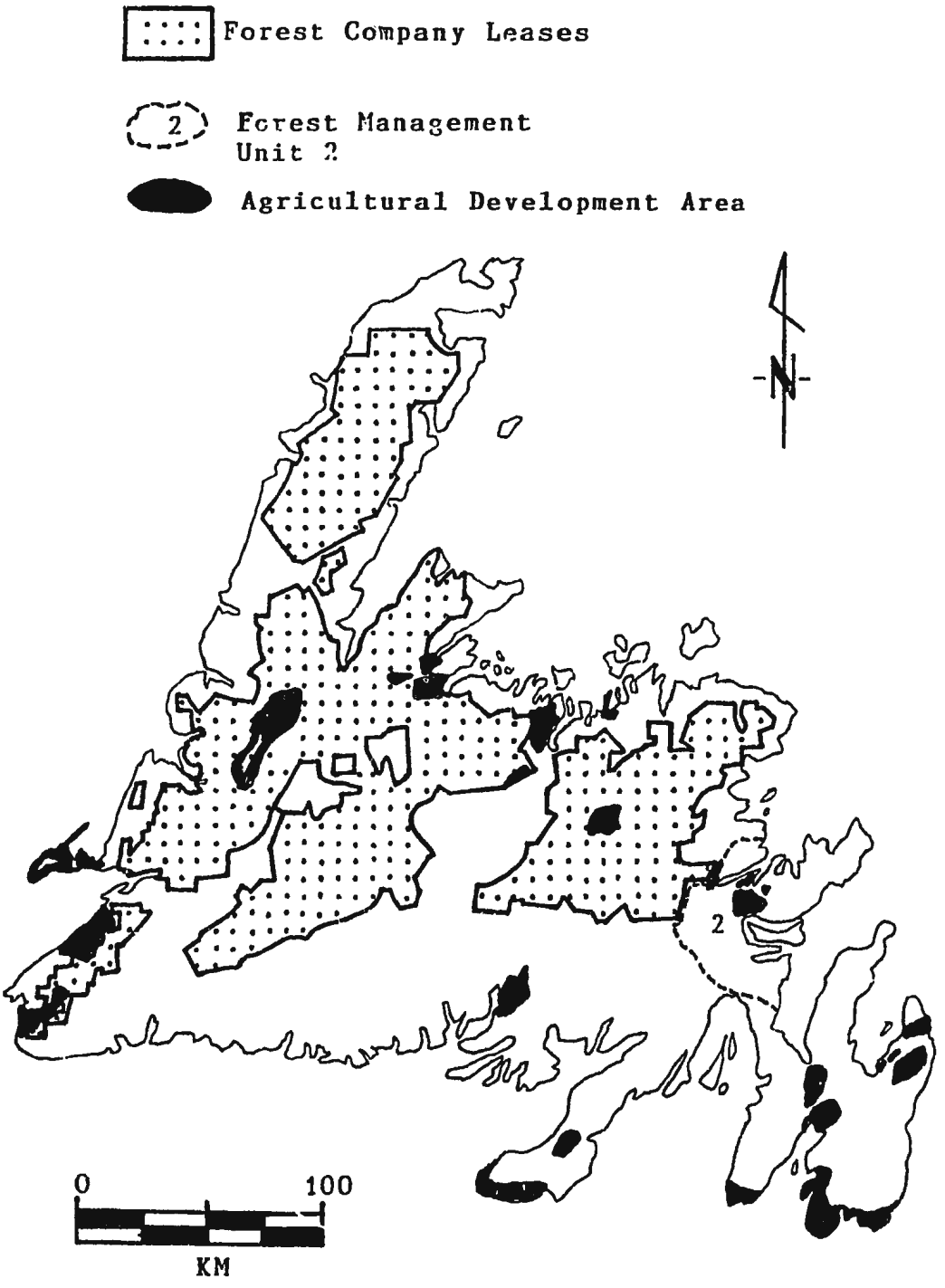
Sixteen respondents indicated that they feel forestry development is favoured over agricultural development (General Statement in Table 5.4). Similarly, sixteen respondents feel that pulp and paper operations have negative impacts on agriculture. Fewer respondents, however, feel that sawmill operations and domestic wood-cutting areas have negative impacts on agriculture (Table 5.4).

Figure 5.1. Forest Cover and Agricultural Development Areas in Newfoundland and Labrador.



Source: Scarlett (1990).

Figure 5.2. Forest Company Leases in Newfoundland



Source: Scarlett (1990);

Table 5.4 Forestry Issues.

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
General Statement:				
"Forestry development is favoured over agricultural development."				
5	11	2	2	0
Specific Issues:				
"Pulp and paper operations have a negative impact on agriculture."				
3	13	4	0	0
"Sawmill operations have a negative impact on agriculture."				
0	5	4	11	0
"Domestic wood-cutting areas have a negative impact on agriculture."				
0	7	3	10	0

As indicated in Table 5.2, the four forestry-related statements: a general statement and the negative impacts of pulp and paper operations, sawmill operations and domestic wood-cutting areas, ranked fourth, fifth, tenth and eleventh respectively. In the Western Region, while the general statement ranked sixth, the negative impacts of pulp and paper operations was ranked the number one issue affecting the development of agriculture. Sawmill operations and domestic wood-cutting areas, on the other hand, were tied with a ranking of seventh in the Western Region.

In the Central Region, the general statement ranked third and the negative impacts of pulp and paper operations on

agriculture ranked second (Table 5.4). The negative impacts of sawmill operations and domestic wood-cutting areas ranked fifth and seventh respectively. The general statement also ranked third in the Eastern Region (Table 5.2). In contrast to the Western and Central Regions, however, the negative impacts on pulp and paper operations, sawmill operations and domestic wood-cutting areas are not as significant in the Eastern Region, ranking fifth, tenth and eleventh respectively, (Table 5.2). The responses from the Eastern Region are related to the location of productive forests and forest leases, as illustrated in Figures 5.1 and 5.2, respectively.

5.2.2.3. Water Supply Area Issues.

Provisions in the Department of Environment and Lands Act (1981) allow communities to designate water supplies for protection. No development that will alter this supply is permitted, including agriculture. Sixteen respondents stated that water supply areas have negative impacts on agriculture (Table 5.5). As indicated in Table 5.2, the negative impacts of water supply areas on agriculture ranked third by all respondents, along with the general forestry statement.

In the Central Region, water supply areas ranked first. In the Eastern and Western Regions, water supply areas ranked fourth and eighth, respectively. The reasons for the importance of this issue in the Central Region is due

primarily to the effects of water supply areas on agriculture in the Wooddale ADA. While land in the ADA was legislated for agriculture in 1978, Section 20 of the Department of Environment and Lands Act (1981) placed restrictions on development, including agriculture.

Table 5.5. Water Supply Areas.

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
"Water supply areas restrict agriculture."				
5	11	2	2	0

5.2.2.4. Wildlife Issues

Wildlife differs from the other land competition issues in that this is the only non-human conflict. However, the moose problem is directly related to moose population management. The primary impacts of wildlife, and in particular moose and rabbits, on agriculture relates to their trampling and feeding on crops. Much of the land is forested and is therefore conducive to wildlife habitat, which makes this particular conflict difficult to resolve. Because of the nature of the landscape, it is not uncommon for a farmer to clear several pockets of a few acres of land, which are often not visible from the farm residence, for crop production. This makes controlling wildlife a difficult task, both at the

farm level and in terms of policy responses by government. Presently, farmers are permitted to shoot any moose affecting their crops, but must report such shootings to the Wildlife Division, Department of Environment and Lands, and they are not allowed to keep the carcass. However, this measure only reacts to damage being caused, it does not prevent it.

In response to concerns expressed by the Newfoundland and Labrador Federation of Agriculture (NLFA), the Wildlife Division (Department of Environment and Lands) prepared a questionnaire ("Wildlife Crop and Livestock Damage Survey") (Joyce, 1993a). This questionnaire was distributed to farmers across the Province in November 1992. The purpose of the survey was to identify the scale of the damage wildlife was causing to crops and livestock (Joyce, 1993a). Of the 650 questionnaires distributed, only 57 were returned, a response rate of nine percent (Joyce, 1993b, 1). The low response rate seems to indicate that damage caused by wildlife is not an issue to all farmers in all regions of the Province. However, as described in the case study, there was a high response rate from farmers in the LMADA (Figure 6.1) and in Shearstown (Figure 4.3). Of the 57 respondents, 42 (74%) indicated crop damage caused by moose. All three berry farmers indicated damage, compared with 35 percent (13/37) of legume and forage farmers and 57 percent (25/44) of vegetable farmers (Joyce, 1993b, 1).

Moose damage was reported as occurring primarily beginning in late May and continuing into November, with the highest degree of damage occurring between September and October, the harvest season for most vegetable farmers. In terms of time and resources spent on wildlife control, 67 percent of respondents reported monetary costs of between $1,000 and $5,000 dollars and time costs from 100 to more than 500 hours per season (Joyce, 1993b, 1).

The most popular methods to deal with wildlife damage are fencing, night patrols and special permits to shoot wildlife. Those who have attempted electric fencing have found it to be an effective but costly measure, but most indicated that special permits to shoot moose, increased quotas for hunters and the designation of special zones in agricultural areas are the most effective measures to control wildlife damage (Joyce, 1993b, 1). A three week season for moose hunting was opened in "special zones" in agricultural areas experiencing moose problems in August of 1988 and 1989. However, this was discontinued because of the high number of moose killed and the "suspicions surrounding the actual location of the kills" (Joyce, 1993b, 2).

In response to the questionnaire distributed to personnel in the Agriculture Branch, sixteen respondents indicated that wildlife was having negative impacts on agriculture (Table 5.6). As indicated in Table 5.2, this statement ranked fourth

by all respondents. Apart from the overall ranking, there was significant variation in the ranking among regions. Wildlife was not a significant issue in the Eastern Region of the Province, ranking twelfth. The reason for this is due to the fact that agriculture in the Eastern Region is, for the most part, located adjacent to urban centres where wildlife is not as abundant.

Table 5.6. Wildlife.

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
"Wildlife has no negative impact on agriculture."				
0	3	1	12	4

In the Western Region, wildlife was the number three issue. In the Central Region, wildlife was tied with the negative impacts of water supply areas as the number one issue. The case study illustrates the differences within the Central Region, as wildlife had greater impacts than water supply areas, on agriculture in the LMADA. Apart from the fact that Shearstown is located in the Eastern Region, these results are similar to the results of the survey conducted by the Wildlife Division.

5.2.2.5 Land Availability Issues

The most basic land use issue affecting agriculture in Newfoundland and Labrador is the availability of land. Specific land competition issues such as forestry development and water supply areas feed into the more general issues of availability of land for agriculture. In response to this, several questions were raised. Is it difficult to gain access to land for agriculture? Is it more difficult to obtain land outside an agricultural boundary than inside? And what are the views of the Agriculture Branch regarding idle land that has been identified for agriculture but is not being used? As indicated in Table 5.7, three closed-ended statements relating to obtaining lands for agricultural purposes were included in the questionnaire.

Table 5.7. Land Availability Issues.

	Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
"Obtaining agricultural lands outside the agricultural boundary is more difficult than inside the boundary."	0	3	2	14	1
"It is difficult to access suitable lands for agriculture."	1	12	3	4	0
"Idle lands should be brought back into production before more land is cleared for new farmers."	3	9	1	7	0

Due to the existence of ADAs, respondents were asked whether it was more difficult to obtain land for agriculture outside the ADA boundary. As indicated in Table 5.7, only three respondents stated that it was difficult to obtain a land lease for agriculture when outside the ADA boundary, while fifteen respondents felt it is no more difficult. This statement ranked sixth for all respondents. As a matter of policy, the Agriculture Branch supports agricultural development whether inside or outside the ADA boundary. This is important, as not all lands inside ADA boundaries are suitable or available for agriculture and there is land outside the ADA boundaries that is suitable for agricultural production. This point is addressed again in Chapter 6.

In contrast to this statement, thirteen respondents believed it was difficult to access suitable land for agricultural development (Table 5.7). This issue ranked eighth with all respondents and was a more significant issue in the Central Region (fourth) than in the Eastern (ninth) and Western Regions (seventh) (Table 5.2). The word "access" could mean several things, and in retrospect more accurate terminology should have been used. "Access" could have been interpreted as obtaining a land lease, or obtaining land accessible by road. In addition, it is possible that the difficulty in accessing suitable agricultural lands could be an issue both inside and outside the boundary. However, this

statement is still useful because, although fourteen respondents stated that it was no more difficult to obtain agricultural land outside the boundary than inside, thirteen respondents believed that it was generally difficult to access agricultural land. As will be illustrated in the case study, not all lands within ADA boundaries are necessarily accessible by road, suitable, or available for agriculture.

In the third statement, regarding the availability of lands for agriculture, twelve respondents indicated that idle lands should be developed for agriculture before new lands are cleared. This issue ranked ninth after the statement on accessing suitable lands for agriculture. There is little difference in ranking between Western, Central and Eastern Regions with rankings of eighth, ninth and eighth, respectively. This is primarily because idle lands exist across the Province.

Idle lands are lands that in the past have been allocated for agriculture, either through a lease or grant, but, for whatever reason, currently lie idle. It was estimated that between 1975 and 1985, 1189.4 hectares (2,939 acres) of land was idle in the six designated ADAs alone. These ADAs are the: St. John's, Wooddale, Humber Valley, Robinsons-St. Fintan's, Codroy, and the LMADA (Figure 3.2) (Northland Associates Ltd., 1987). In many cases, locating ownership of these idle lands is difficult, particularly in

the Codroy Valley and Robinsons-St. Fintan's ADAs. This is an issue that has long been a concern of the Province and one which represents a study in itself.

5.2.2.6. Dump Site Regulation Issues

Responding to health concerns, the Provincial Government implemented The Waste Materials (Disposal) Act, restricting development within a 1.6 kilometre (one mile) boundary of dump sites in 1973. All existing dumps were affected by this legislation. The impact on agriculture occurs when these dump sites are located on land suitable for agriculture or restricts development on adjacent agricultural land. In addition, to service residents, dumps are commonly located on paved roads which generally have electrical services available. As will be illustrated in the case study, both these factors have significant impacts on agriculture.

Ten respondents indicated that the dump site regulation had negative impacts on agriculture and three disagreed. Seven respondents indicated they were neutral or had no opinion (Table 5.8). This statement ranked twelfth out of the fourteen statements. In the Central and Eastern Regions no respondent disagreed with the statement, which ranked fourth and sixth respectively. In the Western Region, this statement ranked ninth (Table 5.2). The reason for the lack of consensus could be that either the respondents had no dumps within their areas of jurisdiction or that they did not

understand the statement. In addition, the lack of consensus could be attributed to respondents perception of dumps as neither positive or negative as they are necessary. Unlike forestry and land availability issues, dump sites are site specific, usually adjacent to a community. In addition, respondents may have felt that, because such legislation is viewed as necessary for health reasons, they should indicate neutrality.

Table 5.8. Dump Site Regulations Issues.

	Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
"Dump site regulations negatively impact agriculture."	1	9	7	3	0

Regardless of the reasons for the lack of consensus, existing dump sites do restrict land from agricultural development. In many cases, such as in the case study, these boundaries restrict productive agricultural lands within ADAs. While the ADAs pre-date the dump site regulations, this is not to say that dump sites themselves did not pre-date some ADAs. Of concern is to ensure that future dump sites are not located in areas where the boundary affects productive agricultural lands. As illustrated in the case study, locating dump sites on productive agricultural lands has occurred in the LMADA.

5.2.2.7. "Protected Road Regulation" Issues.

First implemented in 1979, "Protected Road Regulations" restrict development approximately 400 metres on either side of designated highways (Municipal Affairs and Housing, 1979). In addition to the Trans Canada Highway, four provincial highways have been designated as tourism routes and legislated as "Protected Roads". Agricultural uses are allowed within the restricted zone. However, development considered "highway commercial" and "highway service centre" is also permitted under the regulations. These uses include: motels, restaurants, service stations, tourist chalets, travel trailer parks, tourist lodges, tourist cabins, camping parks, rest parks and marinas. Conflicts could arise if this tourism-related development took place on lands with the potential for agriculture and/or adjacent to existing agricultural operations.

Nine respondents indicated that the "Protected Road Regulations" (1979) have a positive impact on agriculture while five disagreed. Six respondents were neutral or had no opinion (Table 5.9). This issue ranked last of the fourteen land competition issues in the questionnaire. Regionally, this issue ranked last in the Western and Central Regions and sixth in the Eastern Region (Table 5.2). As with dump sites, this issue is specific to those agricultural areas affected by a protected road. In addition the high number of neutral

responses could be attributed to a lack of knowledge of the "Protected Road Regulations". As the case study is affected by a protected road, this issue will be addressed in more detail in the next chapter.

Table 5.9. "Protected Road Regulations" Issues.

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
"Protected roads regulations have a positive impact on agriculture."				
0	9	6	4	1

5.2.2.8 Summary of the Responses to the Closed-ended Statements

By examining the results of the closed-ended statements, respondents perceived land competition issues such as urban development, forestry, water supply areas and wildlife as having greater negative impacts on agriculture than dump site regulations, protected roads and, to a degree, obtaining land for agriculture.

Disaggregating the latter issue, respondents generally do not feel that it is more difficult to obtain lands for agriculture outside the ADA boundary. However, the majority feel that it is difficult to access suitable land for agriculture and that idle lands should be brought back into production before new lands are cleared.

5.2.3 Land Competition Issues Affecting Agriculture: Responses to the Open-ended Questions.

After completing the closed-ended section of the questionnaire, respondents were given the opportunity to list and then rank the resource issues affecting agriculture in their area of jurisdiction. This open-ended section (Appendix 4) was structured as follows:

> **FOR THE FOLLOWING QUESTIONS, IF A SPECIFIC ADA IS AFFECTED BY A CERTAIN ISSUE OR CONFLICT, COULD YOU PLEASE INDICATE THE APPROPRIATE ADA.**
>
> **1. Do you feel there are any resource issues or conflicts facing the area or region you represent?**
>
> **Yes ____ No ____ If yes, what are they?**
>
> (space was provided (Appendix 4))
>
> **2. Could you please rank, in order of importance (one being most important), the resource issues affecting agriculture in the area or region you represent.**
>
> (six lines numbered one to six were provided) (Appendix 4)

Nineteen of the twenty respondents indicated "yes" to the first question. However, not all respondents followed the instructions completely or provided the same level of detail. For example, one respondent stated that environmental mismanagement was an issue, but failed to explain what was meant by it. Another respondent specified the negative impacts of water supply areas on agriculture as an environmental management issue. In addition, some respondents

stated forestry as an issue, while others specified the impacts of pulp and paper or sawmill operations. Finally, very few respondents indicated specifically where an issue occurred. It is acknowledged that this problem could have been avoided if the questionnaire had been administered by phone rather than mail.

However, it is possible to provide a list of the issues provided in the open-ended section of the questionnaire. Table 5.10 provides this list of issues according to the number of respondents indicating that issue along with a list of the number of times each issue was ranked first and second by respondents. This provides an estimation of the importance of specific issues relative to each other and also offers a comparison with the closed-ended section of the questionnaire.

As illustrated in Table 5.10, the most important issues affecting agriculture relate to the competition with forestry, water supply areas, urban and residential development, difficulties in obtaining land, and environmental management issues. Other issues mentioned more than once included competition between agriculture and quarry development, market issues, wildlife conflicts, start-up and production costs, competition with road construction, and problems associated with the St John's ADA land freeze.

The ranking of responses in Table 5.10 is similar to the ranking of the issues in the closed-ended section of the

questionnaire (Table 5.2). Of the nineteen respondents ranking the resource issues affecting agriculture, six indicated that forestry was the number one issue, followed by four stating availability of land for agriculture as the number one issue. Four respondents indicated that forestry was the number two issue, compared to three stating urban-related development and two stating availability of land for agriculture.

Table 5.10. Issues Identified by Respondents in the Open-Ended Section of the Questionnaire.

Total # of Respondents Indicating Each Issue	Total # of Respondents Ranking Issue #1	#2	Issue
14	6	4	Forestry
8	3	1	Water Supply Areas
7	2	3	Urban, Residential, Cottage
7	4	2	Land Availability
7	3	1	Environmental Management
5	0	0	Quarries
4	1	1	Markets
3	0	1	Wildlife
3	0	0	Start-up/production costs
2	0	0	Dump sites
2	0	0	Roads/transportation
2	0	0	Land freeze (St. John's)

Note: Twenty Issues were mentioned once (see Table 5.11)

Table 5.11. Issues Mentioned Once in the Open-ended Section Section of the Questionnaire.

Land Competition Issues
- lack of land bank on the west coast*
- non-farm ownership
- poor soils
- loss of land through temporary zoning
- idle lands
- lack of commitment to preserve land and farms
- no hydro provided to agricultural land*
- no policy on sod farming
- improper land development
- no policy on organic matter
- waterfowl habitat
- conflicts with fisheries
- commercial demands such as golf courses
- Aboriginal land claims
- conflicts with Churchill Falls development
- cod moratorium attracting temporary farmers

Other Issues
- lack of youth interested in farming
- lack of quotas
- low returns to agriculture
- tourism*

Note: * indicates an issue ranked second by respondent

Regionally, of the five most important issues listed in Table 5.10, only forestry was indicated as an issue in all four regions. The land availability, water supply areas and environmental management issues were listed as issues in the Western, Central and Eastern Regions. Urban and residential development and quarry development were not listed by any respondents in the Western Region. Market-related issues and the cost of start-up and production were listed by respondents in the Western, Central and Eastern Regions. Wildlife conflicts however, were only listed by respondents in the Eastern Region, and by one individual who responded for the

Province as a whole. As listed in Table 5.11, twenty issues were mentioned only once. As indicated, three of these were ranked second by the respondent: the lack of land bank on the west coast, the lack of hydro on agricultural land and the impacts on tourism. However, the latter issue was only one of two issues provided by the respondent.

Of the issues listed in Table 5.11, two were provided by respondents in the Western Region, eleven in the Central Region, five in the Eastern Region, three in Labrador, and two were from an individual who responded for the province as a whole. This illustrates the high number and diversity of issues affecting agriculture in the Central Region compared to the other three regions.

5.2.4 Comparing Regions: A Summary

Between the 29 closed-ended statements and the issues provided to the open-ended portion of the questionnaire, a diverse range of issues facing agriculture has been identified. For each of these issues, some variations can be identified between regions within the Province. Table 5.12 lists the land competition issues from both the closed-ended and open-ended statements in the questionnaire distributed to the Agriculture Branch. While no statistical analysis is attempted, this table does provide an estimation of issues as perceived by all professionals in the Agriculture Branch with responsibilities for soil and land management.

Table 5.12. Land Competition Issues By Region.

Issue	Labrador	Western	Central	Eastern
Land Claims	*			
N. Cod Moratorium	*			
Lower Churchill	*			
Forestry	*	*	*	*
Urban Expansion	*	*	*	*
Residential Devel.			*	*
Cottage Devel.		*		
Wildlife	*	*	*	
Water Supply Areas			*	*
Dump Site Regs.			*	*
Access To Land			*	
Idle Land		*	*	
Quarry Development			*	
Environmental Impacts			*	

In Labrador, issues such as aboriginal land claims, the Northern Cod Moratorium and the effects of the Lower Churchill hydro-electric development were cited as the three most significant issues affecting agriculture. Other concerns include the negative impacts of silviculture activities, urban encroachment and wildlife.

As listed in Table 5.12, in the Western Region the negative impact of the pulp and paper industry was the number one issue affecting the development of agriculture. This is due in part to the industry's predominance in Western

Newfoundland and in part to the forest company leases. Other important issues include wildlife concerns, idle lands, cottage and residential development and urban expansion.

In the Eastern Region, residential development and urban expansion were indicated as the two most significant issues affecting the development of agriculture. This is due primarily to the growth in the St. John's Region, the most densely populated and urbanized part of the Province. This region is also where there is the most land suitable for agricultural development and the greatest number of existing farms are located. Other concerns include the perception that forestry development is favoured over agriculture in the Province and the negative impacts of water supply areas, pulp and paper operations and dump site regulations.

The most important issues in the Central Region are: the negative impacts of water supply areas, wildlife, pulp and paper operations, urban expansion, residential development, dump site regulations; forestry development being favoured over agriculture; and the difficulty in accessing suitable land for agricultural development. Other issues included the negative impacts of silviculture projects and quarry development, the difficulty in accessing idle lands and environmental impacts.

The Central Region, therefore, is affected by the same issues that affect Eastern and Western Regions and, to a

degree, Labrador. This was an important criterion in selecting a case study area.

Chapter 6

Case Study:

The Lethbridge-Musgravetown Agricultural Development Area

> "It is difficult to find a person involved in agriculture that cannot relate to some personal experience regarding problems they have encountered obtaining land or access to land in order to farm"
>
> K.C. Robertson (1993b)
> Farmer, Lethbridge, NF.

6.1 Introduction

The primary purpose of Chapter 5 was to provide an overview of the types of land competition issues that face agriculture in Newfoundland and Labrador. In the initial stages of the research it was realized that, due to the scale and diversity of the issues, providing detail for the entire Province was beyond the scope of this thesis. Therefore, the decision was made to select one Agricultural Development Area (ADA) as a case study for a detailed analysis.

In selecting an appropriate ADA, only six areas are officially designated as ADAs by the Province, as listed in Chapter 4, because these are the most important agricultural regions in the Province, as acknowledged by their designation. Through initial research and consultation with the Agriculture Branch of the Department of Forestry and Agriculture, the Lethbridge-Musgravetown Agricultural Development Area (LMADA) was selected for this detailed analysis (Figure 6.1).

This choice was made for several reasons. The importance of this area to agriculture in Newfoundland and Labrador was recognized by the Task Force on Agrifoods in 1991 (Hulan, 1991). In this report, the recommendation was made to have the LMADA, along with the Humber Valley ADA, immediately brought under legislative protection similar to the St. John's ADA and the Wooddale ADA in order to prevent their conversion to other uses (Hulan, 1991, 155).

The LMADA has a productive land base which has accessibility by roads, availability of power supplies and proximity to markets. In 1987, the Agriculture Branch initiated a development project in the LMADA which made a large number of lots available for agriculture. The LMADA also has a relatively large farming community producing a diverse range of agricultural products. The seventeen full-time farmers in the LMADA are involved in vegetable, fruit, poultry, dairy, egg, hay and greenhouse operations. The LMADA is also located near the major markets in the Province, including Central Newfoundland and within a two hour drive of the St. John's Region. The area is also an active and growing farming region. The number of commercial farmers in the LMADA increased from eleven to seventeen (35%) between 1980 and 1993 (R.A.N.D., 1980d and Agriculture Branch 1993).

The most important reason for selecting the LMADA was the presence of land competition issues that exist in the LMADA.

During the initial stages of the research it appeared that the LMADA was a representative example of land competition issues occurring across the Province. This choice was supported and endorsed by representatives in the Soil and Land Management Division of the Agriculture Branch.

This chapter begins with a background description of the study area. Second, the methods used to identify the issues including the questionnaire distributed to farmers in the study area are described. This is followed by a description and analysis of the issues identified in the questionnaire.

It is important to note that while the questionnaire did ask farmers in the LMADA to identify and respond to issues, their own experience in coping, or not, has not been collected as data. Consequently, it cannot be determined whether particular farmers want to expand or have tried to get more land. If they have tried to expand but have had difficulty, it cannot be determined whether the cause was competition with other resource users, financial constraints, or any other problems that may have arisen. These questions could have been answered with more detailed questionnaires administered personally. This would have provided more detailed information at the farm level within the IMADA. Consequently the ADA, rather than the farm, is the smallest unit of analysis. A farm level analysis presents an opportunity for further study.

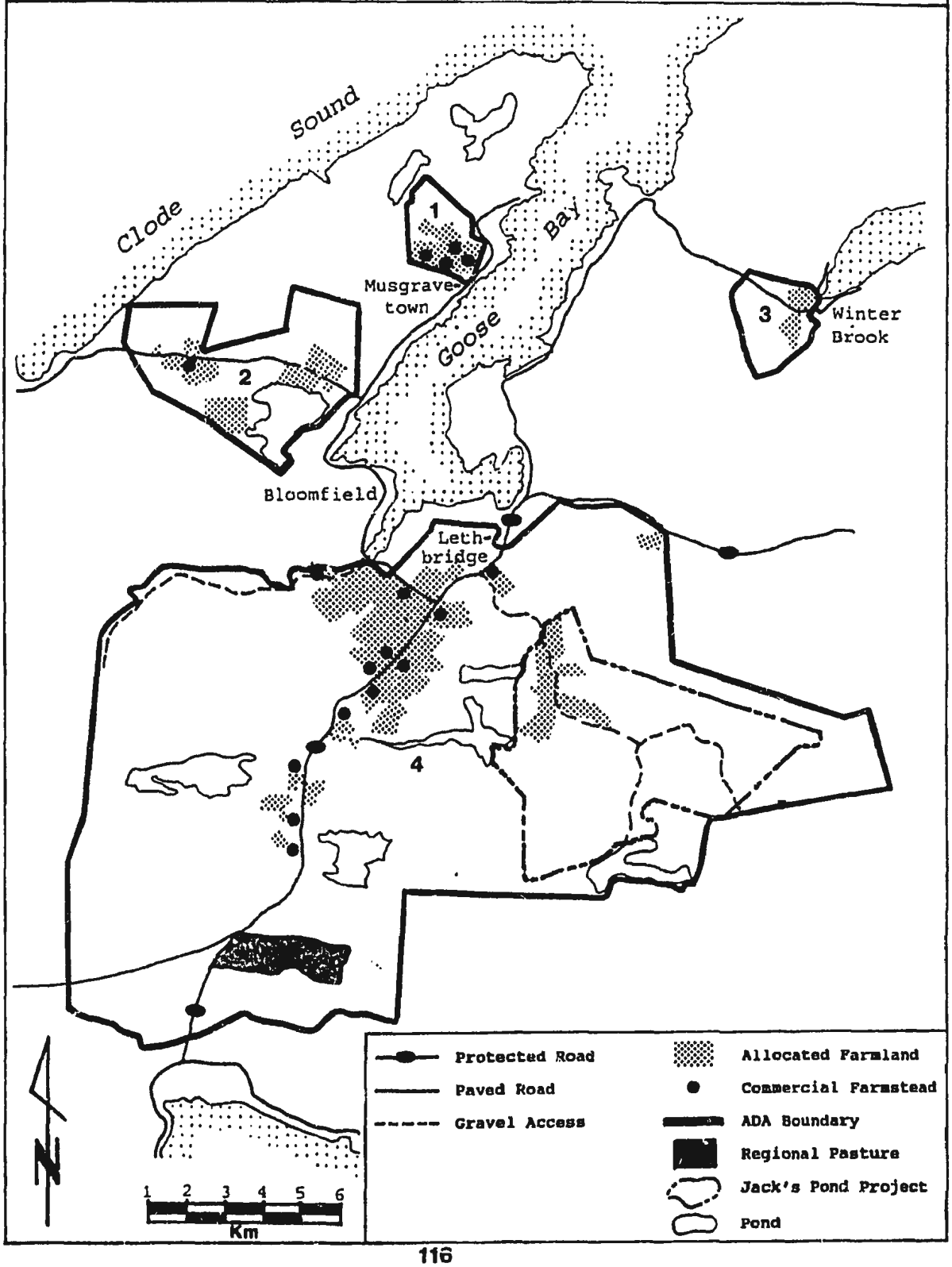
6.2 Background Description of Agriculture in the Lethbridge-Musgravetown Agricultural Development Area

The LMADA is located at the base of the Bonavista Peninsula (Figure 6.1). It is located within Statistics Canada's Census Division Seven in the Central Region and the Agriculture Branch's Agricultural Area Five in the Eastern Region (Figure 3.2). As stated in Chapter 5, based on advice from the Agriculture Branch, for the purposes of this study the LMADA has been included in the Central Region.

As illustrated in Figure 6.1, the LMADA is divided into four spatially discrete sections, although there are currently no active farm operations in Section Three at Winter Brook. In the past, the one commercial farm in Winter Brook has been involved in beef, poultry and hay operations. Developed on granted land, this farm has been idle since the late 1980s. The total area of the LMADA is 18,744 hectares (46,391.5 acres), of which 1,140.5 hectares is allocated for agriculture as either a grant or lease (Figure 6.1). Also illustrated in Figure 6.1 are the locations of the seventeen commercial farms in the LMADA.

Figure 6.1 also illustrates a regional pasture. The Regional Pasture Program, supported by the Agriculture Branch, provides pasture land for both commercial and hobby farmers who require land for their livestock. The cost is approximately fifty dollars per head of cattle per year. The

Figure 6.1. The Lethbridge-Musgravetown Agricultural Development Area (LMADA), Newfoundland.



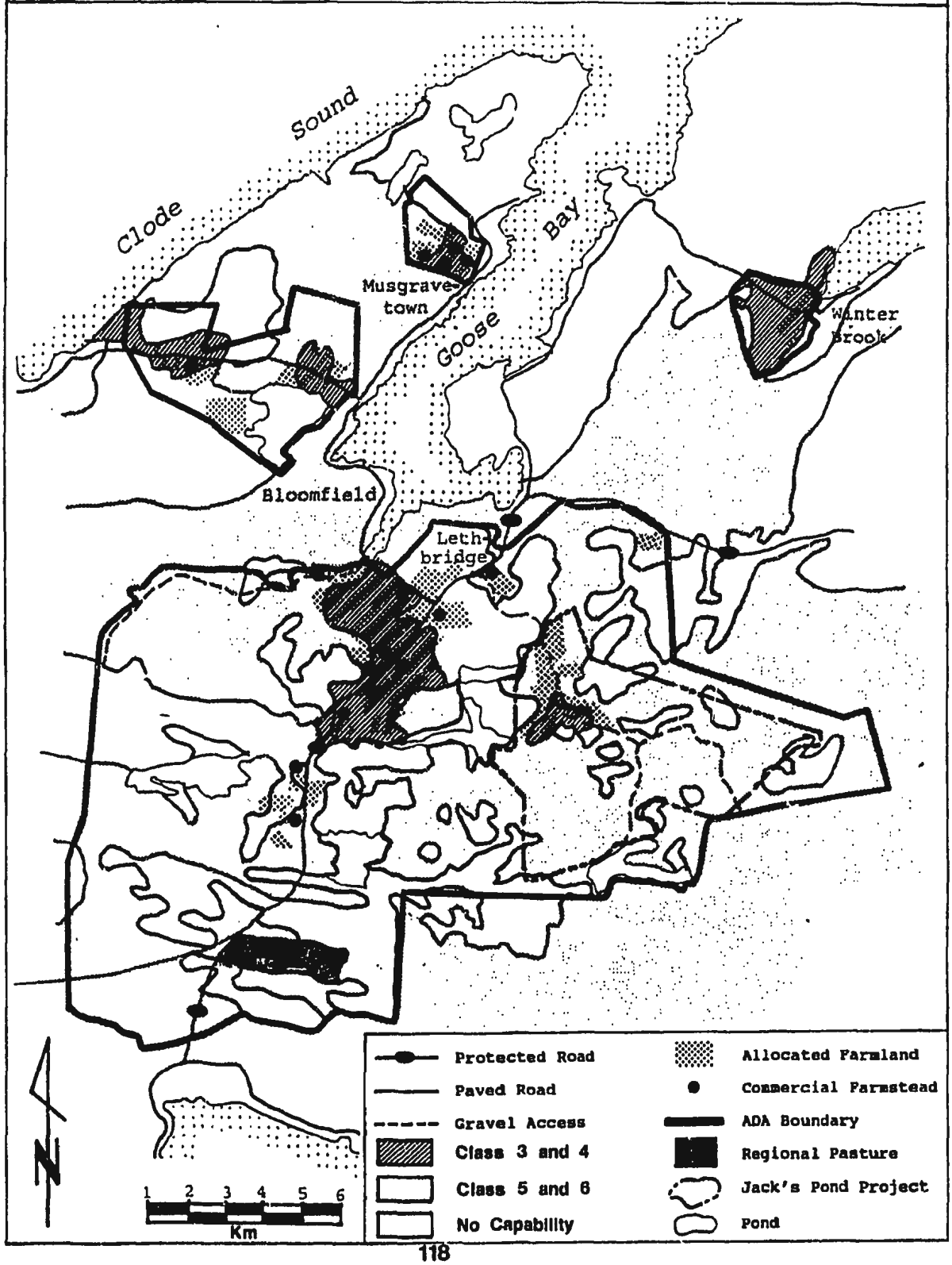
George's Brook Regional Pasture in the LMADA has a unit capacity of eighty. In 1991, the last year for which statistics are available, seven individuals, with a total of 55 cattle over the age of nine months and 19 calves, utilized the regional pasture. The Agriculture Branch states that this level of usage is just over half of the capacity of the regional pasture (Ricketts, 1993).

6.2.1. Soil Capabilities

The soil capabilities of the LMADA are given in Table 6.1 and illustrated in Figure 6.2. As indicated, Class I, II and III are considered "Prime" agricultural land under the Canada Land Inventory Soil Classification System (Appendix 1). There are no soils of Class I or II in the Province. In the LMADA, 93.0 hectares (230.0 Acres) or 0.5 per cent of the total land area have been classified as Class III. Class IV soils make up 12.7 percent, or 2,380.5 hectares (5,880.0 Acres) of the LMADA. This means that, altogether, 13.2 percent of the land base of the LMADA is suitable, with limitations, for crop production.

Class V and VI soils are suitable for improved and rough pasture, respectively. These soils make up 41.1 per cent or 7,720.8 Hectares (18,370 Acres) of the LMADA. However, almost half (45.7%) of the land area of the LMADA is either Class 7, land with no capability for agriculture, or Class 0, organic soils. Although it is not the purpose of this thesis to

Figure 6.2. Soil Capabilities in the LMADA, According to the Canada Land Inventory.



investigate how the ADA boundary was drawn, it can be stated that these boundaries were delineated incorporating a number of factors, of which soil quality was one (Chapter 4).

Table 6.1. Soil Capabilities in the LMADA, According to the Canada Land Inventory (CLI).

CLI Class		Area Hectares	Acres	% of Total
1	"Prime"	0	0	0
2	"Prime"	0	0	0
3	"Prime"	93	230.0	0.5
4		2,380.5	5,880.0	12.7
5		5,055.6	12,487.0	26.9
6		2,665.2	6,583.0	14.2
7		2,124.6	5,248.0	11.3
0		6,455.2	15,944.0	34.4
Total		18,744.0 Ha	46,372.0 Ac	100.0%

Source: R.A.N.D. (1980d).

It appears that a large area can be used for forage and pasture. However, according to the Agriculture Branch, due to other constraints such as topography, stoniness and wetness, much of this land is of little use for agriculture. Lands outside the ADA boundary are even more susceptible to these types of constraints. Resolving the issue of what land can actually sustain crop and forage production would require a more detailed soil survey of the entire ADA, an endeavour beyond the scope of this study.

For the purposes of this study, the Agriculture Branch states that the land capable of crop and forage production is

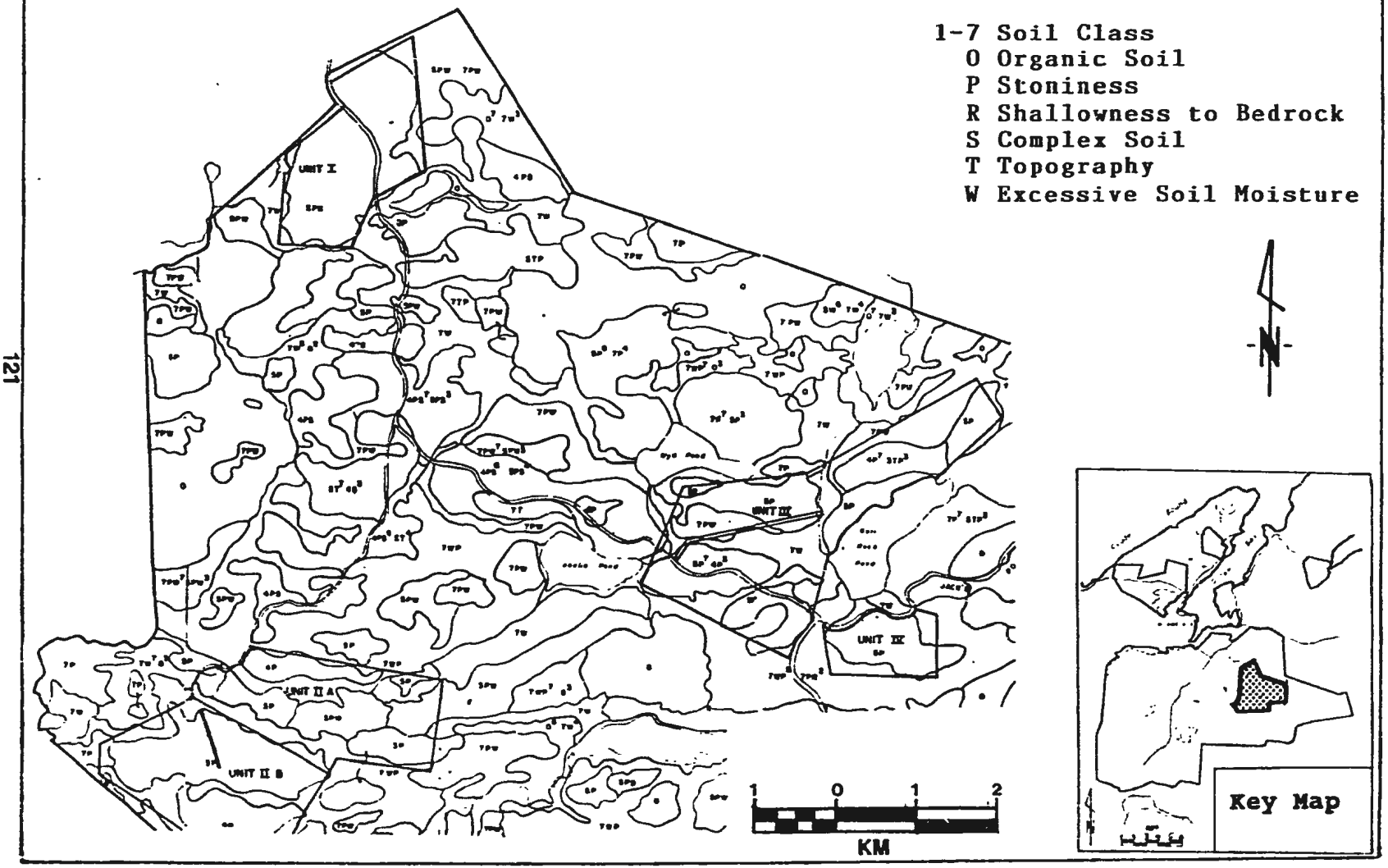
limited and scattered. To give an indication of the limitations of the soil in the LMADA, Figure 6.3 provides a detailed soil classification of the Jack's Pond Development Project. This gives an indication of the complexities within each class, such as stoniness, adverse topography, high moisture and low fertility.

The CLI soil classification survey, conducted in the 1960s, estimated there to be 93 hectares of Class III land in the LMADA. This was located in what is now the Jack's Pond Development Project (Figure 6.1). However, a more detailed soil survey conducted in the 1980s reclassified these Class III soils down to Class IV (Figure 6.3). According to Ricketts (1993), the reason for the downgraded classification relates to an ongoing debate of the importance of accounting for climatic restrictions when classifying soils. The argument made is that Class III soils in Newfoundland and Labrador do not compare to Class III soils in Southern Ontario in terms of the limitations for crop production.

This debate aside, Figure 6.3 illustrates the fact that, although the soil qualities range from Class IV to VII, further limitations within these classes include stoniness, topography, excess wetness, shallowness to solid bedrock, undesirable soil structure, low fertility, and low moisture holding capacity, all of which constrain crop production.

Although the LMADA has been identified by the Agriculture

Figure 6.3. Detailed Soil Classification for a Portion of the Jack's Pond Development Project, LMADA.



Branch as a significant agricultural region, based primarily on its amenable climatic and soil characteristics, the climatological and soil quality information presented here gives an indication of the limitations that exist for agriculture in the LMADA.

6.2.2. Designation As An ADA

The LMADA was designated as an Agricultural Development Area (ADA) in 1976. The Agriculture Branch indicated that, due to the good soil quality and climatic factors relative to other regions in the Province, and because of the large existing farming community, the LMADA represented an important agricultural region. In 1980, the Agriculture Branch prepared an agricultural background report for the LMADA which is, to date, the only detailed study of this area. In addition to providing detail on the physical geography and current production, this report provided an outline of the "constraints and problems", both physical and institutional, facing the development of agriculture in the LMADA (R.A.N.D., 1980d, 28).

The issues identified include difficulty in expanding agricultural operations due to land use constraints, farmland fragmentation and idle lands. In addition, specific land use conflicts between agricultural and other land uses were identified including forestry, commercial and residential development, and recreational land uses (R.A.N.D., 1980d, 32).

These issues are explored in detail in Section 6.3.

6.2.3 Current Structure of Agriculture

According to the Agriculture Branch there are presently 17 commercial farms operating in the LMADA. Their locations are illustrated in Figure 6.1. In terms of production, the LMADA represents one of the most diverse farming regions in the Province. As indicated in Table 6.2, eight commercial farms are vegetable operations, or more specifically: five vegetable operations, two vegetable and fruit operations and one vegetable and beef operation. One commercial farm produces strawberries and raspberries. In terms of animal operations, there are four dairy farms, one beef farm and one layer farm in the LMADA. In addition, there is one greenhouse operation and one farm currently growing hay.

Table 6.2. Number of Farms In The LMADA, by Type, 1993.

Farm Type	Number of Farms
Vegetable	5
Vegetable/Fruit Mix	2
Vegetable/Beef	1
Strawberry/Raspberry	1
Dairy	4
Beef	1
Eggs	1
Hay	1
Greenhouse	1
TOTAL	**17**

Source: Agriculture Branch (1989) and Ricketts (1993);

The locations of the seventeen farmsteads are shown in Figure 6.1. However, because of the number of properties per farm and the distribution of these farms, a series of maps has been produced to provide more detail (Figures 6.4 to 6.8). These maps locate all agricultural properties (lots) currently held by either grant or lease in the LMADA. In addition, using 1988 aerial photographs, the land cleared on each of these lots is plotted. Because of the large number of granted agricultural properties presently idle, there are far more than the 83 properties currently held by the 17 farmers in the LMADA.

The purpose of these maps is simply to outline the present land use pattern of agriculture in the LMADA. For reasons of confidentiality, only the farmsteads are located on Figures 6.4 to 6.8 and each lot owned or leased by a specific farmer is not indicated. This is in order to respect the request for confidentiality by the Agriculture Branch regarding providing detailed information on the amount of land each farmer was granted and/or leased and how much of this land is cleared.

As illustrated in Figures 6.4 to 6.8, farmland is cleared in patches within each property (lot). Also evident is the fact that the dairy and egg operations are concentrated in the Musgravetown portions of the LMADA. Vegetable and fruit operations are concentrated near Lethbridge and along the

Figure 6.4. Agricultural Grants and Leases and Land Cleared For Agriculture in the Musgravetown Sections (I and II) of the LMADA.

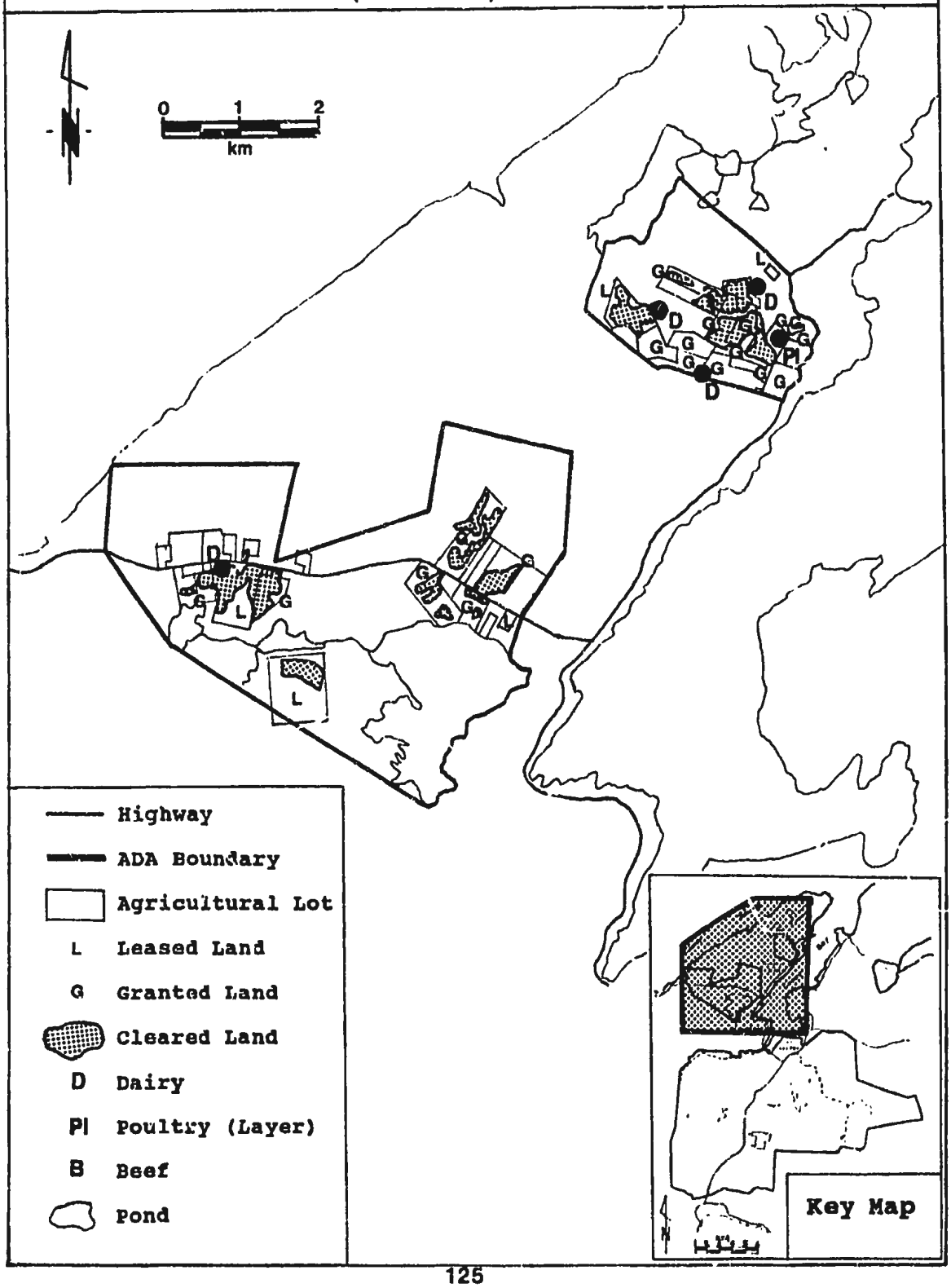
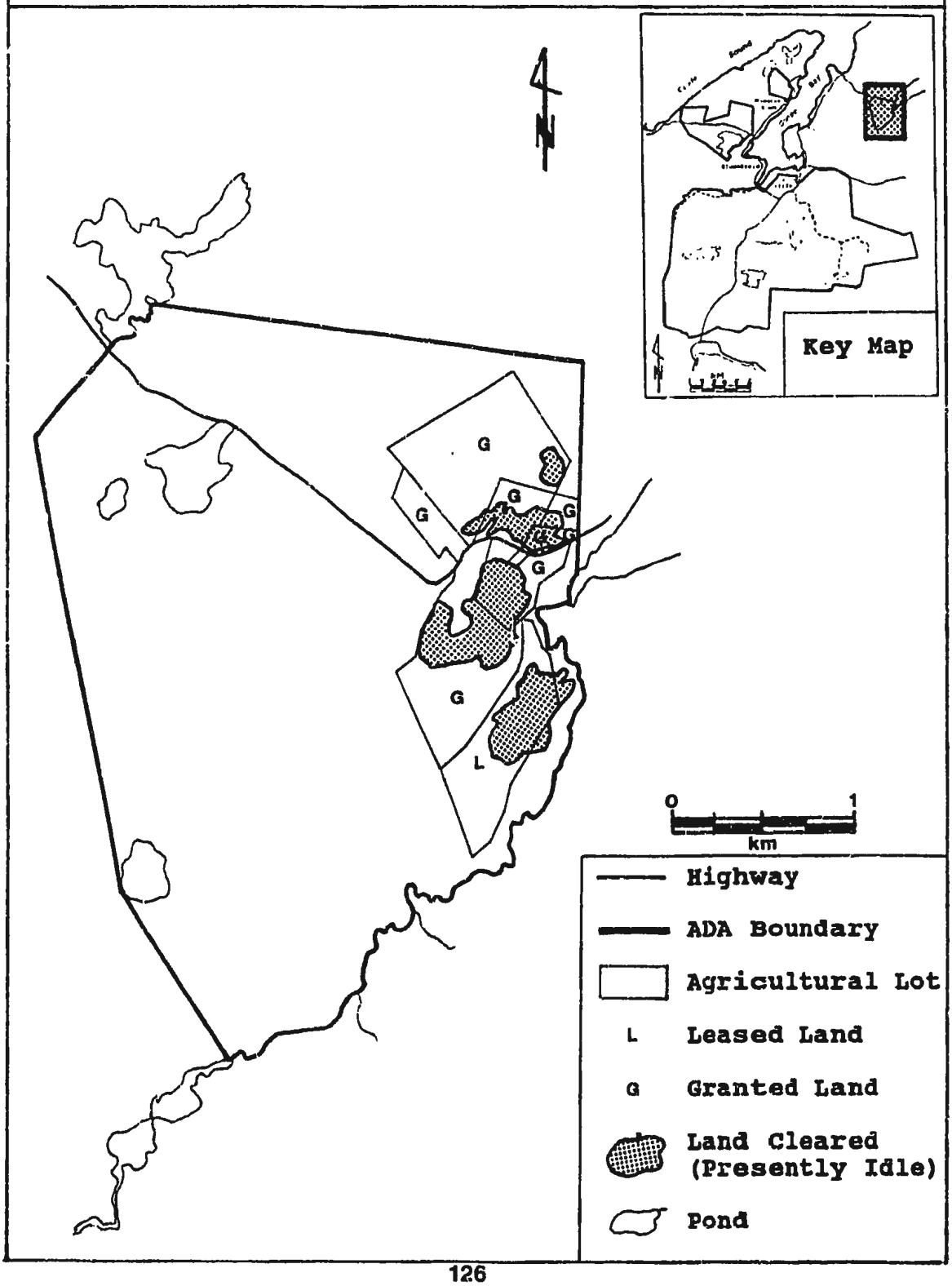


Figure 6.5. Agricultural Grants and Leases and Land Cleared For Agriculture in the Winter Brook Section (III) of the LMADA.



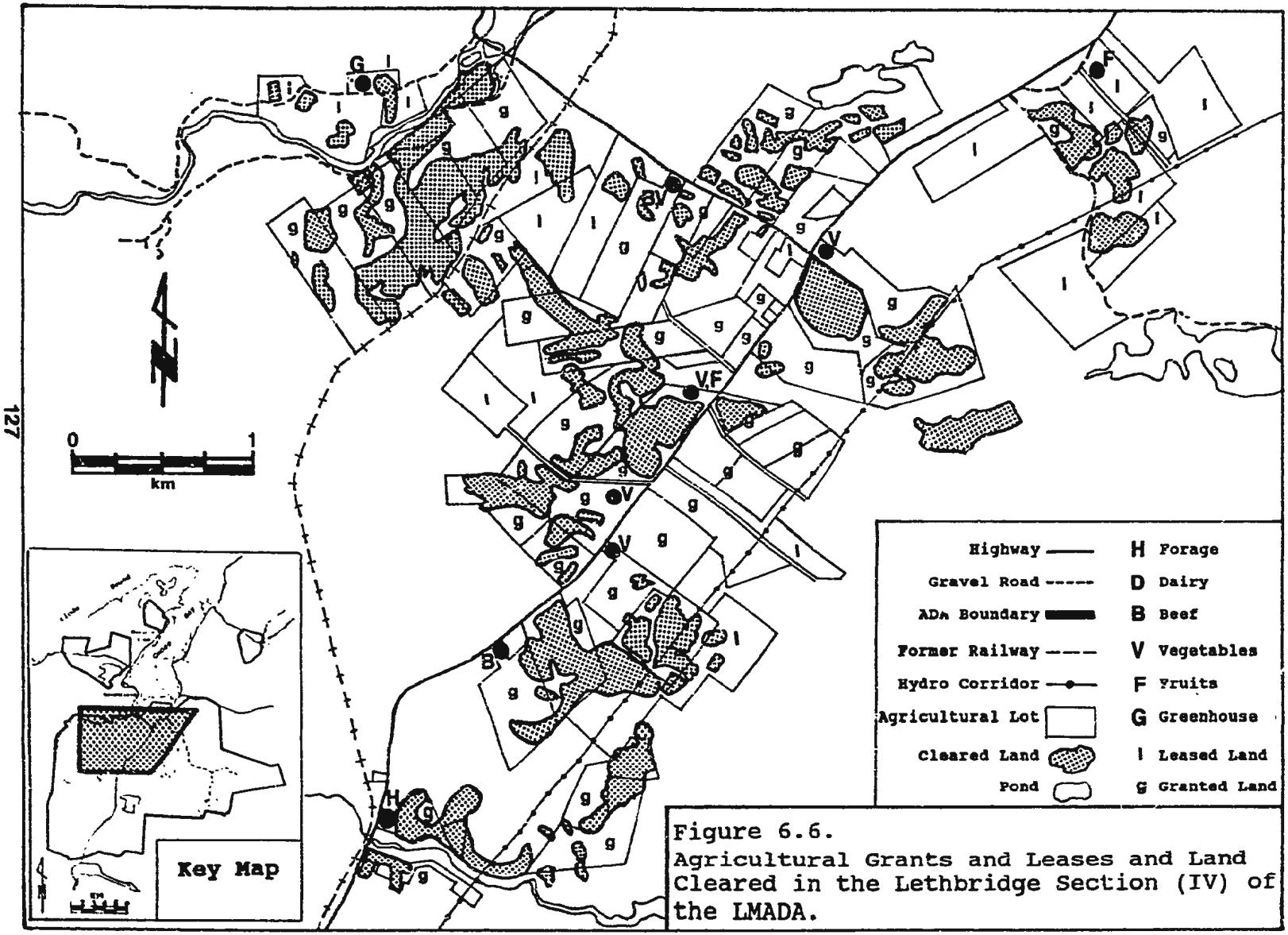


Figure 6.6.
Agricultural Grants and Leases and Land Cleared in the Lethbridge Section (IV) of the LMADA.

Figure 6.7. Agricultural Grants and Leases and Land Cleared Along the Discovery Trail (Section IV) of the LMADA.

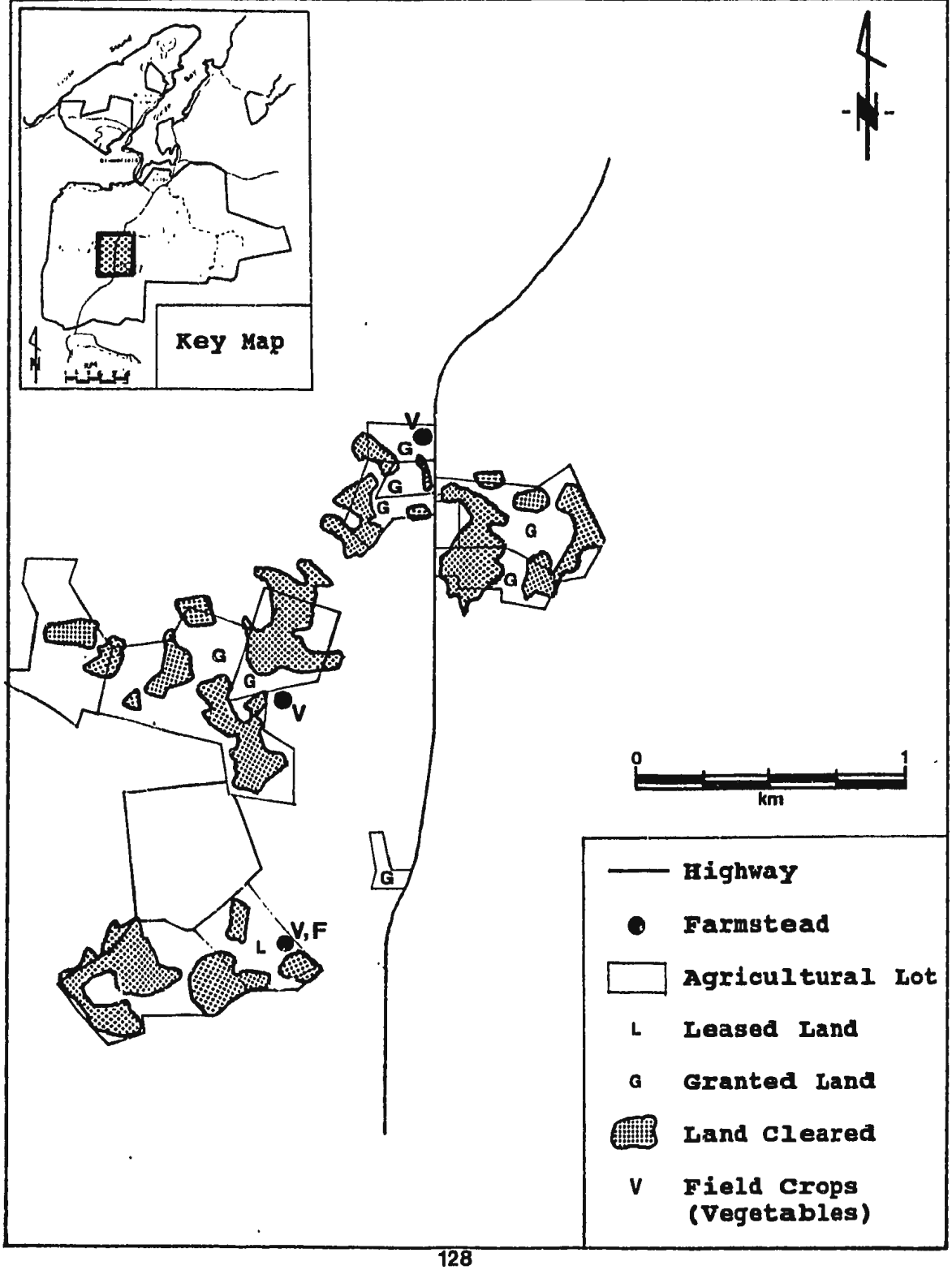
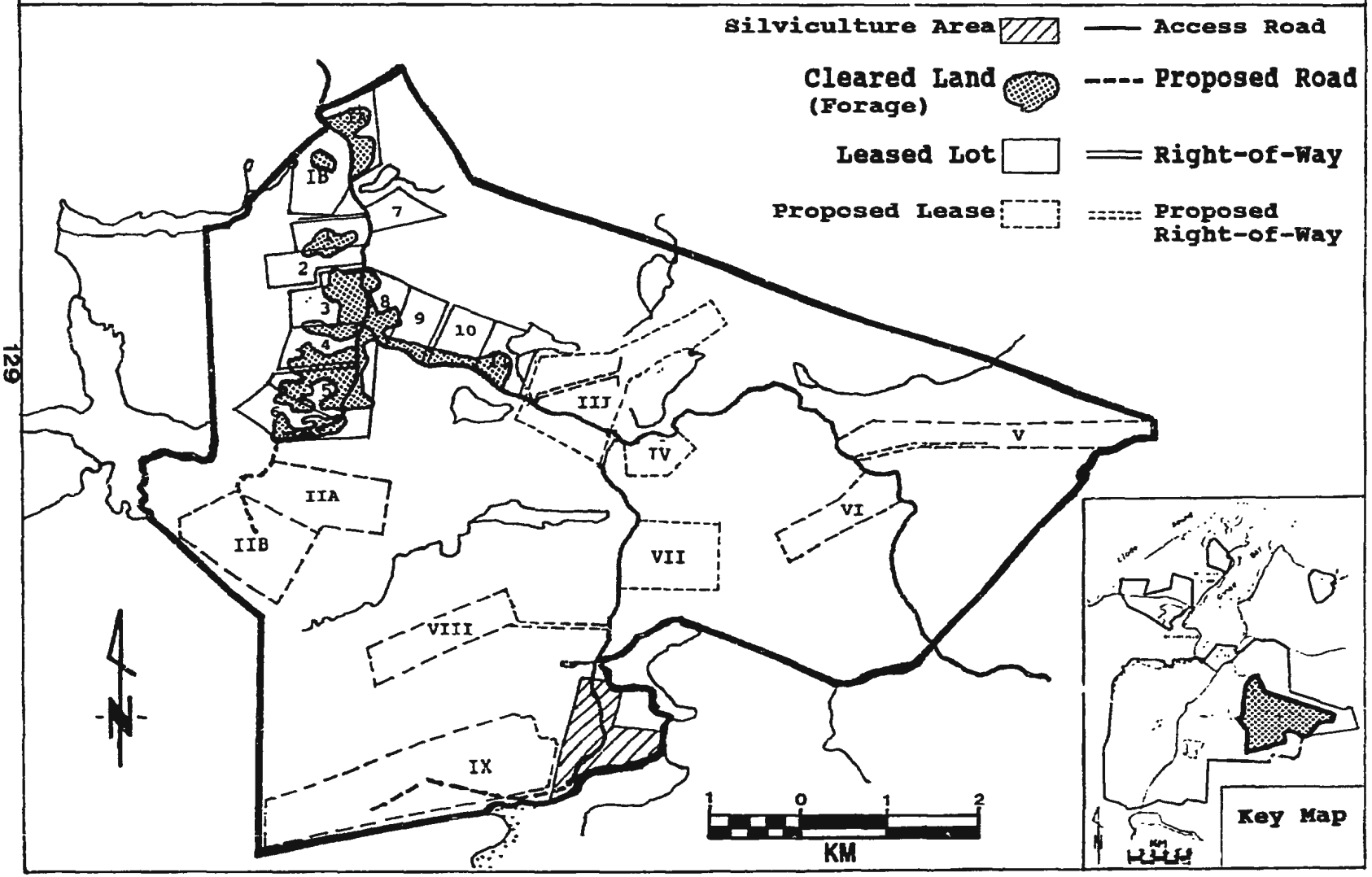


Figure 6.8. Agricultural Leases and Land Cleared in the Jack's Pond Development Project, LMADA.



highway south of Lethbridge. In addition, a greenhouse operation is located near Bloomfield and the farmland in Winter Brook is currently unused.

The Agriculture Branch has supported the development of agriculture in the Province through the creation of farm development projects. One such initiative is the Jack's Pond Development Area (Figure 6.1). Illustrated in detail in Figure 6.8, Jack's Pond has a total area of 2,645 hectares (6,538 acres). In 1987, eleven farm lots, in sizes ranging from 15 to 118 hectares, were designated for development (R.A.N.D., 1987). More recently, eleven more lots have become available. No electricity is provided, which limits the area to production space not living space. The constraints of this lack of service are described later in the chapter (Section 6.3.2.1).

6.3. Land Use Competition Issues Affecting Agriculture in the LMADA

6.3.1 Methods

The primary instrument for identifying land competition issues affecting the agriculture in the LMADA was a survey of farmers in the study area. As indicated in Chapter 5.2.1, initial interviews with farmers, sawmillers and professionals in the Agriculture Branch were conducted to prepare a basic list of issues affecting the development of agriculture in the LMADA (Appendix 5). Pretests are suggested in social science

survey research (Sheskin, 1985). The issues identified, together with other background research, provided the basis for the development of the questionnaire described in Chapter 5 and used to survey farmers in the LMADA (Appendix 7).

The questionnaire was distributed to the sixteen farmers, who were considered to be full-time commercial farmers by the Agriculture Branch operating in the LMADA in 1992 (seventeen farmers are operating in 1993). The questionnaires were initially personally distributed to each farm in July 1992. A follow-up post card was then distributed by mail. This was followed by a telephone call. Finally, another copy of the questionnaire was mailed to the farmers who had failed to respond but who indicated a willingness to do so. This process is similar to the total design method suggested by Dillman (1978).

As a result of this process, twelve of the sixteen farmers responded to the questionnaire, a response rate of 75 percent. Of the four who failed to respond two were not interested - one is a small vegetable farmer and the other is a dairy farmer. In addition, one of the largest vegetable farmers in the LMADA failed to respond, although this farmer expressed interest and participated in the preliminary survey. The fourth is a dairy farmer who expressed interest but, nevertheless, failed to respond. However, the twelve farmers who did respond represent all types of agricultural operations

in the LMADA and each of the three sections of the LMADA where farmers presently operate.

The questionnaire included 40 closed-ended statements regarding issues affecting the development of agriculture (Appendix 7). Respondents were asked to respond to a five-point Likert scale: strongly agree, agree, neutral or no opinion, disagree, and strongly disagree (Dillman, 1978). In this case, respondents were asked to respond to each issue as they felt it specifically affected the LMADA. The second section of the questionnaire was an open-ended format asking farmers to first rank the issues affecting the development of their farm operations and second to rank the issues affecting the development of agriculture in the LMADA. Unfortunately, due to an error, respondents were asked to list the "issues" affecting agriculture, rather than the "resource-related issues" as in the questionnaire to the Agriculture Branch representatives. As a result, the issues listed ranged greatly depending on the type of farm and individual situations (eg. marketing problems) and are not directly parallel to the structure of the questionnaire prepared for the Agriculture Branch.

For this reason, the analysis focuses on the closed-ended section of the questionnaire. The open-ended section can be used only as background comment. In addition, the issues identified and described in the following are clarified using

information obtained in interviews with government agencies.

6.3.2 Analysis of the Land Competition Issues Affecting the Development of Agriculture

Farmers in the LMADA were given seventeen statements about land competition in the closed-ended section of the questionnaire (Table 6.3). To simplify the analysis, these seventeen statements have been placed into five types of land competition categories:

1. Land Availability Issues (Table 6.4)
2. Forestry Issues (Table 6.5)
3. Wildlife Issues (Table 6.6)
4. Residential, Commercial and Cottage Development Issues (Table 6.7)
5. Protected Roads Issues (Table 6.8)

A number of issues that were not included in the closed-ended section of the questionnaire were also identified. These are issues that were either discovered after the questionnaire was distributed or were identified in the open-ended section of the questionnaire. These are described following the analysis of the five aforementioned types of issues.

Table 6.3. Land Competition Issues in the LMADA, As Indicated by Farmers, 1992.

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
"Persons with leased lands should have control over the forests on such lands".				
8	4	0	0	0
"More roads should be provided to encourage the expansion of new agricultural lands".				
6	6	0	0	0
"More electrical power should be provided to encourage the expansion of new agricultural lands".				
7	4	0	1	0
"The lands within the Lethbridge-Musgravetown Agricultural Development Area should be legislated for agricultural activities only."				
7	3	0	2	0
"It is not difficult to access suitable agricultural lands in the Lethbridge-Musgravetown Region."				
1	1	0	9	1
"Forestry development is favoured over agricultural development in the Province."				
9	1	1	0	1
"Agriculture and Forestry should be separate provincial government departments."				
8	2	0	2	0
"Idle agricultural lands should be brought back into production before more land is cleared for new farmers."				
1	8	1	1	1
"There is a lack of well-drained land in the Lethbridge-Musgravetown Agricultural Area."				
2	6	1	3	0

(Continued)

Table 6.3. (Continued) Land Competition Issues in the LMADA As Indicated By Farmers, 1992.

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
"Obtaining agricultural lands outside the agricultural boundary is more difficult than inside the boundary."				
3	5	3	1	0
"Moose are having a negative impact on agriculture in the Lethbridge-Musgravetown region."				
6	2	0	1	3
"Residential and commercial development on agricultural lands has a positive impact on agriculture."				
1	4	0	4	3
"No significant conflicts exist between forestry and agriculture."				
1	3	1	4	3
"Domestic wood cutting areas have a negative impact on agriculture."				
2	4	1	5	0
"Other wildlife, such as rabbits, are having a negative impact on agriculture in the Lethbridge-Musgravetown region."				
1	2	3	5	1
"Protected road regulations have a positive impact on agriculture".				
1	4	3	2	2
"Cottage development has no potentially significant impacts on agriculture."				
0	4	2	3	3

6.3.2.1 Land Availability Issues

Competition for land exists because many agencies need land and all seek it from the same source, the Crown. The fact that only small, scattered, areas have any potential for agricultural production amplifies the situation. Seven closed-ended statements related to land availability issues. To simplify the discussion, these seven statements have been aggregated into three categories reflecting the different phases of agricultural land development. These are: pre-development, development and post-development of agricultural land (Table 6.4).

Pre-development Issues:

The physical limitations of the land base of the LMADA for agriculture were described earlier in the Chapter. An important aspect of that description was the fragmented pattern of land with the potential for agriculture. Ten farmers stated that it was difficult to obtain suitable agricultural land in the LMADA. Specifically, eight farmers indicated that it was difficult to access well-drained land in the LMADA. This issue was not isolated to the LMADA, but rather is symptomatic of problems facing agriculture across the Province. The importance of the farmers' perceptions here is that, although the LMADA has a better land base for agriculture compared to many other regions, obtaining "suitable", "well-drained" land is still perceived as a

problem. This also has implications for land competition in that other uses compete for the limited "suitable", "well-drained" land that is available.

The Agriculture Branch states that it actively supports agricultural lease applications regardless of location relative to the ADA boundaries (Ricketts, 1993). However, eight farmers indicated that it was more difficult to obtain agricultural lands outside the agricultural boundary than inside the boundary. This difficulty can be in part attributed to ILUC members, such as the Forestry Branch, turning down agricultural applications outside the agricultural boundary.

One example cited in a key informant interview referred to a number of applications for agricultural lands that were located outside the LMADA boundary, west of Musgravetown, over the past two years. These applications were made both adjacent to and in areas designated as forestry reserves and silviculture areas. The key informant stated that agriculture had "enough land" inside the ADA and that such applications outside the boundary were frustrating to other resource management departments. However, because ILUC will not release the information, the specifics of this issue cannot be presented.

Table 6.4. Land Availability Issues, As Indicated by Farmers in the LMADA, 1992.

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
PRE-DEVELOPMENT ISSUES:				
"It is not difficult to access suitable agricultural lands in the Lethbridge-Musgravetown Region."	1	1	0	9	1
"There is a lack of well-drained land in the Lethbridge-Musgravetown Agricultural Area."	2	6	1	3	0
"Obtaining agricultural lands outside the agricultural boundary is more difficult than inside the boundary."	3	5	3	1	0
DEVELOPMENT ISSUES:				
"More roads should be provided to encourage the expansion of new agricultural lands".	6	6	0	0	0
"More electrical power should be provided to encourage the expansion of new agricultural lands".	7	4	0	1	0
"The lands within the Lethbridge-Musgravetown Agricultural Development Area should be legislated for agricultural activities only."	7	3	0	2	0
POST-DEVELOPMENT ISSUES:				
"Idle agricultural lands should be brought back into production before more land is cleared for new farmers."	1	8	1	1	1

To summarize the pre-development land availability issues, the results of one statement not included in Table 6.4 can be looked at. Eleven farmers indicated it was difficult for interested farmers to start an agricultural operation. This issue can be reinforced by describing one of the preliminary farmer interviews conducted in May 1992. In this interview, a couple stated that they were attempting to start a brown egg layer operation in the LMADA. Located on a leased property with no power supply, they described the difficulty in getting through the bureaucracy to obtain the necessary approvals. By August 1992, the couple had given up attempts to develop the farm.

The most difficult problem seems to be for new entrants to obtain farmland with road access and power supply. This is perhaps the greatest obstacle to developing the agricultural sector in the LMADA. While power may not be necessary for growing vegetables, it is reasonable to presume that farmers would need power for their residences and farm-related buildings. The Agriculture Branch states that financial constraints prohibit such service provision. Due to the fragmented nature of productive agricultural lands and the reasons cited above, it is indeed difficult to provide road access and electrical services to suitable agricultural land. One exception is in the Jack's Pond Development Project which is described later.

Development of Land:

In response to the two statements about expanding agricultural operations, all twelve and eleven respondents, respectively, indicated that more roads and power supply should be provided to encourage the expansion of agriculture. These responses reflect the farmers' desire but inability to expand their operations, a constraint also cited in R.A.N.D. (1980d).

Figure 6.1 illustrates the location of paved roads, gravel access roads and the extent of the provision of power supply. The Jack's Pond Development Project, and most of the area along the gravel access road travelling west from Bloomfield in Section IV of the LMADA, have no power supply. In addition, portions of the main highway travelling north through Section IV are also without power supply. While the cost of providing power is an economic problem, it ultimately affects the competition for land, because agricultural expansion is limited to serviced areas.

Ricketts (1993) indicated that the gravel access roads indicated in Figure 6.1 are not "public roads" but rather "resource access roads". Providing electrical services is therefore not a priority. In addition, maintenance of these roads is seasonal, based on resource-use. In other words, no maintenance is provided in winter and if no resource activities (whether agriculture or forestry) are occurring

along these roads or if no money is available for maintenance, these gravel access roads will cease to be serviced by Government. It appears that farmers may have a misconception of the purpose of these roads, something that further investigation could address.

The difficulty of expanding existing agricultural operations is evident throughout the ADA. While it appears that more land could be cleared in Section I of the LMADA (Figures 6.1 and 6.4), according to the Agriculture Branch this land is not suitable, relating back to the limitations of the soil classification system described in Chapter 3. These farmers must now lease land for forage in the Jack's Pond Development Project. In Section IV (Figures 6.1, 6.6 and 6.7) farms along the protected highway are constrained from further development for the same reason as cited above. Specifically, on the eastern side of the highway, farms are bounded by the highway, a marsh, and other farm and non-farm developments.

This presents a number of problems for the development of agriculture in the LMADA. First, unserviceable land precludes the establishment of farms, which ultimately causes an increased demand on land that is serviceable. Second, because the land in the Jack's Pond Development Project is presently un-serviced, agricultural activity is limited to forage production. Even though some of the land itself is suitable for crop production, control of the land is in the hands of

dairy farmers from Musgravetown requiring forage.

Ricketts (1993) stated that, although not specified in the Land Lease Agreements with farmers, the Agriculture Branch only approves agricultural lots in the Jack's Pond Development Project for "seasonal" agricultural uses such as forage. In other words, applications for animal or greenhouse operations would be turned down. Therefore, even if a power supply were to be provided in the future, the land is probably lost to crop production (assuming that the dairy farmers follow the terms of their Land Lease which limit them to forage production).

The Agriculture Branch recognizes that the cost of providing electrical services approximately three kilometres into Jack's Pond means that this will not occur in the "foreseeable future" (Ricketts, 1993). Johnson (1993) reinforces the issue of constraints to providing power supply, stating that, while the land in the Jack's Pond Development Area is the highest quality for agriculture in the LMADA, electricity is essential, especially considering the lack of electricity throughout the rest of the ADA. He feels that, with proper development regulations, the Jack's Pond Development Area could play a significant role in the development of agriculture in the LMADA. This is not to say that crops are more important than forage, but rather that there is less land available for crops than forage.

The third statement relating to the development of land in the LMADA refers to regulatory land use controls to protect the land for agriculture. As stated previously, the LMADA is one of only six ADAs in the Province officially designated as an ADA by Government. In addition, the Task Force on Agrifoods has recommended that the land in the LMADA be legislated for agricultural uses only, as in the St. John's and Wooddale ADAs (Hulan, 191, 155). In response to this statement, ten farmers indicated that the land within the ADA boundary should be legislated for agriculture only. Farmers felt that by legislating this land for this purpose, they would have more control over their industry and would also be in a better position to access the lands already designated for agriculture.

However, even if these lands were legislated, farmers will face other land use constraints. One of these constraints, cited in the background report for the LMADA in 1980, was the inability of existing farmers to expand their operations to more "economically viable units" (R.A.N.D., 1980d, 28). This report stated that the optimum crop operation should be approximately 19 Hectares, but that crop operations in the LMADA were an average of 8.6 Hectares (R.A.N.D., 1980d, 28). However, as many farmers have cleared all the land with the potential for crop production, reaching an optimum farm size will be difficult.

These land development issues provide an estimation of the difficulties farmers face in developing land that has been designated for agriculture. As indicated in the three statements in Table 6.4, farmers in the LMADA believed strongly that more support is required in order to expand agriculture in the LMADA.

Post-development of Land:

Related to competition for land is the inability to obtain land that has the potential for agriculture, which, in many cases, has been cleared but is not currently being used. The term given to this land is "idle land" and is used by the Agriculture Branch to describe land that has been allocated by the Crown for agricultural purposes, either as a land grant or lease, but for whatever reason is not being used for agriculture.

In the preliminary surveys, one farmer indicated frustration about the granted land that has been handed down over the years but now lies idle. This frustration is amplified when farmers state that, because of the idle land they can no longer gain crown land grants but, can only lease land from the Province. In response to the closed-ended statement about idle land in the questionnaire to farmers in the LMADA, nine farmers feel that idle agricultural lands should be brought back into production before more land is cleared for new farmers. Seven of these nine respondents have

leased land.

As stated in Chapter 5, a study of idle land was conducted in the Province, in 1987. This study estimated that, in 1985, approximately 1189 hectares (2,939 acres) of land were idle in the six designated ADAs in the Province. In the LMADA, it was estimated that approximately 114 Ha (282 Acres) of land was idle (Northland Associates, 1987, 7). The amount of agricultural land in the LMADA in 1993 is unavailable. However, for illustrative purposes, the 114 Ha (282 Acres) in 1985 represents nine percent of the total farmland (1,140.5 hectares) currently designated for agriculture in the LMADA. Because of reasons of confidentiality, idle land throughout the ADA could not be specified. However, examples of idle land can be found in Figures 6.4 to 6.8. This land is indicated by properties designated as granted land, but with no land cleared. In addition, the Agriculture Branch did specify that the farm in Winter Brook is presently inactive (Figure 6.5).

The important point to note in Figures 6.4 to 6.8 is that, throughout the ADA, there is land that has been granted but for whatever reason is not being farmed. The Northland Associates Ltd. (1987) study indicated that it would be approximately $500 per acre cheaper to bring idle land back into production rather than clearing "virgin" land (p.10). Bringing these lands back into production was also recognized

in the Task Force on Agrifoods (Hulan, 1991), although no steps have been taken in this regard. However, attempting to take back privately held (granted) land can lead to controversy and possibly legal ramifications.

6.3.2.2 Forestry Issues

Natural forests are a dominant element in the landscape of Newfoundland and parts of Labrador (Figure 5.1). The main types of forestry development in the Province are pulp and paper and sawmill operations. Related to these operations are areas designated by the Forestry Branch as Forestry Reserves and Silviculture Projects. In addition, domestic wood-cutting areas are designated throughout the Province. These allow residents to cut trees for personal use, such as home heating.

Stating that the greatest conflict for land faced by agriculture in the LMADA occurred with forestry, R.A.N.D. (1980d) provided detail on the area of silviculture projects in the LMADA (Table 6.5). At this time, 185.2 hectares (463 acres) of CLI Class IV and V land in the LMADA was being used for silviculture projects (R.A.N.D., 1980d, 33). This area represents two percent of all Class IV and V land in the LMADA. While this is a small percentage, it is important to note that these forestry designations occurred only on Class IV and V lands, which have some productivity for agriculture. However, this only illustrates a fundamental issue regarding land competition between the forestry and agricultural

sectors: that land suitable for agriculture is also suitable for forestry.

The area currently designated as Forestry Reserve and Silviculture Projects is illustrated in Figure 6.9. It should be noted that the "Land Use Atlas" does not differentiate between the two. Two areas have the greatest potential implications for agriculture: the northwest portion of Section 4, serviced by a gravel access road; and the southwest portion of Section 4, located along a paved road.

Table 6.5 Silviculture Projects in the LMADA, According to the Canada Land Inventory Forestry Classification.

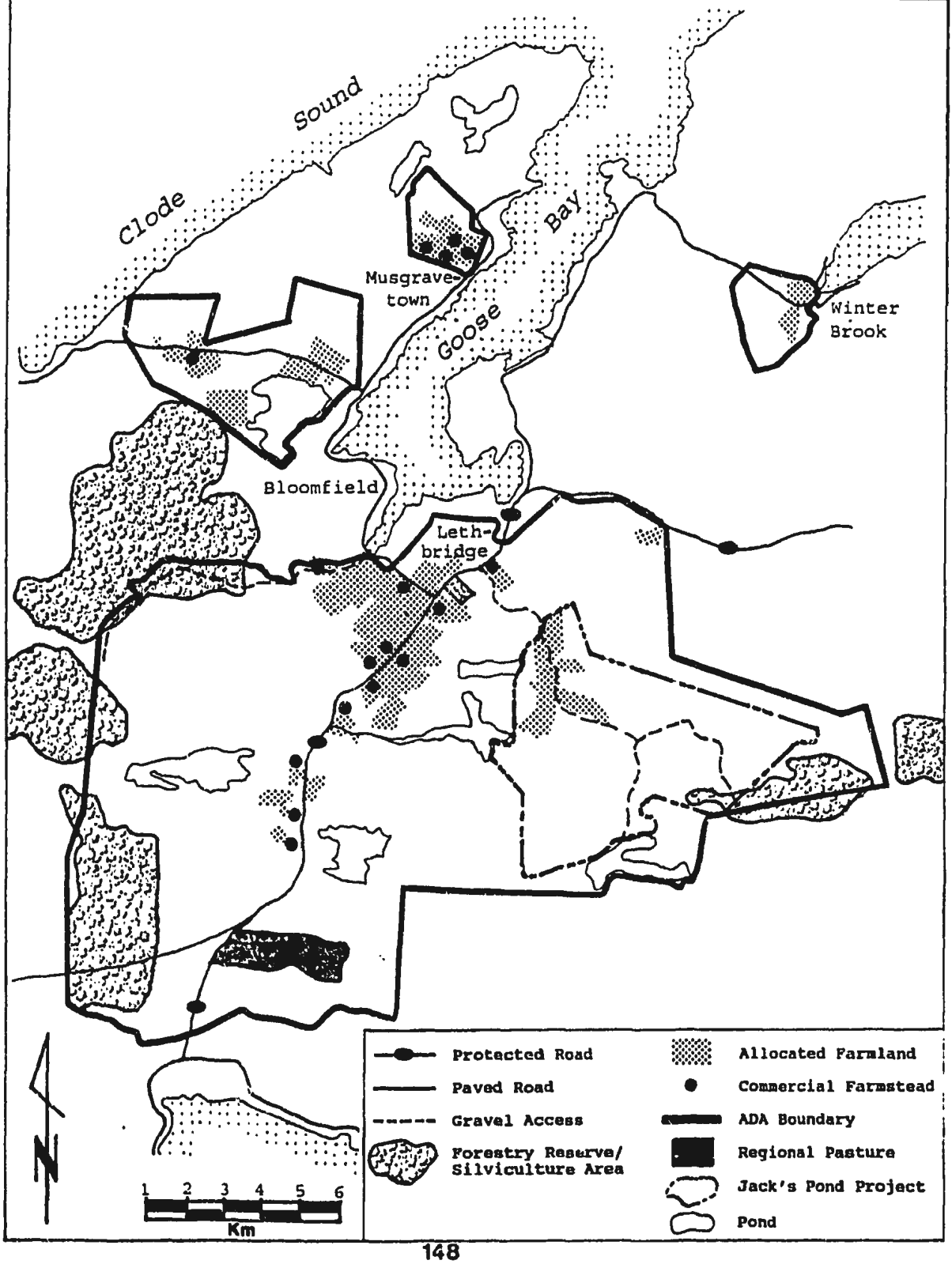
	Canada Land Inventory Classification							
	I	II	III	IV	V	VI	VII	Total
Hectares	0	0	0	47.6	137.6	0	0	185.2
Acres	0	0	0	119.0	344.0	0	0	463.0

Source: R.A.N.D. (1980d).

Obtaining an accurate area of land currently designated with the potential for silviculture projects and forestry reserves was not possible (Davis, 1993). However, Davis (1993) stated that 70 percent of Forest Management Unit Two (Figure 5.1) has the potential for forestry. The dominance of forests in the Province, and in particular on the Bonavista Peninsula is illustrated in Figure 5.1.

Domestic wood-cutting areas, as mapped by the Forestry

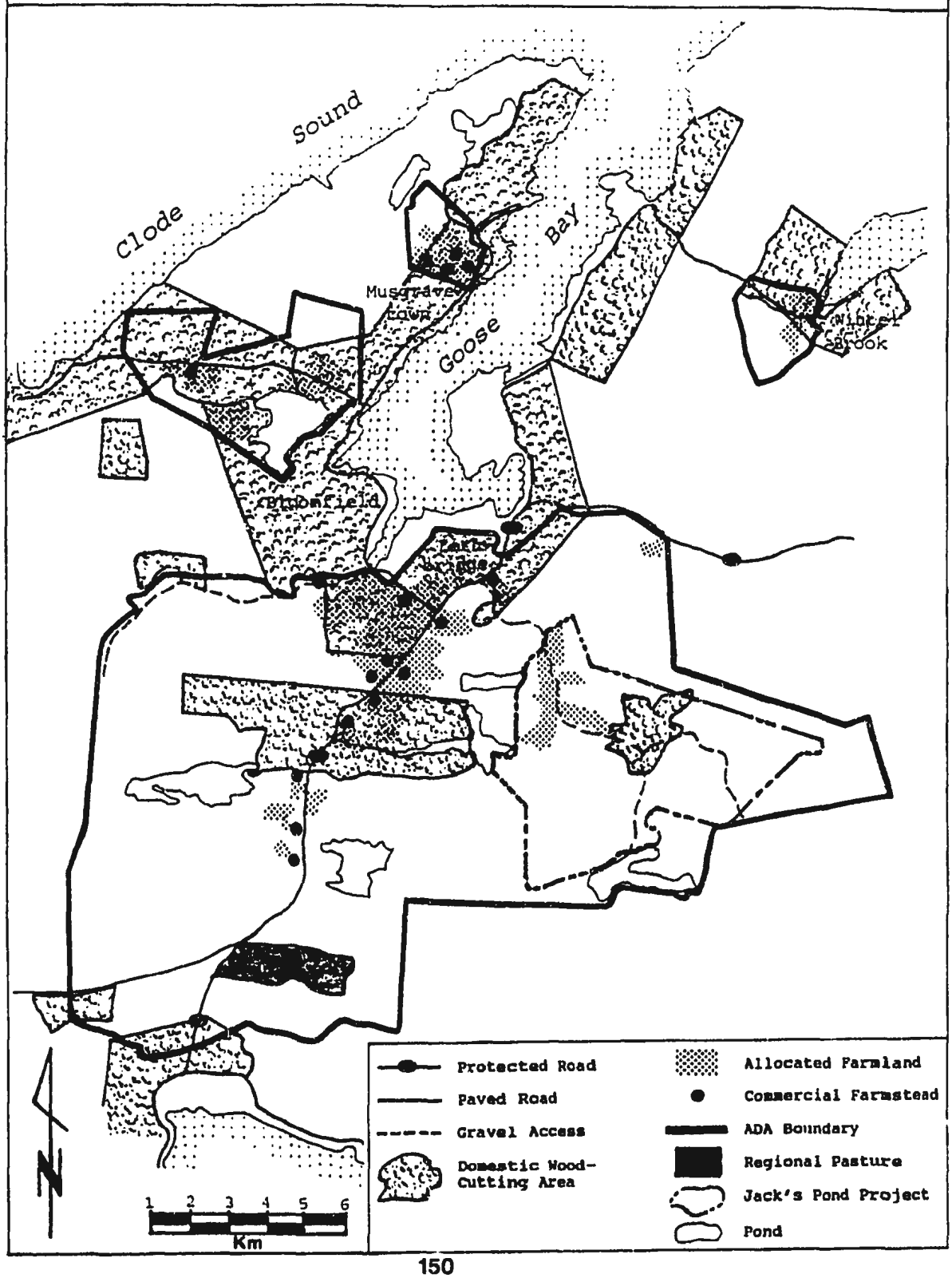
Figure 6.9. Forestry Reserves and Silviculture Projects in the LMADA, According to the Land Use Atlas.



Branch, are shown in Figure 6.10. As illustrated, these areas occur on land with the potential for agriculture throughout the ADA, and in the case of domestic wood-cutting areas, are located along paved roads with electrical services. More specifically, apart from the land cleared for agriculture, existing development and water bodies (Figures 6.1 and 6.4 to 6.8), virtually all of the remaining area of the LMADA is presently under forest cover. Although unable to provide accurate maps showing the location of all merchantable forest stands relative to productive agricultural soils, both the Agriculture and Forestry Branches have indicated that the two are in conflict.

In addition, there are approximately 460 sawmill permit holders and about 2,600 domestic wood cutting permits issued in Forest Management Unit 2. Therefore, although it is difficult to illustrate exactly where the conflicts between forestry and agriculture occur, it is evident that both sectors demand the same land base. More importantly, seventeen commercial farmers are competing for land with a far larger number of sawmillers and domestic wood-cutters. As illustrated in Figure 6.10, domestic wood-cutting areas overlap ten of the seventeen farms in the LMADA. In addition, these domestic wood-cutting areas are located on land with the potential for agriculture. This relates to a previous point:

Figure 6.10. Domestic Wood Cutting Areas in the LMADA.



that because of reasons of productivity, both sectors compete for the same land base.

On the other hand, five farmers are sawmill permit holders and presumably many of the farmers have domestic wood-cutting permits. However, this information is not accessible to the public. Although the Agriculture Branch would not specify which farmers held sawmill permits, one of the farmers questioned in the preliminary interviews acknowledged having such a permit. The concerns of this respondent included the shift by the Forestry Branch towards clear-cutting for pulp and paper on the Bonavista Peninsula (including the LMADA) and the phasing out of both part-time and full-time sawmillers.

This conflict can be further illustrated by looking at the personal experiences of sawmillers in the LMADA. The following comments were made during the preliminary interviews. One sawmiller indicated that the forestry sector is affected by "many of the same issues as agriculture", such as competition for land and the bureaucracy faced in farming and sawmilling. Another sawmiller had several concerns about agriculture in the LMADA. First, the issue of idle land, which precludes not only agriculture but forestry. An example cited was in the Winter Brook portion of the LMADA, where the uncleared land within the idle agricultural properties contains productive timber for sawmilling. However, this is unavailable for sawmillers.

Second is the issue of losing "road frontage" to agriculture. The concern here is that farmland takes up road frontage, which hinders access to timber on lands to the rear of agricultural properties. This issue is illustrated in Figures 6.4 to 6.8. Third, this sawmiller indicated that his sector has no "long term access to land". He indicated that once land is cleared by sawmillers, it is lost to other land uses, including agriculture and cabin development. While the latter point was not addressed in this research, combined with the other concerns, it illustrates the frustration of resource users in the LMADA.

A third sawmiller indicated that roads were built to provide access for agriculture, but not for forestry. However, many farmers feel that the opposite is true. In reality, these roads were built by both Branches and used by both farmers and sawmillers. This illustrates the differing perceptions of resource users. In the preliminary interviews, farmers were also concerned that forestry seemed to be clearing and replanting land adjacent to farms, which made farm expansion difficult. One example of this is illustrated in Figure 6.9, where an experimental silviculture project has recently been developed by the Forestry Branch near Lethbridge.

While pulp and paper operations are not presently the dominant forestry activity in the Bonavista Region, the

Province has been moving in this direction (von Mirbach, 1993). One sawmiller in the area indicated that the Province is on a program of clear-cutting the forests of the Bonavista Peninsula, disguised under the name "Back Log Remnant Removal" (Muggridge, 1993). Von Mirbach (1993) stated that approximately thirty percent of the timber used in the pulp and paper industry comes from timber stands outside pulp and paper company forestry leases (Figure 5.2).

This trend toward pulp and paper operations has clearly divided sawmillers and domestic wood cutters. Farmers have entered the debate as sawmillers and domestic wood cutters themselves and as farmers who compete for the land (Robertson, 1993a). In addition, once land is clear-cut, the Provincial Government has a program to replant the cleared area, which has potential implications for agriculture as these lands will be controlled by the Forestry Branch. The trend toward forest clearing for pulp and paper operations, in addition to the demands for timber from sawmillers and domestic wood-cutters, has the potential to create greater demand for forest resources. This trend has implications for land with the potential for agriculture.

Farmers were asked to respond to five statements on different aspects of the relationship between agriculture and forestry (Table 6.6).

Table 6.6. Forestry Issues in the LMADA, 1992.

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
General Forestry Issues:				
"Forestry development is favoured over agricultural development in the Province."	9	1	1	0	1
"Agriculture and Forestry should be separate provincial government departments."	8	2	0	2	0
"No significant conflicts exist between forestry and agriculture."	1	3	1	4	3
Specific Forestry Issues:				
"Persons with leased lands should have control over the forests on such lands".	8	4	0	0	0
"Domestic wood cutting areas have a negative impact on agriculture."	2	4	1	5	0

Farmers were asked to respond to three general statements regarding forestry. Ten farmers indicated that they either agreed or strongly agreed that the Forestry and Agriculture Branches should be made separate departments. This statement was included in the questionnaire because many individuals have indicated that bureaucracy is a problem. Specifically, it appears that the two branches are working against each other. However, it could be argued that if a more cooperative

relationship existed, better planning could result.

As an extension to this issue, ten farmers indicated that forestry is favoured over agriculture in the Province. In comparison, 16 of 20 Agriculture Branch respondents indicated the same. The Forestry Branch is much larger then the Agriculture Branch in terms of personnel and resources and therefore carries the perception of being favoured. However, those in the forestry industry appear to have the same perception of agriculture, as indicated in the preliminary interviews with sawmillers. Sawmillers stated that land suitable for forestry and inside the ADA boundary but not being used is not available for forestry. One example is the idle farm in Winter Brook, which is approximately 60.7 hectares (150 acres). The uncleared portions of the land grant contain high quality sawmill timber, but this is unavailable for forestry use.

This example refers to a third statement involving the conflict between forestry and agriculture. Seven farmers felt that significant conflicts exist between the two sectors. Four disagreed with this statement. The reason for the differences could be attributed to the fact that five farmers in the LMADA are also involved in the forest industry as sawmillers. In addition, although not public record, many of the farmers hold domestic-wood cutting permits for fuel wood consumption.

Two specific statements regarding forestry were also included in the questionnaire. First, farmers felt most strongly that lease holders should be given control over the forests on their lands. The provincial government recognizes land leases for agriculture as a form of land ownership, and farmers believe that control of the timber on the land should be included in the terms of the lease. However, the situation at present is that, if a parcel of leased land has significant forest stands, the Forestry Branch has power to control that resource. Some farmers argued that if they could obtain the financial and subsistence benefits from the trees on their leased land, the costs of clearing and bringing lands into production could be reduced (Ricketts, 1993).

On the other hand, there have been instances of farmers destroying the timber resource when clearing the land (Ricketts, 1993). One example can be found in an area outside the ADA boundary and inside a Forestry Reserve, on Bunyan's Cove Road (west of Section II of the ADA boundary), where applications for agricultural operations have been made both adjacent to and in part of a forestry plantation. This plantation is approximately 40 to 50 hectares in size and was planted in 1985. Although these applications were turned down, this illustrates the competition for land between forestry and agriculture in the area and that, although there have been instances of forestry development occurring in the

LMADA, the opposite has also occurred. As stated previously, the number of applications made and the decisions cannot be released by ILUC.

Six farmers stated that domestic wood-cutting areas have negative impacts on agriculture, five disagreed. The reason for the difference of opinion could be attributed to the location of wood-cutting areas relative to the respondents' farm operation, as eight farmers are not located within domestic wood-cutting areas (Figure 6.10). In addition, farmers who rely on these areas as a source for home heating fuel could view them as not being negative. One farmer in the preliminary interviews indicated that downturns in the economy resulted in more people turning to wood for home heating fuel. While this was not assessed in the research, it is a concern acknowledged by the Agriculture Branch.

6.3.2.3 Wildlife Issues

The preliminary interviews with farmers and representatives of the Agriculture Branch gave the indication that wildlife was causing significant damage to vegetable operations in the LMADA. As described in Chapter 5, concerns expressed by farmers and the Newfoundland and Labrador Federation of Agriculture (NLFA) over the damage that moose were causing to crops pressed the Wildlife Division to conduct a "Wildlife Crop and Livestock Damage Survey" in the summer of 1993.

While the total response rate was only nine percent (57/650), fifteen of the respondents were from two areas: six in the Lethbridge portion (Section IV) of the LMADA (Figures 6.1) and nine in Shearstown (Figure 4.3). The six farms were classified as follows: two vegetable farms; one forage and legume farm; two farms indicating both vegetables and forage and legumes; and one farm indicating vegetables and berries. Crops damaged included turnips, cabbage, carrots, beets, berries, forage and legumes.

Although, for reasons of confidentiality, specific detail on the amount of damage cannot be provided for the LMADA and Shearstown areas, the Wildlife Division has indicated that these farmers had larger average areas, 24 hectares compared to 15 for all respondents. In addition, the value of moose damage was higher in these two areas and these farmers spent more time and money protecting their crops (Joyce, 1993). As stated in Chapter 5, 38 of the 57 respondents indicated the value of damage being between $1,000 and $5,000 and time costs from 100 to more than 500 hours per season (Joyce, 1993).

The results of the Wildlife Division survey were consistent with the concerns expressed in the preliminary interviews with farmers in the LMADA. Because of these concerns, farmers were asked two statements relating to wildlife impacts. These two statements allowed for the distinction between moose and "other" wildlife such as rabbits

(Table 6.7).

Table 6.7. Wildlife Issues, As Indicated by Farmers in the LMADA, 1992.

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
"Moose are having a negative impact on agriculture in the Lethbridge-Musgravetown region."				
6	2	0	1	3
"Other wildlife, such as rabbits, are having a negative impact on agriculture in the Lethbridge-Musgravetown region."				
1	2	3	5	1

Eight farmers indicated that moose are having negative impacts on agriculture. Of the four farmers who disagreed with this statement, one was a dairy farmer, one grew hay and two were fruit and vegetable farmers. On the other hand, the latter two indicated that "other wildlife, such as rabbits" were having a negative impact on agriculture. Of the eight farmers indicating that moose were having negative impacts, five were fruit and vegetable farmers and the other three operated egg, greenhouse and poultry operations respectively. The greenhouse operator has a small patch of vegetables.

It is difficult to obtain accurate data on the number of times wildlife has damaged crops on a farm in a given period. First, some farmers do not report instances of moose damage because they have been given permits to shoot moose which are

destroying their crops. Second, neither the farmer nor the Agriculture Branch will release accurate numbers of moose shot because, if it were known that a farmer had to shoot a number of moose in one season, the local population might react negatively.

In fact, in the preliminary surveys, one farmer indicated shooting a number of moose in one field in one evening alone. Another farmer stated that the day prior to the interview, he spotted two moose in one vegetable field. The concern is that the general population, who must face strict hunting regulations, may not understand the predicament faced by farmers. This concern is reflected in a statement made by a neighbouring farmer who stated that "you can't really come out too strong or others will say farmers want it all".

The wildlife problem has also been recognized in the LMADA, where the Port Blandford-Winter Brook Development Association and the Wildlife Division are working collectively to solve the moose problem in the region (Brown, 1993). The results of the survey, with a strong response rate from the LMADA, should help bring relief to the farmers who have indicated the negative impacts caused by wildlife, and, in particular, moose. However, because of the mobility of moose, responding to this issue of land competition is different and perhaps more difficult than resolving the other land competition issues in the LMADA. Whereas the latter could be

resolved through policy changes, policies to resolve the wildlife issue could be more difficult because of the mobility of moose.

This illustrates the link between wildlife as a biological issue and as a human issue. Regarding the former, wildlife populations exist where they do for many biophysical reasons. However, when wildlife come into human contact, the issue becomes human. In other words, because of human activities, policy responses are demanded by those adversely affected. In addition, the moose problem is directly related to moose population density, which would be a major element to any policy initiative. This is an issue for further study, as indicated by the efforts by the Agriculture Branch, the Wildlife Division, the Port Blandford-Winter Brook Development Association and the farmers affected by wildlife.

6.3.2.4 Residential, Commercial and Cottage Development Issues

In the preliminary surveys of farmers, when asked if they felt urban development was an issue affecting agriculture in the LMADA, they generally replied that this was only an issue in St. John's. However, when asked if residential and commercial development affected agriculture in the LMADA, the general response was that this has negative impacts on agriculture (Table 6.8). This appears to arise because, although the LMADA is in a predominately rural region, parts

of it lie within the community boundaries (Figure 6.11) and "Community Infilling Limits" (Figure 6.12).

Seven farmers indicated that residential and commercial development has a negative impact on agriculture. The Agriculture Branch has indicated that residential and commercial development was only an issue in the portion of the LMADA lying inside the town boundary of Musgravetown. The Town of Musgravetown has a population of 726 (Statistics Canada, 1991c), with approximately 246 households (Wiseman, 1993). The area of the Town is 3.91 square kilometres (Statistics Canada, 1991c), although most of the population resides along the paved road which parallels Goose Bay.

Table 6.8. Residential, Commercial and Cottage Development Issues in the LMADA As Indicated By Farmers, 1992.

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
"Residential and commercial development on agricultural lands has a positive impact on agriculture."				
1	4	0	4	3
"Cottage development has no potentially significant impacts on agriculture."				
0	4	2	3	3

Musgravetown Town Council has, in the past, expressed its concern over the lack of lands available for development within its boundary. This boundary and the number of farms

Figure 6.11. Existing and Proposed Urban Boundary of Musgravetown and Lands Requested by the Musgravetown Town Council.

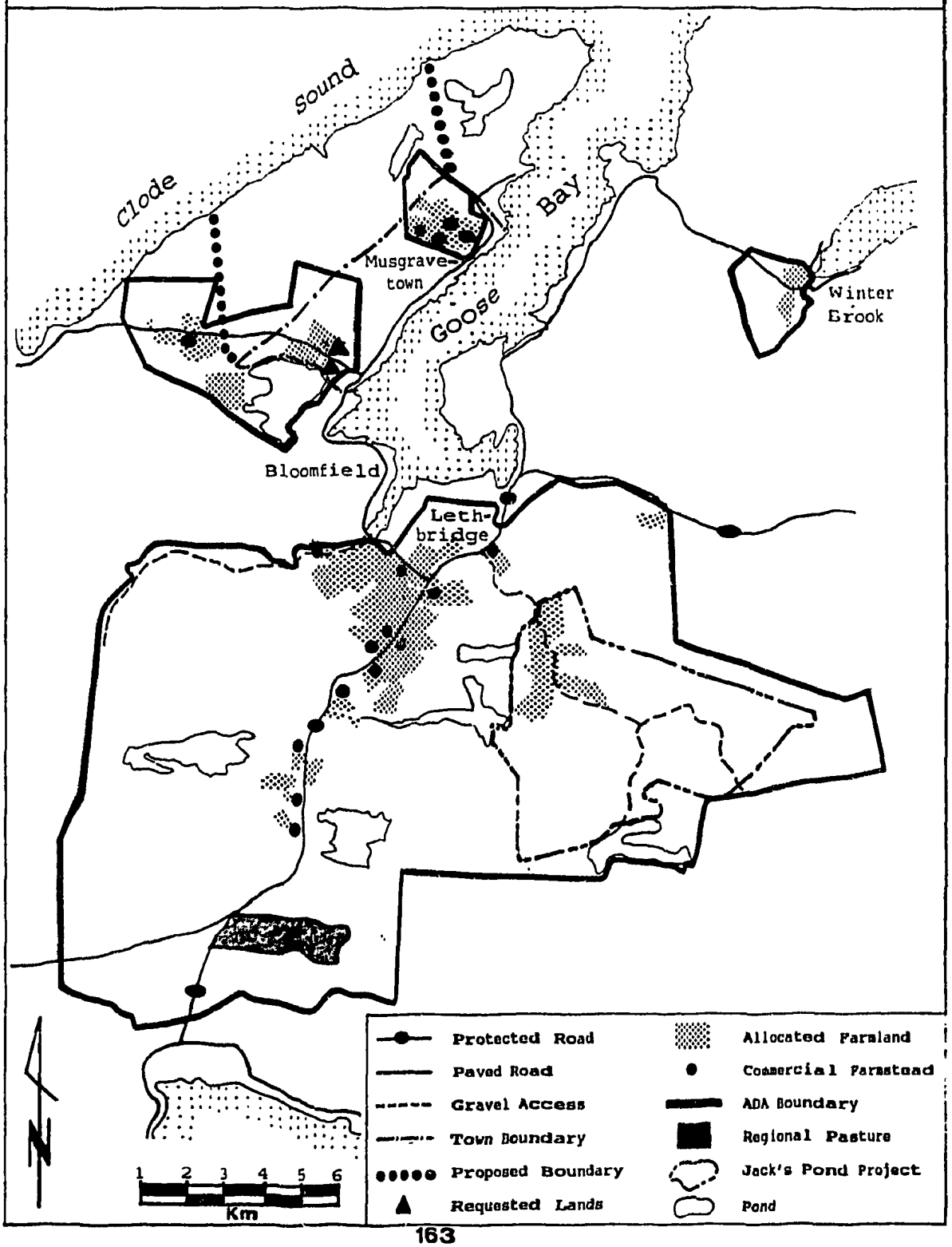
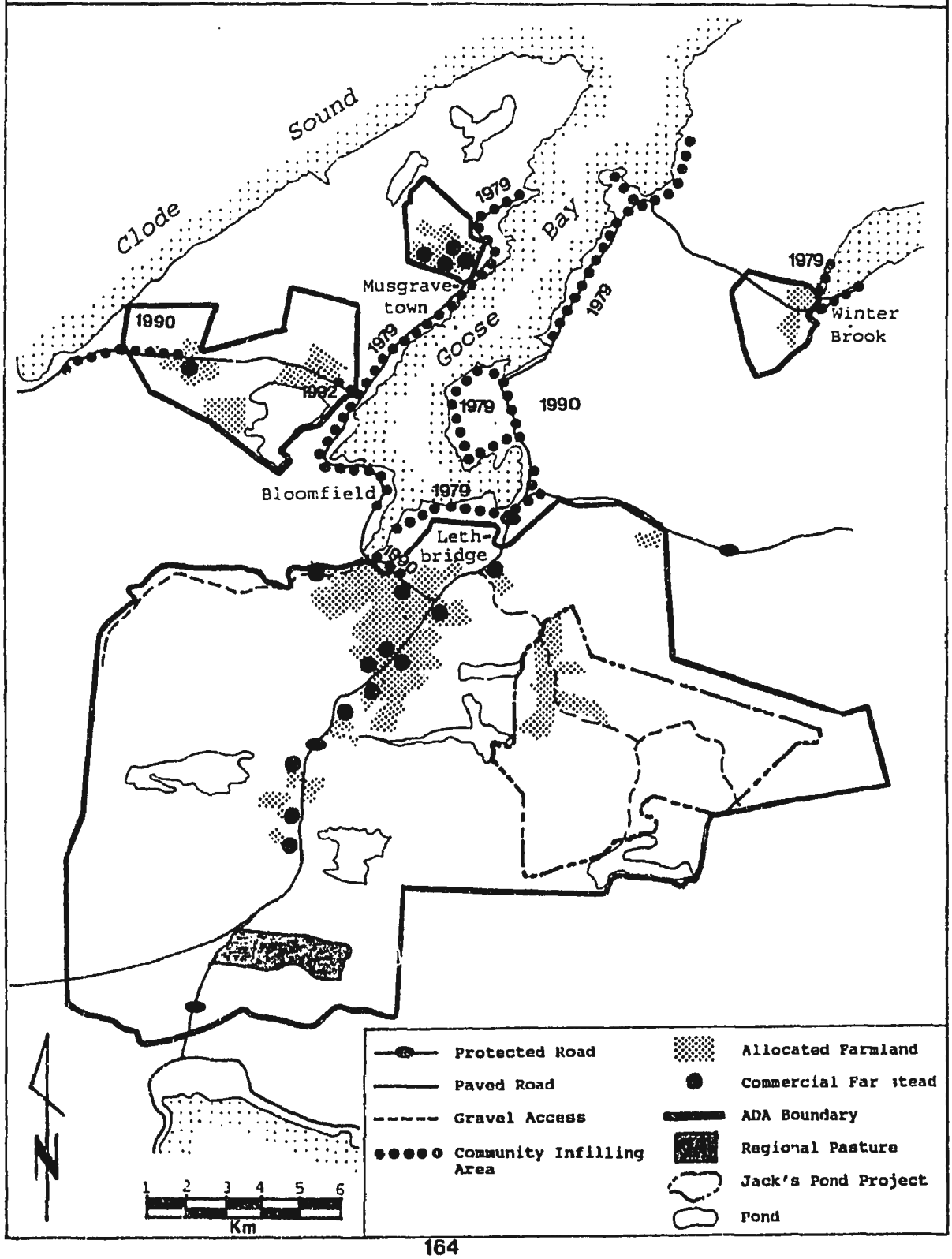


Figure 6.12. Community Infilling Regulations in the LMADA.



located within the boundary are illustrated in Figure 6.11. A few years ago, the Council applied to the provincial Department of Municipal and Provincial Affairs for a boundary extension (Figure 6.11). The Town of Musgravetown does not have a Municipal Plan, and therefore does not operate under municipal regulations. As a result, Council has no power to approve development, and responsibility rests with the Provincial Department of Municipal and Provincial Affairs.

The Council does, however, have the power to approve building, under the regulations set out in the National Building Code (Ozon, 1993). For example, if a person with land both inside the municipal boundary and the agricultural boundary applies for a building permit and their plans follow the National Building Code, Council has the power to approve the application. This leads to conflicts between the Council and the Agriculture Branch (Ozon, 1993; Ricketts, 1993).

In response to this conflict, representatives of the Agriculture Branch met with the Musgravetown Council May 5, 1988. The Agriculture Branch investigated possible development sites within both the municipal and agricultural boundaries. In their report, the Agriculture Branch stated

that:

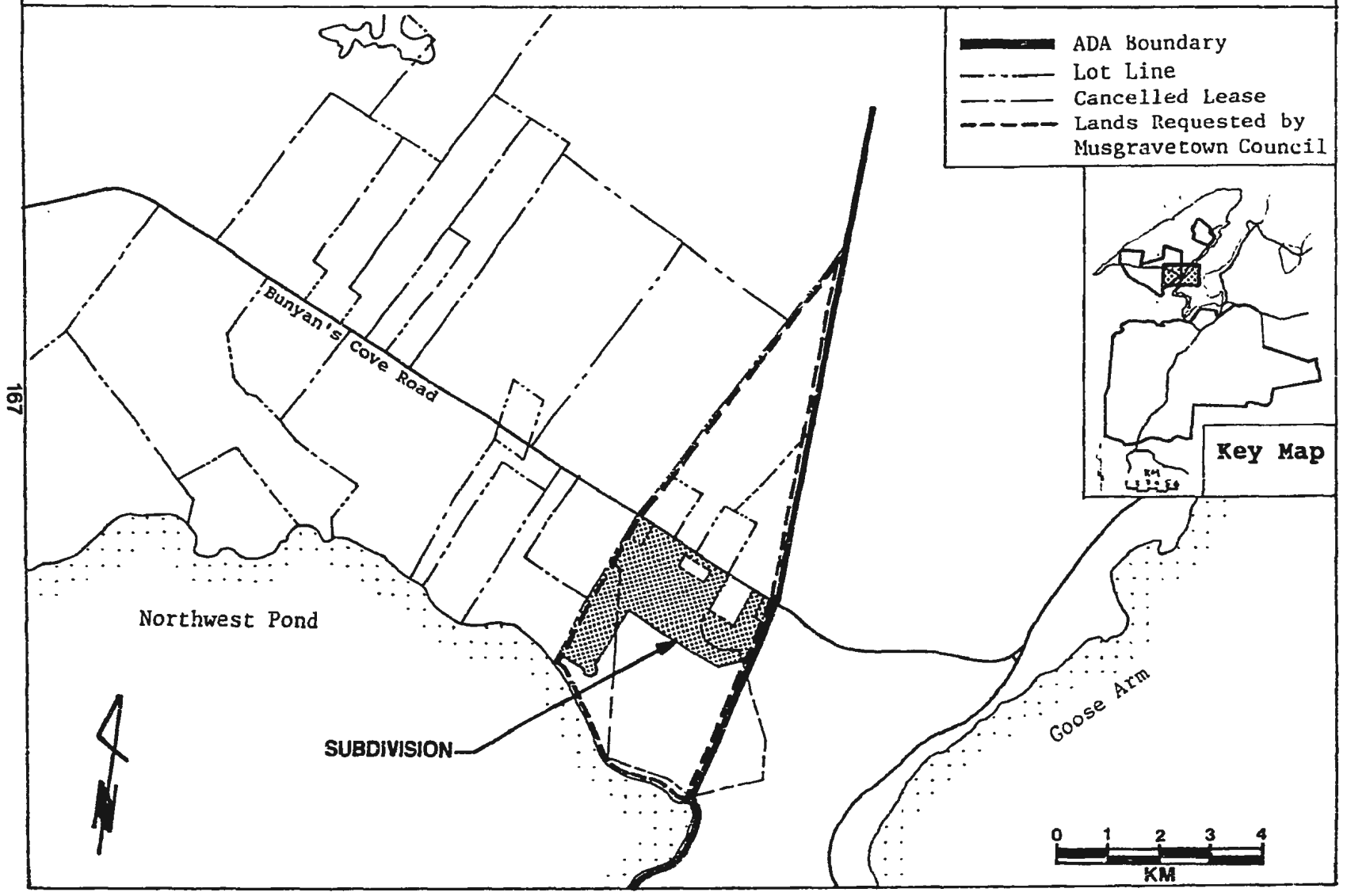
> The present study attempts to satisfy the town's request for land in the Bunyan's Cove Road area by providing access to land marginal or unsuitable for agriculture in an area already extensively developed. It is hoped that this option will deflect the town's attention away from developing lands with good agricultural potential.
>
> (Ricketts, 1988, 1)

Figures 6.11 and 6.12 illustrate land the Agriculture Branch studied for possible deletion from the agricultural zone. These lands were agricultural leases which had little agricultural potential, apart from forage production, and much of the area had reverted back to tree growth, essentially idle land. Of the area in question, 1.5 acres of untitled land were being used for home gardening purposes.

Five recommendations were made following the study by the Agriculture Branch (Ricketts, 1988, 3,4). To summarize, the Agriculture Branch was willing to allow the Town of Musgravetown to develop the requested lands identified in Figure 6.13 for residential development, a recommendation made official in correspondence dated August 11, 1989 (Ricketts, 1989). The next step was to develop a plan of subdivision, construct the road and survey the lots. This was the responsibility of the Land Management Division of the provincial Department of Environment and Lands (Ricketts, 1989).

This commitment was pursued in two phases, as illustrated

Figure 6.13. Land Requested by Musgravetown Town Council.

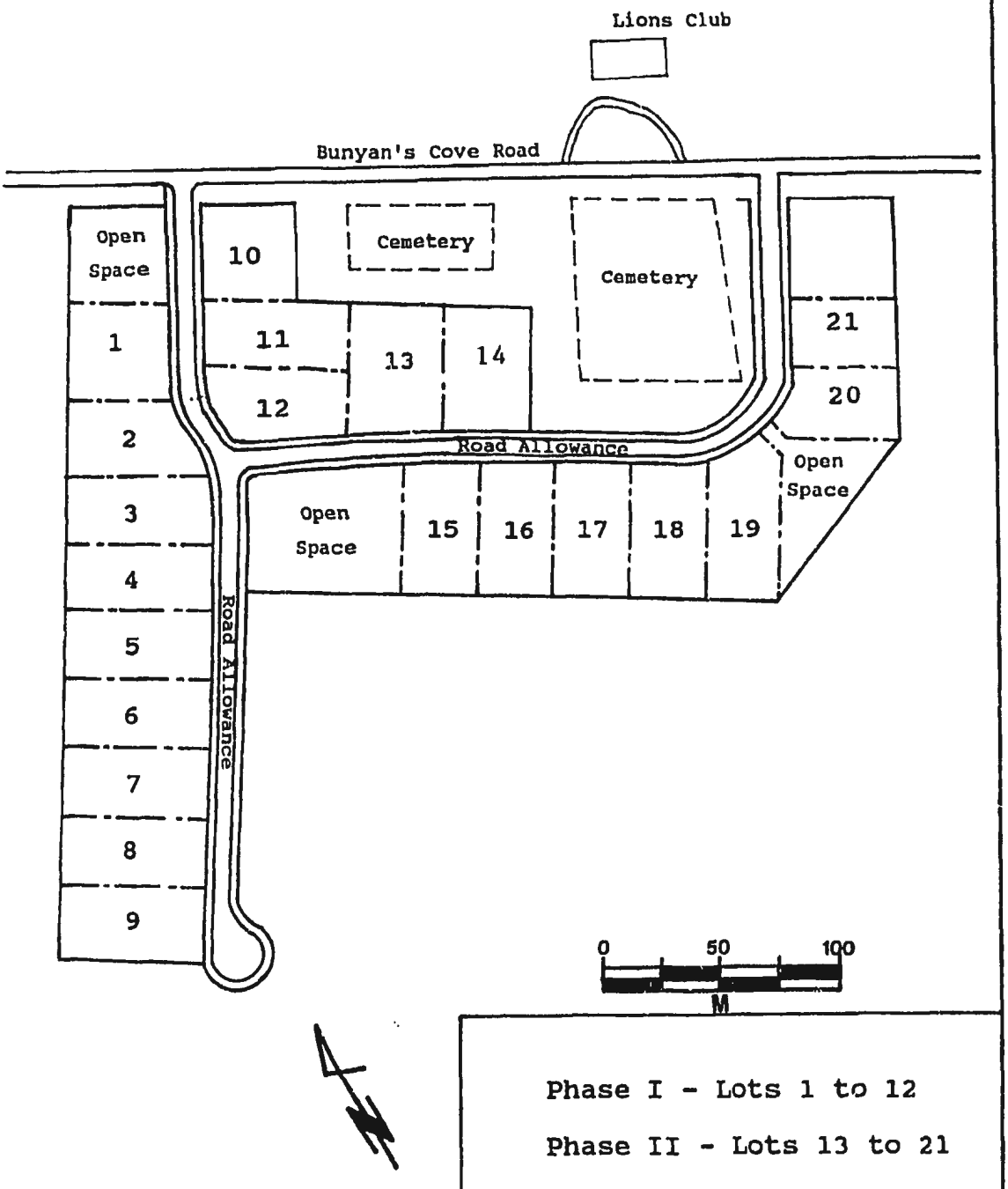


in Figure 6.14. Phase I was completed in May 1992 and Phase II was completed in November 1992 (Earle, 1992 and 1993). Due to a high demand for lots in Phase I as indicated by the Town of Musgravetown, Phase II was undertaken. However, once Phase II was completed, it appears that some of those who committed to lots in Phase I have backed off (Earle, 1993).

As of May 1993, no building had occurred in either phase. The only activity has been land clearing on three lots. On one of these lots a foundation was being constructed (Figure 6.14). According to the Town Clerk in Musgravetown, several commitments for lots in Phase I were made by those not living in the area (Wiseman, 1993). The lack of demand for these lots appears to contradict the concerns of Council regarding lack of developable land.

Since the lands in question were deleted from the ADA boundary a new Town Council has been elected. The Agriculture Branch is concerned that the commitment to the compromise may be waning. One example is the recent application for residential development along Bunyan's Cove Road inside the ADA and municipal boundaries, but not in the residential development area agreed upon by all parties. This land is not currently allocated as either an agricultural lease or grant, and is therefore not being farmed. However, as this land is within both the ADA and Town boundaries, this example does illustrate the ineffectiveness of ad hoc attempts at

Figure 6.14. Phase I and II of the Bunyan's Cove Road Subdivision Development, Musgravetown.



deflecting development on land with the potential for agriculture.

In response to ad hoc applications for building lots adjacent to communities and in order to minimize ribbon development, the Province designates certain portions of road adjacent to communities for development as "Community Infilling Limits". In the past, these limits have not had substantial impacts on agriculture in the LMADA. However, as noted in Figure 6.12, extensions to the infilling limits were made in 1990 at the western portion of Bunyan's Cove Road and at the southwest end of the community of Lethbridge, encroaching on accessible Class IV agricultural land inside the ADA boundary.

Ricketts (1993) stated that these limits were established with consultation with the Agriculture Branch. The original proposal in the Lethbridge portion of the LMADA encroached further into the LMADA. This illustrates the possibilities that exist for resolving conflicts between competing resource users. On the other hand, concerns expressed by the Agriculture Branch regarding encroachment on agricultural lands and distance to pasture land with livestock were not addressed.

Cottage Development:

Six farmers indicated that cottage development could have potential impacts on agriculture. This question was asked as

a potential issue, because preliminary interviews with the Agriculture Branch and with farmers gave an indication that cottage development was not presently a major issue affecting the development of agriculture. However, due to the large number of rivers, ponds and lakes spread out throughout the LMADA, several persons indicated that cottage development could have potentially negative impacts on agriculture in the future. While it is not certain whether cottage development would be approved within the LMADA, this has been the case in other ADAs across the Province, including Humber Valley and Green Bay (Chapter 5).

It should be noted that the cottage statement is poorly worded. By stating "cottage development has no potentially significant impacts on agriculture", it is impossible to determine whether the respondent perceived cottages to have potentially "positive" or "negative" impacts.

6.5.5 Protected Road Regulations

First implemented in 1979, the purpose of the "Protected Road Zoning Regulations" is to restrict development along highways that have been designated as significant tourism routes. In addition to the Trans Canada Highway, four such highways have been identified in the Province. One of these four, the "Discovery Trail" (Provincial Highway 230, formerly the Cabot Highway) runs through the LMADA. Agriculture is a permitted use under the regulations. Presently ten of the

seventeen farms in the LMADA are located adjacent to the Discovery Trail (Figure 6.15).

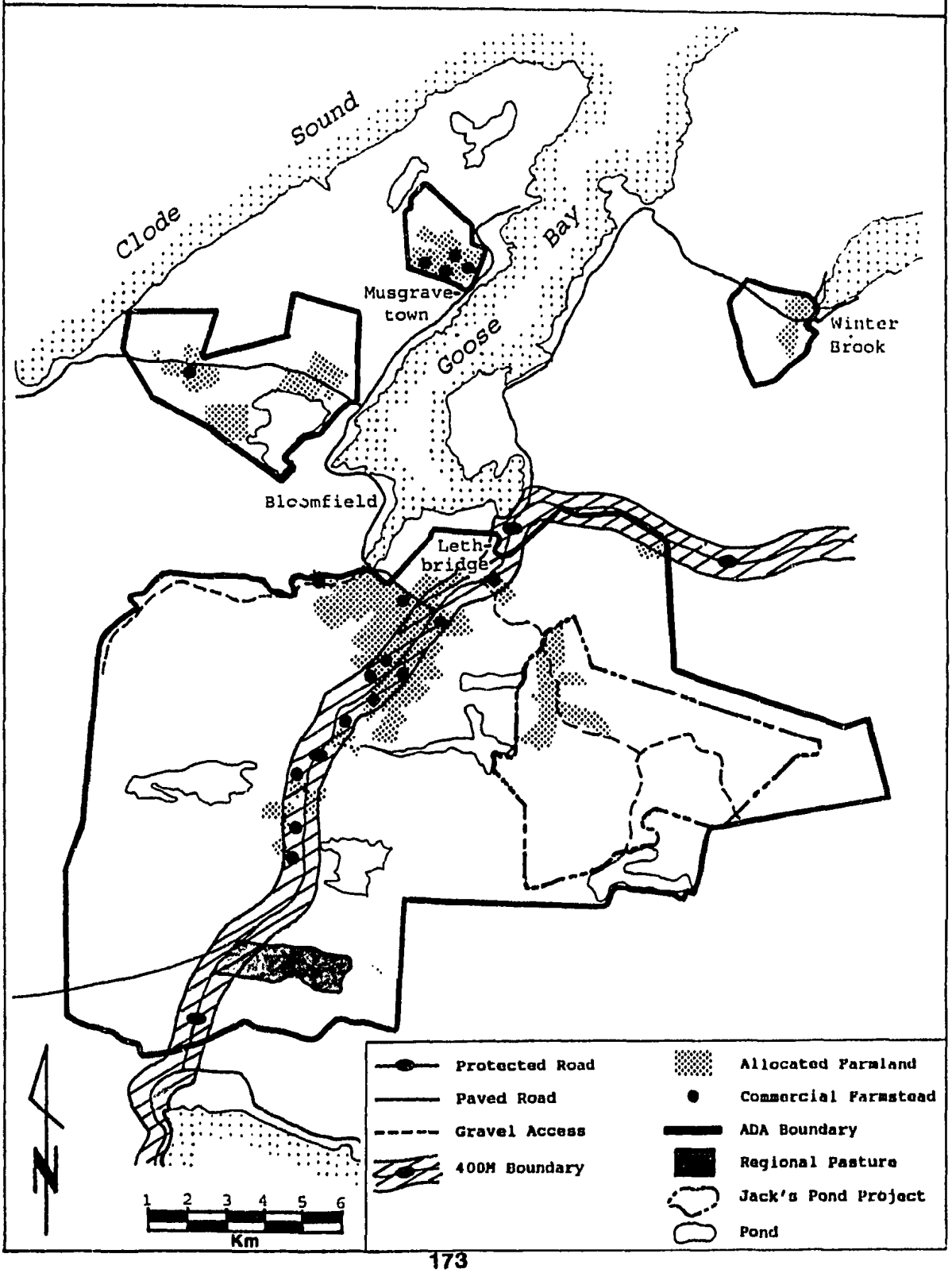
As stated in Chapter 5, this legislation can have both positive and negative impacts on agriculture. Ricketts (1993) stated that the regulations have a positive impact on agriculture by preventing ribbon development, which is present on the other paved roadways in the LMADA. Of the farmers surveyed, five indicated that this legislation had positive impacts on agriculture, four felt it is negative and three were neutral or had no opinion (Table 6.9).

All four farmers who indicated negative impacts of the protected road regulations were located along the Discovery Trail. According to Ricketts (1993), the reason for indicating negative impacts could be that the limits affect what farmers can do with their land, such as subdividing and selling lots, clearing land too close to the road, or building within the 400 metre limits.

Table 6.9. Protected Road Regulation Issues, As Indicated by Farmers, 1992.

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
"Protected road regulations have a positive impact on agriculture".				
1	4	3	2	2

Figure 6.15. Area Designated by Protected Road Regulations in the LMADA.



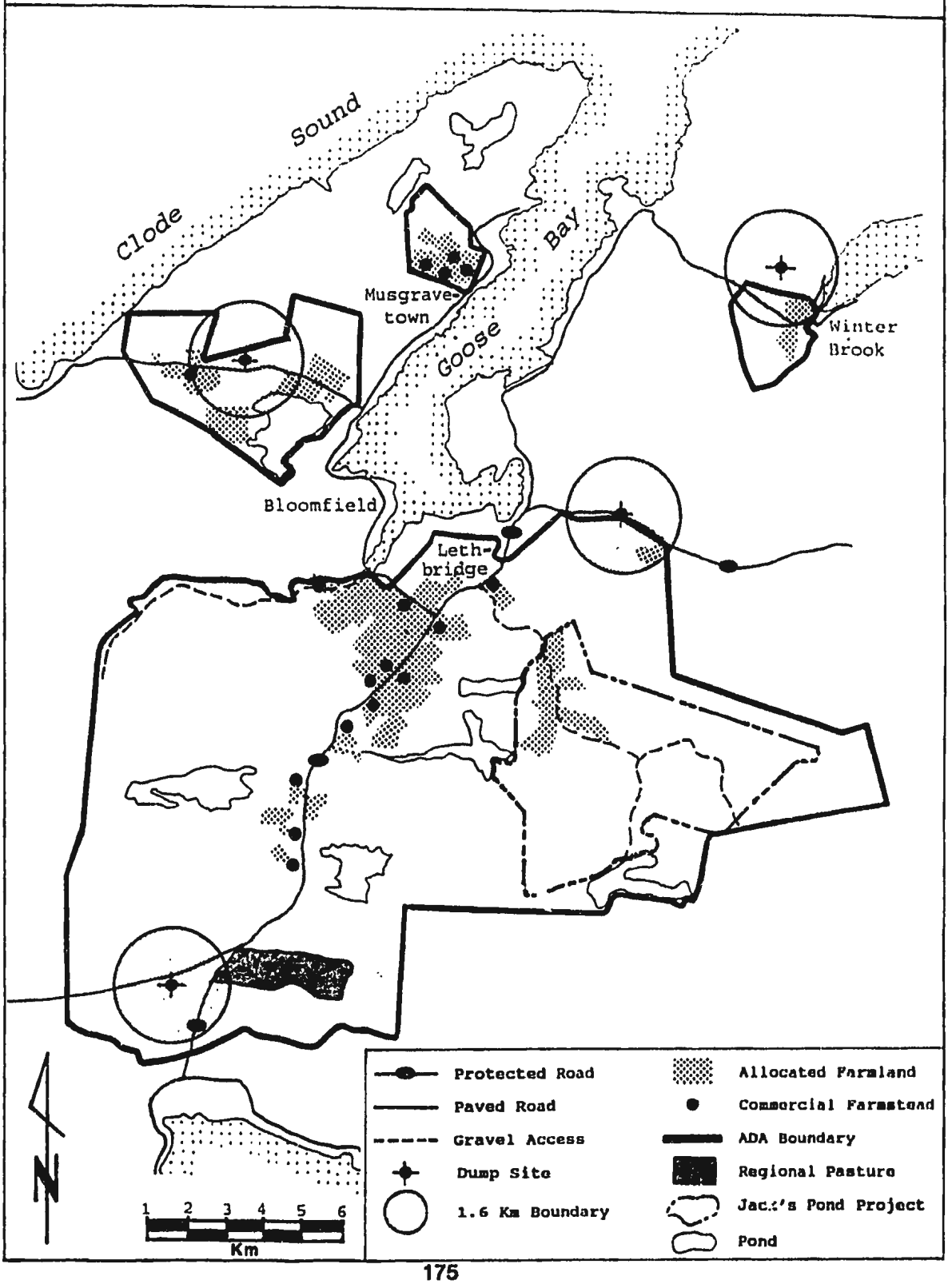
As a final note regarding the "Protected Road Regulations", a revised set of regulations is to be released in the near future. It is unknown at present how the revised regulations will affect agriculture in the LMADA and elsewhere in the Province.

6.5.6 Issues Not Included in the Questionnaire

A number of issues were identified during the course of administering the questionnaire. These include dump sites, archaeological sites, water supply areas and quarry development. These four land-uses exist in the LMADA and are identified in the "Land Use Atlas" and subject to specific legislation. The negative impacts of water supply areas and archaeological sites are negligible at present. However, dump sites and land identified as quarry reserves in the LMADA do have implications for land with the potential for agriculture in the LMADA (R.A.N.D., 1980d; Johnson, 1993; and Ricketts, 1993).

Under The Waste Material (Disposal) Act, 1973, development within a 1.6 Kilometre (one mile) radius of waste disposal or dump sites is restricted. This legislation pre-dates the designation of the LMADA. Four such sites (Figure 6.16) are located in the LMADA, three of which were in existence prior to the designation of the LMADA. Table 6.10 lists the lands inside the LMADA boundary affected by the dump site regulation, by CLI soil classification. Of this land,

Figure 6.16. Dump Site Locations and Area Restricted by Dump Site Regulations in the LMADA.



as they lost not only potential farmland but farmland with an access road and power services (Ricketts, 1993). Issues such as this indicate the need for more integrated planning approaches in the Province.

The Agriculture Branch is also concerned that, while no application for an agricultural operation within the restricted dump site zones has ever been accepted since the designation of the LMADA in 1976, there have been instances where residential development has been approved (Ricketts, 1993).

The Quarry Minerals Act (1975) and the Minerals Act (1975) protect land with mineral reserves. In the LMADA, there are both potential aggregate sites and gravel pit claims. The Provincial Department of Mines and Energy have identified 21 potential aggregate sites as potential aggregate reserves. While these sites may result in competition for land in the future, neither farmers or the Agriculture Branch have indicated that this has been the case to date. In addition, two areas inside the LMADA are presently allocated as gravel pit claims (Figure 6.17). These areas are located on Class IV and V lands and therefore have implications for agricultural expansion.

As illustrated in Figure 6.18, three archaeological sites are found in proximity of the LMADA, two of which are within the boundary. While the Historical Resources Act (1985)

1,018.6 hectares (2,517 acres) comprises Class IV, V and VI lands, which accounts for 64.2 percent of the total land restricted by the dump site regulations. In addition, these lands restrict agricultural lands located along paved roads, which generally have power supplies available (Figure 6.16).

Table 6.10. Area of Land (Hectares) Within 1.6 km (one mile) of Dump Sites in the LMADA, According to the Canada Land Inventory (CLI).

	CLI Soil Classification							
Location	**I**	**II**	**III**	**IV**	**V**	**VI**	**VII**	**0**
Dump Site #1 Musgravetown	0	0	0	67.2	67.2	155.4	124.6	68.0
Dump Site #2 Lethbridge	0	0	0	0	0	119.8	0	104.8
Dump Site #3 George's Brook	0	0	0	0	488.5	44.1	107.2	146.9
Dump Site #4 Winter Brook	0	0	0	167.5	0	8.9	62.7	8.1
TOTAL	**0**	**0**	**0**	**234.7**	**555.7**	**228.2**	**294.5**	**327.8**

Source: R.A.N.D. (1980d).

According to Ricketts (1993), Dump Site #3 near George's Brook (Figure 6.16) was established on a former farm. The lease was cancelled by the Agriculture Branch and the Department of Environment and Lands established the dump without consulting the Agriculture Branch. In retrospect, the Agriculture Branch feels it should have held onto the lease,

Figure 6.17. Potential Mineral Sites and Gravel Pit Claims in the LMADA.

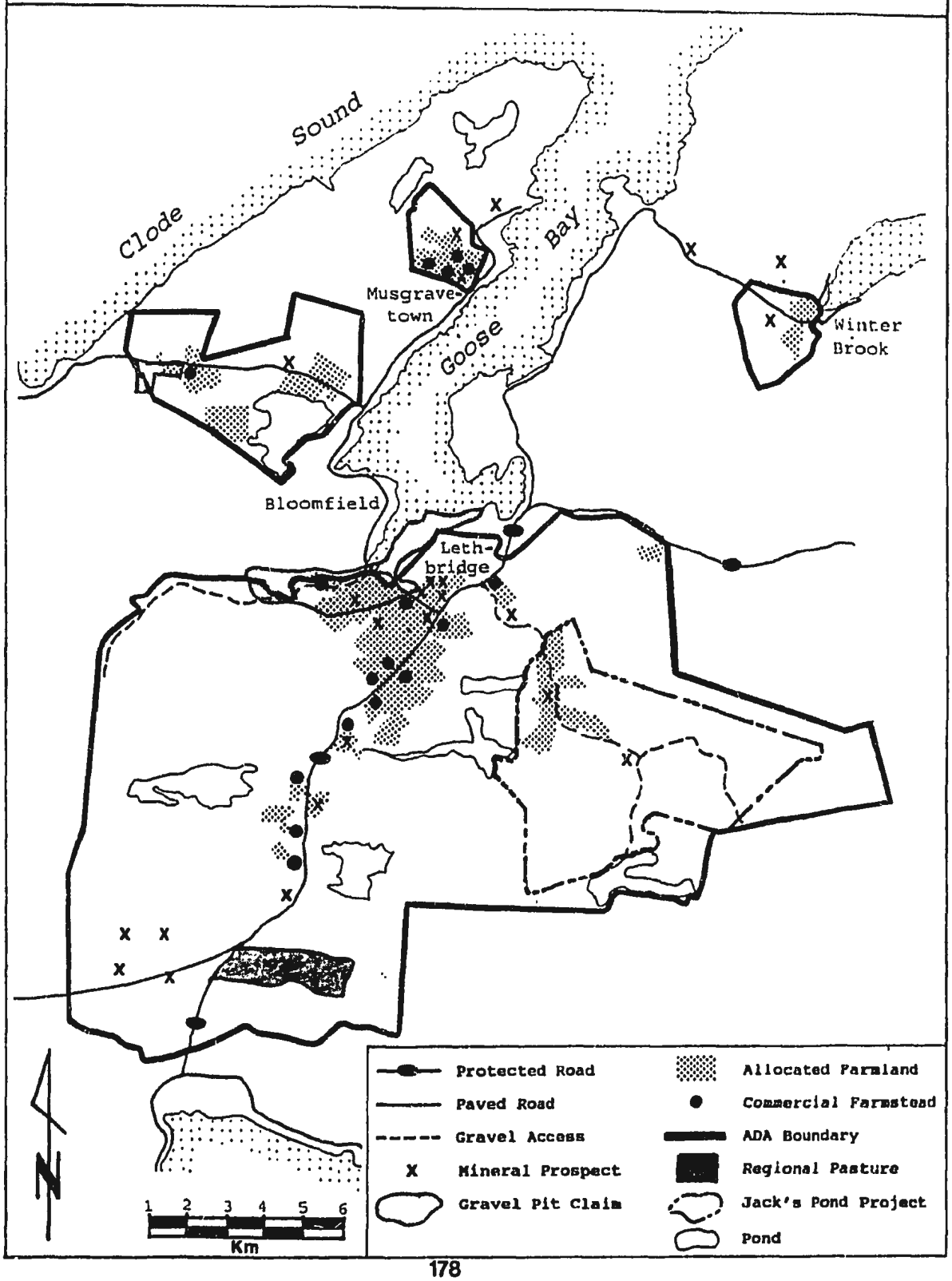
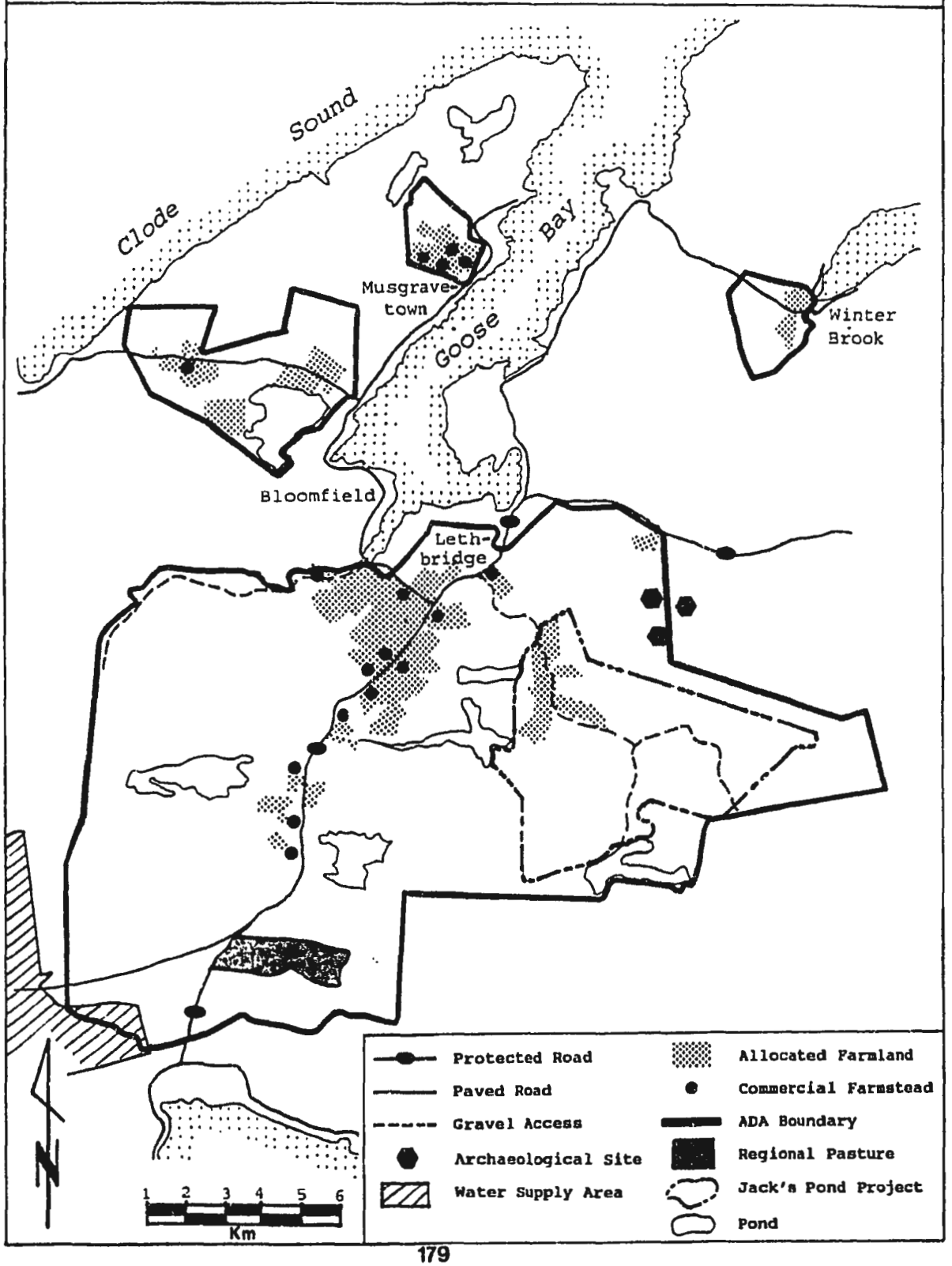


Figure 6.18. Archaeological Sites and Water Supply Areas in the LMADA.



restricts development adjacent to designated Archaeological Sites, the two sites found inside the ADA boundary are on Class 6 and Class 0, posing little impact on agriculture.

Section 25(1) of the Department of Environment and Lands Act (1981) allows communities to designate protected water supplies. These Water Supply Areas protect areas with water tables that are sensitive to development. This area is located in the southwest portion of the LMADA on Class 6 soils (Figure 6.18) and is also affected by forestry reserves and silviculture projects (Figure 6.9).

6.6 Summary

This Chapter illustrated a number of issues of competition for land at the regional scale. The purpose of this case study was to illustrate issues of land competition affecting the development of agriculture in the LMADA. While the size of the LMADA is 18,744 hectares, because of competing land use demands not all of this land is available for agriculture. In reviewing Figures 6.2 through 6.18, it becomes evident that overlaps among the limitations occur. For example in Section Two of the LMADA, the dump site boundary, Musgravetown Town Boundary and poor soil quality overlap. The issues presented to the farmers in the questionnaire received varying degrees of response regarding the negative impacts on agriculture. The only issue that appears to have a positive impact on agriculture, according to

farmers and the Agriculture Branch, is protected roads regulation.

The case study did not examine these impacts at the farm level. Therefore, it is difficult to assess the degree to which these issues affects each farmer individually. Because of the small number of farms, doing so would make it difficult to ensure confidentiality. The case study does, however, illustrate the numerous demands for a limited resource, this being land with the potential for agriculture. In doing so, the locations of many of the issues presented were identified in relation to existing farms (eg. Figures throughout the Chapter). To respond to these demands, the next chapter provides a number of policy options which could be explored by the Government of Newfoundland and Labrador in an attempt to reduce land use conflicts while ensuring that an adequate land base is maintained for agriculture.

CHAPTER SEVEN

CONFLICT RESOLUTION IN NEWFOUNDLAND AND LABRADOR: POLICY OPTIONS

> "The weaknesses are multiple. There is no integrated process; planning is done by each agency in isolation"
>
> Soil and Land Management Division, Agriculture Branch, DFA
> IRP Survey Response in 1988
> (Environment and Lands, 1989, 4-3)

7.1 Introduction

The purpose of this chapter is to address the third objective of the thesis: to identify policy options that could be considered by the Province in resolving conflicts arising from competition for land, while ensuring an adequate land base is maintained for agriculture. This chapter describes the responses to open-ended questions about resource planning policy in the questionnaire distributed to the twenty professionals in the Agriculture Branch. These responses, in conjunction with the existing literature, academic and institutional, provide the basis for the set of policy actions or options that could be considered by the Government of Newfoundland and Labrador.

One of the limitations of presenting integrated approaches to resource management is the fact that this thesis examined land competition from the agricultural perspective. However, the issues identified are real. This was one of the reasons for clarifying issues through key informant interviews

with other resource users and agencies. While a survey of all resource users and agencies would have been the ideal, it was beyond the scope of this thesis. However, such a survey represents a potential study in the future.

7.2. Suggestions from the Agriculture Branch Questionnaires

In the questionnaire distributed to the twenty professionals in the Agriculture Branch, respondents were asked to answer three questions about resource planning in the Province. An open-ended format for responding to these questions was followed (Appendix 4). These questions were:

1. **Do you feel the current resource planning process (ie. planning through the Interdepartmental Land Use Committee (ILUC)) hinders the development of agriculture in the area you represent?**
   Yes ___ No ___ If yes, how?

2. **Do you feel the provincial resource planning process needs to be improved?**
   Yes ___ No ___ If yes, how?

3. **INTEGRATED RESOURCE PLANNING (IRP) has been defined by the Province as:**

   a process whereby resource management agencies consult each other and private sector interests to plan for the future use of natural resources?

   Do you feel that such a process is needed in Newfoundland and Labrador?

   Yes ___ No ___

   If yes, how would IRP be of benefit to the agricultural community you represent?

The responses to these three questions are given in Table

7.1. As indicated, there appear to be different options in the respondents' replies. First, only three respondents indicated that the current resource planning process hinders the development of agriculture. However, eleven respondents felt that resource planning needs to be improved. Second, eighteen respondents indicated that IRP would be a beneficial process for the agricultural community. None disagreed with this statement.

In retrospect, it would have been more effective to administer the questionnaire either in person or by phone. This would have allowed for clarification of some of the responses as they were given.

Table 7.1. Agriculture Branch Responses to Questions about Resource Planning in Newfoundland and Labrador.

Question	Yes	No	No Response	Total
1	3	14	3	20
2	11	4	5	20
3	18	0	2	20

7.2.1. Responses to the First Question

The primary reason for only three respondents indicating yes to the first question appears to be due to a lack of knowledge of ILUC. Six respondents indicated that they were either unaware or that they lacked sufficient knowledge of

ILUC to comment. Only one of the three respondents stated how the current ILUC process hindered the development of agriculture, indicating, "competing interests", "alternative zoning which excludes or restricts farming" and the "lack of dispute settling process". This respondent also stated that:

> "It is inherently difficult to plan or zone land for agriculture to cover all eventualities of farm development and trends in future. Unlike some other resource{s} it is hard to defend zoning land for agriculture - when such use may not take place for years".

This respondent also indicated that ILUC is positive for the development of agriculture only in the sense that it ensures that the Agriculture Branch is involved in the process to defend the interests of farming. In the policy options that follow, it is argued that a better mechanism, which allows the Agriculture Branch to defend the interests of farming in a more effective manner, could be in place.

7.2.2. Responses to the Second Question

The responses to the second open-ended question are listed in Appendix Eight. Although some of these comments are difficult to analyze, there are two basic ideas that can be extracted. First, it appears that there is a need for more awareness of other resource interests by government agencies. Respondents used terms such as "cooperation", "interaction" and "flexibility". For example, one respondent indicated that people with opposing views go to meetings with "closed

mind{s}" and indicated that there was a need for more "flexibility", "compromise" and "cooperation".

Second, at the policy level, the need was expressed for multiple-use and integrative approaches, including the integration of data bases. For example, the Forestry and Agriculture Branches are housed in one department, the Department of Forestry and Agriculture. However, personal interviews have indicated that each branch essentially operates in isolation of the other. Examples include separate road construction programs and separate data bases for land use management and planning.

7.2.3. Responses to the Third Question

As with the second question, there was a diversity in quality and type of response to question three (Appendix 9). However, a number of key words and phrases regarding IRP can be identified. These are paraphrased as follows: the broad perspective; negotiation; organization; coordinated approach; farmland preservation; dispute mechanisms; land availability; consultation; and a voice for agriculture. Consistent in the sixteen responses is the acknowledgement that agriculture could benefit with an IRP process due to the multiple-use and coordinated approach it involves. Such a process would place the Agriculture Branch in a better position to defend their land use requirements from other uses, such as forestry and urban development, as explicitly mentioned in response numbers

four, five, six and eleven.

In summary, the responses to this open-ended section of the questionnaire seemed to reinforce the results of the first two sections, which identified and described the land competition issues affecting agriculture. It also appeared that knowledge of ILUC is lacking. This is not a criticism of the Agriculture Branch, as not all respondents, such as regional supervisors, are involved in the actual planning process. Having said this, however, it is evident that most of the respondents feel the current process could be improved. In addition, the responses to the second question indicate that most respondents feel that IRP would be a planning approach from which agriculture, and resource allocation in general, would benefit. What follows are options that could be considered by the Government of Newfoundland and Labrador.

7.3. Policy Options for Newfoundland and Labrador

It is not the intention of this section to recommend the details of specific policies, but rather to offer a number of policy options that could be implemented to protect agricultural lands and at the same time recognize other existing development and land use demands. The following options have not been created from the research, but are proposals that have been made in the past, in Newfoundland and Labrador and elsewhere. They represent ideas for policy-makers to consider. These options include implementing both

farmland preservation and Integrated Resource Management (IRM) policies for the Province of Newfoundland and Labrador.

7.3.1. Farmland Preservation Policy

7.3.1.1. Background Information

Jurisdictions throughout North America, including Newfoundland and Labrador, have implemented farmland preservation policies. Examples include: tax incentives and disincentives, such as capital gains penalties and property tax programs; agricultural zoning; and acquisition of development rights (Nelson, 1990c). In his reviews of farmland preservation policy in the United States, Nelson (1990a, 1990b and 1990c) concluded that, of these measures, two offered the best potential for both preserving land and creating incentives for agriculture. The first is for governments (local or state) to purchase the development rights of land from landowners. The second is the implementation of exclusionary zoning.

Nelson (1990c) indicated that the costs of the Purchase of Development Rights (PDRs) Program were similar to the revenue lost in the long-term through preferential tax assessment, which farms in several states enjoy. In 1990, twelve states in the U.S. had a PDR program. This is one option being explored in Ontario (O.M.A.F., 1992) and has been recommended for British Columbia to offset development pressures on prime farmland that is being lost to urban

development in the Agricultural Land Reserve (ALR) (Mooney, 1990).

Essentially, restrictive zoning identifies agricultural lands within a given jurisdiction (ie. State, Province, Municipality) for protection from non-agricultural land uses (Mooney, 1990). In Canada, only British Columbia, Quebec and Newfoundland and Labrador have implemented restrictive provincial level zoning to protect agricultural land (Pierce and Furuseth, 1982). In the U.S., only Hawaii and Oregon have restrictive zoning programs (Eber, 1984; Ferguson, 1984; Nelson, 1990c).

However, none are without problems. In Newfoundland and Labrador, compatible development is allowed. In Quebec, there have been concerns that the restrictive zoning takes control away from local and regional planning authorities and that the policy itself is not relevant in hinterland regions (Giroux, 1992). In British Columbia, approximately 89,964 hectares of land were excluded from the ALR, between 1974 and 1985 (Mooney, 1990, 5). Again, this is the reason for Mooney (1990) recommending a PDR program to be implemented in conjunction with restrictive zoning. This is similar to a recommendation made by Nelson (1990c) for the United States. The strengths and weaknesses of these policy options for Newfoundland and Labrador are discussed below.

7.3.1.2. Options for Newfoundland and Labrador

The purpose of exclusionary zoning in the St. John's ADA, was to protect land for agriculture. However, over time, land has been removed from the ADA. In addition, the local population is in conflict over whether this land should be protected or not (Simmons, 1993). The response to this problem was the establishment of a Commission (the Simmons Commission) to assess the future of the land zone. The recommendations from this Commission proposed that numerous parcels of land be deleted from the land bank. However, it is unclear whether these deletions will solve the conflicts between agriculture and urban development. Surely not everyone will be happy, particularly farmers who are adjacent to land being deleted, and farm and non-farm residents who wanted their land deleted, but were not so favoured. Clearly, though, farmland preservation policy alone will not ensure that an adequate land base for agriculture is maintained.

While the Simmons Commission reviewing the St. John's ADA has recommended deletions from the agricultural land bank in the St. John's ADA, it has acknowledged the need for the restrictive zoning policy by not "lifting the freeze", as is advocated by those against the program. In addition, Runka (1981) recommended expanding this program to all of the six designated ADAs, which includes the LMADA, in the Province. This recommendation was reinforced by the Task Force on

Agrifoods in 1991 (Hulan, 1991).

These recommendations are supported here. However, other measures are offered which could be implemented in conjunction with such zoning. First, not all land in the ADAs should be restricted only for agriculture, an option explained further in the following section. Second, differential taxation could be implemented to attempt to bring idle land back into agricultural production. As indicated in this thesis, there is the inability to access land granted for agriculture in the past, but presently not being used. Imposing a higher tax rate on these lands would encourage landowners to sell their idle land back to the Province, who could in turn lease it to interested farmers.

Third, a Purchase of Development Rights (PDR) program could be implemented for farmers with granted land. By farmers selling their right to develop their land, the Province would be in a better position to ensure more granted land is not lost to other uses. In addition, it would give land owners an option other then selling their land outright, such as the differential tax assessment program would encourage. With the two programs, the Province would gain land which they could then lease back to farmers.

7.3.2.2. Integrated Resource Management Policy

7.3.2.1. Background Information

One response to managing land-based resources where

competing demands exist has been developing policies for Integrated Resource Management (IRM) (Lang, 1986 and 1988). In Canada, perhaps the most significant example of an IRM policy is the Eastern Slopes in the Province of Alberta (E.N.R., 1983 and 1984; Government of Alberta, 1984; and Petch, 1985 and 1988). Provinces such as Prince Edward Island (P.E.I.) have developed Conservation Strategies which include elements of IRM (C.C.C., 1987 and MacEwen, 1990). This approach has also been followed in the Canadian North (Yukon Government, 1990 and Livingston and Bastedo, 1990). These approaches relate to recommendations for a planning process based on IRM in Newfoundland and Labrador in 1989. This process is termed Integrated Resource Planning (I.R.P.) (Environment and Lands, 1989).

The need for a more coordinated policy for managing resources stems from the limitations of ILUC to manage increasing competition for land in the Province. The limitations of ILUC were outlined in Chapter 4. Land competition issues affecting agriculture were identified across the Province (Chapter 5) and in the LMADA (Chapter 6). However, the limitations of the current process were recognized at a 1988 workshop which was held with government representatives from provincial and federal agencies with resource planning responsibilities to "discuss the development and implementation of a framework for Integrated Resource

Planning (IRP)" (Environment and Lands, 1989, i).

This workshop recommended that there was "a need for a comprehensive Province-wide policy on Integrated Resource Planning" with ILUC being used to develop the submission to Cabinet. In addition, it was recognized that, at the time, the Provincial Government was committed to developing a Conservation Strategy (Environment and Lands, 1989, v). Neither of these initiatives has been implemented, nor has there been any work completed in this regard. However, it should be noted that a Provincial Round Table on the Environment is currently discussing these very issues.

Also in 1988, the Newfoundland Forestry Centre (NFC) of Forestry Canada identified the "strategic forest sector issues" in Newfoundland and Labrador (Milne, 1988). Using a series of questionnaires and workshops to personnel in the Forestry Service in the Province, thirteen key issues were identified and ranked. The issue ranking third referred to the lack of an integrated resource management policy in the Province, stated in the final questionnaire as:

> Forest land alienation due to poor comprehensive land-use planning and a reliance on single-use rather than multiple-use management
>
> (N.F.C., 1988, 8)

In January 1993, the Province released a draft of the "Environmental Protection Plan for Timber Resource Management", which made no mention of agriculture. Clearly,

integrated resource management is not being pursued by the forestry sector. However, other sectors such as agriculture, in addition to non-governmental organizations such as the Newfoundland and Labrador Environment Network and the Protected Areas Association, continue to call for integrated resource management.

Another measure which can be considered as a resource management issue is "Right-to-Farm" Legislation. This legislation is intended to protect farmers from nuisance complaints (eg. noise, smell, dust) resulting from the operation of their farms from other farmers and non-farmers. However, there is general agreement that such legislation, by itself, would be ineffective in protecting farmers or preserving agricultural land (Lapping, et.al., 1983; Nelson, 1990c; Penfold et.al., 1989; Penfold, 1990). The recommendation has been made that "Right-to-Farm" Legislation be implemented as a support mechanism to provincial and local planning processes, programs and policies (Penfold, 1990, 76).

7.3.2.2. IRM Options For Newfoundland and Labrador

Two policy options which pertain to resource management are discussed in this section. The first measure refers to the implementation of "Right-to-Farm" Legislation. The Agriculture Branch explored the need for and usefulness of such legislation in 1990 (Scarth, 1990a, 1990b and 1993). It has been estimated that farmers in Newfoundland and Labrador

report an average of 300 nuisance complaints (eg. noise, odour, vibration, smoke and dust) each year, a substantial number considering the small number of farms in the Province (Scarth, 1990b, 5). Although not specified in Scarth (1990b), it is possible that nuisance complaints have been made by both farmers and non-farmers. Scarth (1990b) also indicated that such legislation should be adopted province-wide, due to the scattered pattern of agriculture in Newfoundland and Labrador (p.5). He also alluded to the need to ensure that "Right-to-Farm" Legislation is implemented within the framework of other policies and programs to ensure that farmers can conform.

"Right-to-Farm" Legislation is not isolated to nuisance complaints about livestock operations. For example, spreading fertilizers (perceived to affect wells), limestone (dust) and pesticides have also generated nuisance complaints. The option here is that the Province should implement "Right-to-Farm" Legislation, as suggested by the Agriculture Branch. In doing so, examples from the United States and provinces such as New Brunswick and Nova Scotia should be reviewed. It is suggested here that "Right-to-Farm" Legislation, if adopted within a larger program of farmland preservation and resource management, would be beneficial in helping existing farmers and in further development of the agriculture sector.

The second option refers to the actual process for resource planning in the Province. Because such a small

percentage of the total land base of the Province has any potential for agriculture, it is argued here that any reforms to the resource planning process should be done in conjunction with mechanisms for farmland preservation policies. In describing the potential for Integrated Resource Planning (IRP), it is useful to review the list of recommendations resulting from the IRP workshops in 1988 (Table 7.2).

As indicated in Table 7.2, some of the recommendations made at the IRP workshops are similar to those provided by the Agriculture Branch questionnaires. These include the integration of information and the need for coordination between agencies.

Linkage to the LMADA:

The LMADA provides a useful example of how an IRP plan could be implemented. As indicated in the series of maps (Figures 6.2 to 6.18), there are varying qualities of land and a number of competing resource uses. Using this information as a base, a composite resource plan could be drafted which locates all existing development (eg. farms, housing, communities) and current regulations (eg. dump sites, silviculture projects, protected roads). All remaining land could be assessed for allocation, using soil inventories and other considerations such as accessibility. Reference could also be made to the Regional Crown Land Plans developed by the Lands Branch, Department of Environment and Lands.

Table 7.2. Recommendations From Environment and Lands (1989).

1. The Land Management Division of the Department of Environment and Lands be the agency responsible for establishing a Province-wide policy on Integrated Resource Planning;
2. A policy for Integrated Resource Planning should be developed and issued by Cabinet;
3. All agencies embrace the first step initiatives at the Workshop and, thus, work toward achieving Integrated Resource Planning in Newfoundland;

(Environment and Lands, 1989, 28,29)

These first step initiatives were as follows:

1. Individual agencies should work toward IRP by initiating action items that need not require the approval of senior levels of management (for example, the sharing of information);
2. Resource agencies should each be required to develop general resource management objectives. These should be reviewed by a coordinating group and endorsed by Cabinet;
3. A review of the planning capabilities of resource agencies should be carried out, so that they can become more pro-active;
4. A review of resource inventory data needs and networks is required;
5. IRP should be promoted through existing structures such as ILUC;
6. ILUC should be provided with a support group with improved planning capabilities;
7. Improved linkages should be developed between the Environmental Impact Assessment Process and ILUC;
8. A provincial Conservation Strategy is required. IRP should be consistent with provincial and federal Conservation Strategies;

(Environment and Lands, 1989, 30-32)

In developing plans, there is a role for Geographic Information Systems (G.I.S.) to play in integrating data from the different resource agencies. The Forestry Branch currently uses G.I.S. in the management and planning of the

forest resource. This appears to be a logical starting point for integrating information.

Not included in the IRP workshop recommendations listed above is the need for public participation (although this was recommended by government agencies such as the Agriculture Branch at the workshop and in questionnaires conducted prior to the workshop). The public should be involved in the preparation of the plans and in the planning process in general.

In summary, the aforementioned policy options include a farmland preservation program and integrated resource management. The preservation program includes restrictive zoning, differential taxation and Purchase of Development Rights (PDR) initiatives. This farmland preservation program could be implemented in conjunction with a process for resource planning, known as Integrated Resource Planning (IRP), a process which coordinates the multiple demands for land-based resources in the Province and would include the implementation of "Right-to-Farm" Legislation.

CHAPTER 8

SUMMARY AND CONCLUSIONS

8.1 Summary

This thesis began with an examination of the existing literature related to the agricultural resource issues and land use conflicts. It was suggested that little academic research exists regarding land use conflict and farmland preservation in marginal agricultural regions.

Chapter 3 provided a background description of agriculture in Newfoundland and Labrador. While agriculture is hindered by a limited agricultural land base and is a small sector in proportion to the provincial economy, there has been steady growth in a number of sectors. It was argued that if the agricultural sector is to continue to expand, ensuring that an adequate land base is maintained is necessary.

Chapter 4 provided a review of the policy framework within which agriculture operates. In doing so, the fact that the Agriculture Branch lacks a legislative framework for planning and managing land was emphasized. In the past it has been stated that ILUC represented a form of integrated resource planning (Fugate, 1986) and that farmland preservation policies in the Province were effective (Squires, 1989). However, the issues of land competition identified in

this thesis appear to contradict this effectiveness.

Chapter 5 investigated the effects of land competition on agriculture across the Province. The questionnaire distributed to the twenty professionals in the Agriculture Branch, having responsibilities for soil and land management, produced a large number of land competition issues. It was illustrated that significant variations existed in issues between the four regions of the Province, with many issues being identified in more than one region. The results of the questionnaire indicated a larger range of land competition issues occurred in the Central Region, where the LMADA is located. These included the eight issues in which respondents unanimously indicated issues as having negative impacts on agriculture: water supply areas, wildlife, pulp and paper operations, urban expansion, residential development and dump site regulations. In addition, respondents believed that forestry development is favoured over agricultural development and that it is difficult to access suitable land for agricultural development. Other issues included the negative impacts of silviculture projects and quarry development, and, the difficulty in accessing idle land.

These issues were similar to those identified and described in the LMADA. In addition, the physical limitations such as poor soil quality, and the inability to gain road access and electrical services in the LMADA, were described.

Apart from these constraints, the LMADA has been identified as a region with the potential for agricultural expansion. However, it is important to ensure that the limited land base with the potential for agriculture is maintained. In addition, reducing land use conflicts is important to the development of agriculture in the LMADA, and elsewhere in the Province.

This led to Chapter 7, which explored policy options that could be considered by the Government of Newfoundland and Labrador. These were: farmland preservation and resource management policies. The former has the potential to ensure that an adequate land base is maintained for agriculture. The latter has the potential to reduce the number of conflicts between competing resource uses. Certain elements of these options have been considered in the past. However, this chapter argues that substantial improvements can be made.

8.2. Conclusions

The broad purpose of this thesis was to examine the question of competition for land in Newfoundland and Labrador as it affects current and potential agricultural operations. More precisely, the objectives of this study were:

1. to provide an overview of the competition for land that affects agricultural development across the Province.

2. to identify and illustrate how the competition for land affects the development of agriculture in the case study area, the LMADA.

3. to identify policy options that could be considered by the Province to resolve conflicts arising from competition for land, while ensuring an adequate land base is maintained for agriculture.

The first two objectives were achieved using questionnaires distributed to the Agriculture Branch (Objective One) and to farmers in the LMADA (Objective Two). The third objective was achieved by incorporating suggestions from the Agriculture Branch questionnaires with the farmland preservation and resource management literature. Before comparing and contrasting the results of the two questionnaires, two limitations of the research must be acknowledged. These limitations are based on the small populations surveyed and confidentiality which meant some results were aggregated.

Having said this, the qualitative results are valid because they are population surveys. That is, the issues were not identified by an extremely small number of people within a larger population, but rather the entire population that happens to be small. Having acknowledged these research limitations, general comparisons between the results of the two surveys can be made.

Comparing The Two Questionnaires:

Analyzing the differences in attitudes and perceptions between government (the Agriculture Branch) and resource users (the farmers in the LMADA) was not an objective of this research. In retrospect, this would have been an interesting relationship to explore. As a result, direct comparison between the two questionnaires cannot be made, because, while many of the statements are the same, some differences do exist. For example, farmers were asked to respond to several statements regarding the availability of land within the LMADA, whereas the Agriculture Branch was not. Having said this, a number of statements were repeated in both questionnaires. Therefore, general comparisons can be made. The most significant difference between the two questionnaires refers to the importance of specific land competition issues compared to the more general issues of land availability.

In the Agriculture Branch questionnaire, the most significant issues were the negative impacts of urban expansion, residential development, water supply areas, wildlife and pulp and paper operations on agriculture. Less importance was placed on issues such as obtaining agricultural land outside the ADA boundary, the difficulty in obtaining suitable land for agriculture and the issue of developing idle land for agriculture before clearing new land (Table 5.2). However, it is interesting to note that this difference was

less significant in the Central Region, where the LMADA is located. As indicated in Table 5.12, the issue of idle land and access to land for agriculture were mentioned, by respondents in the Central Region. In addition, respondents in the Central Region also mentioned specific land competition issues such as the negative impacts of water supply areas and wildlife on agriculture.

In contrast, more farmers in the LMADA believed that land availability issues had more significant negative impacts on agriculture than specific land competition issues (Table 6.6). Farmers felt strongly that more roads and electrical services should be provided to allow for the expansion of agriculture within the LMADA, that the LMADA should be legislated for agricultural activities only and, that it is difficult to access suitable, well-drained land in the LMADA.

One of the reasons for the differences could be due to the fact that all farmers face the general problem of land availability, while issues such as the impacts of wildlife and domestic wood-cutting areas affects each farmer differently. Professionals in the Agriculture Branch, on the other hand, lack the personal experience of having difficulties obtaining land but deal with a wide array of specific land competition issues in their work place.

However, in many ways, the two issues are the same. Negative impacts and the supply of land directly affect the aviailability of land for farmers. For Crown land, the more competing uses there are, the more likely it will be that there are "vetoes" or delays in approaval. Competing uses usually eliminate granted land for farming purposes.

Apart from these differences, the results of both questionnaires indicated that agricultural development is hindered by both specific land competition issues (eg. wildlife, urban expansion, forestry development) and the general difficulty in obtaining suitable and accessible land for agricultural expansion.

Policy Options Then and Now:

Two basic types of policy options were presented in Chapter Seven: farmland preservation and resource management. In concluding this research, it is useful to compare these options to six key works which focused on these very policy issues in Newfoundland and Labrador (Environment and Lands, 1989; Fugate, 1986; Hulan, 1991; Milne, 1988; Runka, 1981; and Squires, 1989).

Related to farmland preservation, Runka (1981) recommended that certain ADAs, including the LMADA, be legislated for protection, similar to the St. John's and Wooddale ADAs. This was a report prepared by a consultant for

the Government of Newfoundland and Labrador with the specific mandate of investigating farmland preservation. As such, resource management policies were not explored. On a more academic level, Squires (1989) reviewed farmland preservation policies in Newfoundland and Labrador. Squires felt that these programs, which were reviewed in Chapter 2, were adequate measures of farmland preservation. However, as stated in Chapter 2, programs such as the Land Consolidation Program, the Real Property Exemption Program and the Rental Subsidy Program are not very well utilized by the Province (Agriculture Branch, 1992 and Simmons, 1993). In addition, the St. John's ADA was recently reviewed with the possibility of some land being deleted from the ADA boundary (Simmons, 1993). Similar to Runka (1981), Squires did not address alternative measures such as resource management policies.

In contrast, Fugate (1986) reviewed ILUC. He believed that ILUC was the body implementing Integrated Resource Management (IRM) in Newfoundland and Labrador. While this was a paper in a proceedings which specifically addressed IRM (Lang, 1986), Fugate made no mention of farmland preservation as a component to resource management. The fourth reference relevant to the policy options is Environment and Lands (1989), a government report summarizing the results of a series of workshops and questionnaires designed to develop the framework for implementing a program of Integrated Resource

Planning (IRP) for Newfoundland and Labrador. While farmland preservation policy is not explicitly included, the needs of the agricultural sector are recognized within the concept of IRP. However, what was lacking was the acknowledgement that the agricultural land base in the Province is limited and needs to be preserved (although this was recognized in the response to the questionnaire by the Agriculture Branch).

The last two references relevant to the policy options are from the perspectives of forestry (Milne, 1988) and agriculture (Hulan, 1991). Milne (1988), prepared a report for Forestry Canada summarizing the findings of a series of questionnaires distributed to professionals in the Forestry Service across Newfoundland and Labrador. One of the key issues identified was the lack of multiple-use planning approaches in managing the resource base in Newfoundland and Labrador. Similarly, the Task Force on Agrifoods indicated the need for policies which address land use conflicts in the Province. However, because this was a task force in support of expanding the agricultural sector, the need for farmland preservation was also recognized.

Therefore, while each of the aforementioned references is pertinent to this study, Hulan (1991) is the most relevant to this study, specifically in its recommendations for farmland preservation policies and conflict resolution mechanisms.

Closing Statements:

Because of the smallness of the agricultural sector in Newfoundland and Labrador, placing the problems of farmers on the political agenda has been difficult. However, as illustrated in this research, farmers and the Agriculture Branch face constant pressures due to the competition for land. This competition, although identified by farmers and the Agriculture Branch, ultimately indicated that other resource-users also face conflicts due to competition for land. Resolving these conflicts is in the public interest. Past recommendations made by such agencies as the Newfoundland Forestry Service (Milne, 1988), the Department of Environment and Lands (1989), as well as the recent Task Force on Agrifoods (Hulan, 1991), indicated that resource-users wish to have a process in place that will resolve the conflicts arising from the competition for land.

Because less than one percent of the land base of Newfoundland and Labrador has any potential for agriculture, it is also necessary to ensure that the most productive agricultural land is preserved for agriculture. In the case study it was illustrated that although 18,744 hectares have been designated for agriculture (ie. the LMADA), not all land within this boundary has potential for agriculture. It is argued here that a broad program that includes both farmland preservation programs and a process for Integrated Resource

Planning would ensure that the most productive lands are preserved for agriculture, with trade-offs made on less quality soils. Some would argue that pre-determining land for agriculture is not integrated planning. However, the reality is that less than one percent of the land base of the Province has any potential for agriculture. It is recognized that the less than one percent of land with the potential for agriculture is located where there is the highest demand for land. However, this is where co-ordinated, multiple-use approaches to planning can play an important role.

In agricultural regions throughout North America, the most productive lands are located in regions of highest demand. Several jurisdictions such as the State of Hawaii and Provinces such as British Columbia and Quebec, in addition to two regions (the Wooddale ADA and St. John's ADA) in Newfoundland and Labrador, have attempted to ensure that productive agricultural lands are preserved. Newfoundland and Labrador could become the model for other jurisdictions to follow, by illustrating that productive farmland can be preserved through a process of Integrated Resource Management. This can be achieved only if politicians heed the warnings of the land users, such as farmers and foresters and the government agencies who must ultimately manage the land base.

Perhaps a larger study which can obtain the views of a larger number of different resource-users and agencies could

provide a more detailed picture of the nature of land use competition throughout Newfoundland and Labrador. Such a study could be the next step to implementing a program of Integrated Resource Planning in the Province.

CHAPTER NINE

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Appendix 1. Canada Land Inventory (CLI)

By the late 1950s, governments in Canada realized that too many demands were being placed on certain lands. In response, in 1958 a land inventory was proposed by the Senate Committee on Land Use. In 1963, the Canada Land Inventory (CLI) Program was announced. Implemented through the Agricultural and Rural Development Act (ARDA), the CLI Program was a cooperative initiative between the Federal and Provincial governments (Lands Directorate, no date).

The CLI program resulted in the production of Land Capability Maps rating the quality of land for four sectors: agriculture, forestry, recreation and wildlife (one set each for ungulates and waterfowl). However, mapping was not completed for all four sectors in each Province. In Labrador, only the wildlife sector has been mapped. On the island of Newfoundland, the wildlife sector has not been mapped and only portions of the agriculture sector were completed (Lands Directorate, no date).

The suitability of mineral soils for agriculture was based on the ability for the growth of field crops. A seven class rating system was employed in the classification. Organic soils were not rated, but rather classified as 'O'. Generally, the seven classes of mineral soils are as follows:

Class I - capable of sustained production of a wide range of field crops - no limitations
Class II - capable of sustained production of a wide range of field crops - moderate limitations
Class III - capable of sustained production of a wide range of field crops - moderate to severe limitations
Class IV - marginal for cultivation
Class V - good for pasture
Class VI - natural rangelands
Class VII - no potential for agriculture (eg. rock and bog)

(Lands Directorate, no date, no page)

Realizing the limitless differences in soil quality across Canada, a system of sub-classes were also developed into the classification. Examples include excess water, erosion and stoniness.

Appendix 2. Resource Agencies and Relevant Legislation

Resource Agency	Legislation/Mandate
• Agriculture (Soil and Land Management Division), Department of Forestry and Agriculture	- *Department of Rural, Agricultural, and Northern Development Act, 1973*
• Aquaculture, Department of Fisheries	- *The Aquaculture Act, 1987* - Canada/Newfoundland Memorandum of Understanding on Aquaculture Development
• Environmental Assessment Division, Department of Environment and Lands	- *Environmental Assessment Act, 1980*
• Environmental Protection, Conservation and Protection, Environment Canada	- *Canadian Environmental Protection Act, 1988* - *Fisheries Act, 1970* - *Department of Environment Act; 1979* - *Government Organization Act, 1966*
• Federal Environmental Assessment Review Office (FEARO)	- Environemental Assessment Review Process (EARP) Order-in-Council, 1984
• Forestry, Department of Forestry and Agriculture	- *Department of Forestry Act, 1973* - *Crown Lands Act, 1973* - *Forest Land (Management and Taxation) Act, 1974* - Others involving sawmills, forest travel, and forest protection
• Habitat Management Division Fisheries and Habitat Management Branch Habitat Research and Assessment Section Science Branch	- *Fisheries Act, 1970* - Constitution Act, 1867 - Department of Fisheries and Oceans Act, 1979 - Government Organization Act, 1966
• Historic Resources Division, Department of Municipal and Provincial Affairs	- *Historic Resources Act, 1985*
• Land Management Division, Department of Environment and Lands	- *Crown Lands Act, 1973* - *Department of Environment and Lands Act, 1981* - *Development Areas Lands Act, 1973*
• Marine/Coastal Zone Development, Department of Development	- Development Areas Lands Act, 1973 - Cabinet Directive
• Mines Division, Department of Mines and Energy	- Department of Mines Act, 1973 - Mineral Act, 1975 - Quarry Minerals Act, 1975 - associated regulations
• Newfoundland and Labrador Hydro, Environmental Services Department	- Newfoundland and Labrador Hydro Act, 1975
• Parks Division, Department of Environment and Lands Resource Agency	- Provincial Parks Act, 1972 - Wilderness and Ecological Reserves Act, 1980
• Urban and Rural Planning Division, Department of Municipal and Provincial Affairs	- Urban and Rural Planning Act, 1974 - Municipalities Act, 1979
• Water Resources Division, Department of Environment and Lands	- Department of Environment and Lands Act, 1981 - Water Protection Act, 1973 - Well Drilling Act and Regulation, 1981 - Draft Water Resources Act (due to pass in 1989)
• Canadian Wildlife Service, Environment Canada	- Migratory Bird Convention Act, 1917 - Canadian Wildlife Act, 1973
• Wildlife Division, Department of Environment and Lands	- Wildlife Act, 1970 - Migratory bird convention Act, 1917 - Motorized Snowmobile and All-terrain Vehicle Act, 1973

Appendix 3. The "Land Use Atlas" Manual.

The primary objective of the Land Use Atlas is to provide planners with a method of recognizing existing or potential land use conflicts and an awareness of land administration jurisdictions.

The Atlas is a compilation of significant land management boundaries. As such, it provides users with a quick and easy method for reviewing proposed developments with respect to patterns of present land use and/or administrative control. At a reconnaissance level, the Atlas provides the user with an overview of agencies which have a concern in the area and an estimate of possible compatibility between existing and proposed uses.

Land Use Parameters

The significance of each land use parameter recorded on the Atlas with respect to land use planning is discussed below.

I. Land Use (1:50,000 Map Sheets)

A. Administrative Areas

1. Municipal and Planning Area Boundaries

Any development within municipal boundaries or municipal planning area boundaries must first be approved by the municipal authority. In addition, development in these areas will require a permit from the Town Council before development takes place. The development must conform to zoning if a Municipal Plan is available.

2. Protected Roads (Development Control)

All development within development control zone of roads administered by Development Control Division must first receive approval from that Division. The extent of the zone varies from location to location, but an approximate guide is 400 m on either side of the road except in those communities where a municipal plan is in place. There, Development Control Division should be contacted to find the exact limits of their jurisdiction.

3. Regional Pastures

No development is permitted within regional pastures except that which is directly related to that use.

4. Blueberry Management Areas

No development is permitted within Blueberry Management Areas except that which is directly

related to that use.

5. Agricultural Development Areas
   Proposed development located within an agricultural development area must be referred to the Soils and Land Management Division, Department of Rural, Agricultural and Northern Development.

6. Provincial Parks
   All proposed development on Crown Land within the following areas are to be referred to the Department of Culture, Recreation and Youth:
   a) within 2 kilometres of any provincial park boundary;
   b) within propose boundaries of or within 2 kilometres of areas considered for designation under the Provincial Parks Act;
   3) within 2 kilometres of potential canoe routes, as defined by Parks.

7. Newfoundland Light and Power Watersheds
   All proposed development within these ares is to be referred to Newfoundland Light and Power.

B. Designated Areas

1. Designated Watershed Areas
   Development within Designated Watersheds is not permitted unless a development plan has been approved by the Department of Environment and Lands. An approved cottage development plan is an example of a permissable use.

2. Waste Disposal Sites
   Proposed development within 1.6 kilometre radius from a waste disposal site must be referred to the Department of Environment and Lands.

3. Designated Cottage Areas
   Development other than a summer cottage must first be referred to the Lands Branch, to ensure that a conflict between the two uses does not occur. In the future, these areas may be designated and controlled by legislation. Therefore, it is important that you check with the Lands Branch prior to development.

4. Remote Cottage Areas
   These areas are designated by the Lands Branch as Remote Cottage Ares. Development in these areas

must first be referred to the Lands Branch to ensure that a conflict between the two does not occur.

5. Limited Access
   Any development requiring access to a Limited Access Highway must first be referred to the Highway Planning Section, Department of Transportation for evaluation. Individual access or driveways are normally discouraged.

6. Forestry Reserves
   These areas have been set aside for silviculture treatment. Non-forestry use is not permitted in these areas without the approval of the Forestry Branch.

7. Archaeological Sites
   Crown Land development adjacent to or in close proximity to sites of archaeological significance or potentially rich in archaeological resources must be referred to the Historical Resources Division.

8. Commercial Outfitting Camps
   Development on Crown Land within 8 kilometres of a commercial outfitting camp must be referred to the Department of Development.

9. Proposed Hydro Corridor
   Any planned development in the proximity of the corridor must be referred to Newfoundland and Labrador Hydro.

10. Commercial Agricultural Operation
    a) Development on Crown Land within 1 km of a commercial agricultural operation must be referred to the Agriculture Branch.
    b) Development on Crown Land within 610 m of a commercial operation must be referred to the Department of Environment.

C. <u>Restricted Areas</u>
These are areas with restriction on land use which have not already been mentioned in the foregoing list of parameters. They include areas restricted under the Development Areas Act, areas restricted by the Department of Health and the Land Management Division.

II. Community Infilling Maps

Residential development on Crown Land outside community infilling limits is not permitted. Residential development on private land outside the community infilling limits may be controlled by the municipal authority or other agencies such as Development Control Division.

III. Scheduled Salmon Rivers

Remote cottage development on Scheduled Salmon Rivers is not permitted except in designated cottage areas. All other development on or near a scheduled is subject to the approval of the {federal} Department of Fisheries and Oceans.

IV. Aggregate Potential Maps

Development on Crown Land within any of the Zones on the aggregate maps or within 300 m of a pit or quarry must be referred to the Department of Mines and Energy.

V. Wildlife Designations

This map depicts a wide range of wilderness and ecological areas. Some areas such as wilderness and ecological reserves are established under the Wilderness and Ecological Act, and are very restrictive in terms of resource development and land use. However, most areas are simply shown as areas of special interest to the Wildlife Division. Development within any of the designation must be referred to the Department of Culture, Recreation and Youth.

Agricultural Resource Issues Survey

Name _____

Title/Position _____

Office Location _____

Which areas or regions are you responsible for?

_____

_____

_____

The following statements have been identified by farmers and government representatives as issues, concerns and conflicts faced by the agricultural community.

COULD YOU PLEASE RESPOND TO THESE STATEMENTS AS THEY RELATE TO THE GEOGRAPHIC AREA YOU ARE RESPONSIBLE FOR IN YOUR WORK

For the following please state whether you strongly agree (SA), agree (A), are neutral or have no opinion (NO), disagree (D) or strongly disagree (SD) with each statement.

	SA	A	NO	D	SD
1. The moratorium on the northern cod fishery will have a positive impact on agriculture.	1	2	3	4	5
2. Residential development on agricultural land has a negative impact on agriculture.	1	2	3	4	5

7. Please use the remaining space and any additional paper for any other comments you may wish to make regarding the issues raised in this questionnaire.

_____

_____

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_____

Thank-you for your cooperation

Please return this survey in the stamped, addressed envelope provided

	SA	A	NO	D	SD
3. Forestry development is favoured over agricultural development.	1	2	3	4	5
4. Cottage development has a positive impact on agriculture.	1	2	3	4	5
5. Wildlife has no negative impact on agriculture.	1	2	3	4	5
6. It costs the farmer too much money to meet environmental regulations established by government.	1	2	3	4	5
7. Protected roads regulations have a positive impact on agriculture.	1	2	3	4	5
8. Obtaining agricultural lands outside the agricultural boundary is more difficult than inside the boundary.	1	2	3	4	5
9. Farmers are involved in the land planning process where agricultural lands are concerned.	1	2	3	4	5
10. It is important to get public opinion on agricultural resource issues.	1	2	3	4	5
11. Idle agricultural lands should be brought back into production before more land is cleared for new farmers.	1	2	3	4	5
12. It is difficult to access suitable lands for agriculture.	1	2	3	4	5
13. Domestic wood cutting areas have a negative impact on agriculture.	1	2	3	4	5
14. Saw mill operations have a negative impact on agriculture.	1	2	3	4	5
15. Pulp and paper operations have a negative impact on agriculture.	1	2	3	4	5
16. Water supply areas restrict agriculture.	1	2	3	4	5
17. Dump site regulations negatively impact agriculture.	1	2	3	4	5
18. Urban expansion has negative impacts on agriculture.	1	2	3	4	5
19. The objective of "Right to Farm" Legislation is to protect farmers from court action based on nuisance complaints about their farms from non-farmers. There is no need for such legislation in this Province.	1	2	3	4	5
20. The Agriculture Branch would be more effective if given departmental status.	1	2	3	4	5
21. Electricity should be provided to encourage the expansion of new agricultural lands.	1	2	3	4	5
22. New roads should be provided to encourage the expansion of new agricultural lands.	1	2	3	4	5
23. There is no need to improve the level of maintenance on roads that access agricultural lands.	1	2	3	4	5

	SA	A	NO	D	SD
24. The current land lease program needs to be improved as a form of land ownership.	1	2	3	4	5
25. There is no need for higher levels of financial support from government for agriculture.	1	2	3	4	5
26. It is currently difficult for interested potential farmers to start an agricultural operation.	1	2	3	4	5
27. It is more difficult for farmers with leased land to obtain financial loans from government agencies, such as the Farm Credit Corporation and the Farm Loan Board, than those with granted land.	1	2	3	4	5
28. Farmers should be required to develop a five-year plan to obtain financial assistance from banks.	1	2	3	4	5
29. Persons with leased land should have control over the forest resources on such lands.	1	2	3	4	5

FOR THE FOLLOWING QUESTIONS, IF A SPECIFIC ADA IS AFFECTED BY A CERTAIN ISSUE OR CONFLICT, COULD YOU PLEASE INDICATE THE APPROPRIATE ADA.

1. **Do you feel there are any resource related issues or conflicts facing the area or region you represent?**

   Yes ____ No ____ If yes, what are they?

(space is provided on next page)

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

(Please use additional paper if required)

2. **Could you please rank, in order of importance (1 being most important), the resource issues affecting agriculture in the area or region you represent.**

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

(Please use additional paper if required)

3. Do you feel the current resource planning process (ie. planning through the Interdepartmental Land Use Committee (ILUC)) hinders the development of agriculture in the area you represent?

Yes ____ No ____ If yes, how?

(use additional paper if required)

4. Do you feel the provincial resource planning process needs to be improved?

Yes ____ No ____ If yes, how?

(more space is provided on next page)

(use additional paper if required)

5. INTEGRATED RESOURCE PLANNING (IRP) has been defined by the Province as:

> a process whereby resource management agencies consult each other and private sector interests to plan for the future use of natural resources?

Do you feel that such a process is needed in Newfoundland and Labrador?

Yes ____ No ____

If yes, how would IRP be of benefit to the agricultural community you represent?

(use additional paper if required)

Appendix 5. Issues Obtained in Preliminary Interviews.

A. Sawmillers

Sawmiller 1:

1. clearcutting - eliminating the resource
2. clearcutting - monoculture
3. clearcutting - choking out the small producer in favour of large companies
4. Forestry Branch is against sawmillers and favour pulp and paper companies
5. "Sprung type deals" - large machinery is brought in for large scale operations
6. Decrease in sawmill permits in favour of large producers
7. competition with lumber brokers and mainland lumber
8. "Many of the same issues as agriculture"
9. Not being able to access trees in Terra Nova National Park;

Sawmiller 2:

1. Conflicts within the forestry sector - eg. between domestic wood cutting and commercial cutting
2. Road construction and the development occurring along them
3. Lack of proprietary rights to the timber, therefore, money has to made the first time round
4. Demand for cabin lots
5. Farmers get leases and are then paid "bounties" to clear the land
6. Increase levels in idle land
7. No long term access to land - once cleared it goes to agriculture or cabin lots
8. Losing road frontage to agriculture
9. Resource is under pressure - quantity of resource
10. Wood cutting as a social activity - this hinders access for saw millers;

Sawmiller 3:

1. Workmen's compensation is increasing costs for saw mill operators
2. Royalty costs too high
3. No roads constructed until the wood is cut
4. Roads are built for agriculture but not forestry;

Sawmiller 4:

1. Forestry is at "loggerheads" with agriculture
2. Forestry and Agriculture should be separate departments

3. Need to educate about forests to improve the levels of management
4. Need to preserve forests for future generations

Sawmiller 5:

1. The Forestry Branch and foresters are not working together
2. Rural Development Associations (RDAs) get government money for silviculture projects
3. Economic development would be better if all worked together
4. Lack of access to timber
5. High costs of Worker Compensation
6. High royalty costs
7. Competition with mainland lumber
8. Financial assistance for agriculture not forestry
9. Decline in timber stands on the Bonavista Peninsula
10. Lack of emphasis on small producers
11. Need to support silviculture
12. Lack of communication between government and industry;

B. Farmers:

Farmer 1:

1. Unrealistic environmental rules such as spraying
2. Unrealistic development policies such as "unsightly strip development"
3. Land Lease issues such as defaults
4. Difficulty getting building lots on leased lands
5. Forestry conflicts
6. Dump site regulations are unrealistic
7. Difficulty in obtaining lands outside ADA
8. No organized marketing
9. Lack of local suppliers
10. Policy Makers are not farmers
11. Lack of "Agricultural Community"
12. Less money for agriculture compared to other sectors
13. Lack of processing facilities
14. Lack of business sense by farmers;

Farmer 2:

1. Land Lease Program - no incentives
2. Need for "Right-to-Farm" Legislation
3. Need to regulate the ADA
4. Red tape in obtaining building permits
5. Must show receipts before obtaining financial assistance from government
6. Forestry conflicts - clear and plant around farms so farmers cannot expand

7. Land use requirements under Land Lease Program ie. specific % of land to be cleared in a given period of time
8. Rural Development Associations (RDAs) are against farmers
9. Power of commodity groups that are represented by Boards compared to other commodity groups
10. Tree clearing that eliminates wind breaks
11. No buffer zone between agriculture and forestry spraying
12. No resource rights on leased lands such as over forest and quarry resources
13. Wood cut areas take in a large area, which is affected by oil prices
14. Wood cut areas should be managed for cutting
15. Need for vegetable marketing
16. High transportation costs
17. The Low image of agriculture in the Province
18. High retail mark-up - eg. price of potatoes from Newfoundland versus Prince Edward Island
19. Lack of capital funding
20. Mark-ups by wholesalers such as Sobey's - vertical integration
21. Inter-provincial trade barriers
22. Restrictions in exporting root crops
23. Difficulty in getting backing from the Newfoundland and Labrador Federation of Agriculture - not a grassroots operation as it should be.
24. Vegetable association choked out the small producer ie. minimum sales of $10,000 to join;

Farmer 3:
1. Supply management
2. Wildlife - moose and rabbits
3. Unfair competition
4. Difficulty for new entrants
5. Low returns to agriculture;

Farmer 4:
1. Lack of infrastructure
2. Regulations for building
3. Marketing boards - control
4. Access to lands is difficult
5. Forestry conflicts - even if no trees are on on a parcel of land, forestry will not release it for agriculture
6. Lack of government organization
7. Lack of support for new entrants
8. Inability to purchase land

9. Fees for services
10. Bureaucracy
11. Task Force was a waste of money
12. Having to develop a five year plan
13. Percentage of land to be cleared is too high
14. More interaction in the agricultural community is required
15. Lack of control over selling
16. Should be self-sufficient in vegetables
17. Clearcutting affects on resource base
18. Fisheries Alternatives Program could have effects on the "true farmers";

Farmer 5:

1. Financing through the F.C.C. is a "nightmare"
2. Difficulty in federal lending procedures
3. Farm Loan Board red tape
4. Agriculture Canada inspectors turning down Newfoundland products such as turnips
5. Need for trained graders
6. Utility grades in Nova Scotia
7. Markets for crops
8. Low returns to agriculture
9. Wildlife damage - moose and rabbits
10. Land handed down that lay idle
11. Banks favour dairy operations;

Farmer 6:

1. Financial constraints in meeting environmental regulations such as manure storage
2. Need for more quota to become viable
3. "Government runaround"
4. "Agriculture representative is never around"
5. Weather - hay is too wet
6. Difficulty in road access
7. Wildlife - crushing the hay
8. Access to lands outside ADA is difficult
9. Lack of well-drained land

C. Agriculture Branch:

Soil and Land Management Director:

1. Forestry - could be a larger issue in the future
2. Suitability of the resource base
3. Availability of the resource base
4. High cost of providing access
5. Decline in the fishery could benefit agriculture;

Land Use Planner - Central Region including LMADA:

1. Inefficient dispute mechanism in the planning process
2. Protected Roads Regulations
3. Forestry - silviculture projects
4. Forestry - domestic wood cutting areas
5. Residential and commercial development - the issue of accessibility
6. Residential and commercial development - the issue of distance separation from livestock
7. Quarries - can degrade the resource base
8. Perceived limits due to Dump Site Regulations
9. Tourism - need to preserve natural landscape
10. Wildlife- need to maintain populations
11. Restrictions due to protected water supplies
12. Moose populations
13. Future conflicts with coyote populations
14. Access - to a point
15. Ribbon development - competing for accessible agricultural lands;

Agricultural Representative - Central Region and LMADA

1. ADA - poor lands inside the boundary
2. ADA - lack of support outside the boundary
3. Need to expand dairy in the LMADA
4. Development on agricultural lands
5. Need to preserve agricultural lands for the future
6. Land Lease could become more of an issue
7. Lack of hydro provision
8. Silviculture projects on agricultural lands;

Appendix 6. Responses to Issues Affecting the Development\ of Agriculture, 1992.

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
"The objective of "Right-to-Farm" Legislation is to protect farmers from court action based on nuisance complaints about their farms from non-farmers. There is no need for such legislation in this Province."				
1	0	0	12	7
"There is no need to improve the level of maintenance on roads that access agricultural lands"				
0	0	2	16	2
"Persons with leased lands should have control over the forest resources on such lands."				
1	17	1	1	0
"New roads should be provided to encourage the expansion of new agricultural lands."				
2	14	1	3	0
"Obtaining agricultural lands outside the agricultural boundary is more difficult than inside the boundary."				
0	3	2	14	1
"It is currently difficult for interested potential farmers to start an agricultural operation."				
3	12	0	5	0
"Farmers should be required to develop a five-year plan to obtain financial assistance from banks."				
2	13	3	1	1

(Continued)

Appendix 6. (Continued).

Strongly Agree	Agree	Neutral/ No Opinion	Disagree	Strongly Disagree
"It is important to get public opinion on agricultural resource issues."				
2	12	3	3	0
"The Agriculture Branch would be more effective if given departmental status."				
5	8	4	3	0
"There is no need for higher levels of financial support from government for agriculture."				
0	6	1	13	0
"Electricity should be provided to encourage the expansion of new agricultural lands."				
3	9	2	6	0

Appendix 7. Questionnaire to Farmers in the LMADA.

Dear Farmer:

Hi. I am a graduate student in Geography at Memorial University. My research is concerned with agricultural resource management issues.

The study I am undertaking involves identifying the issues and concerns of the farming community in the Lethbridge-Musgravetown Agricultural Development Area as well as identifying ways in which industry and government have been and could be addressing these issues and concerns.

In order to meet the research objective I am asking for assistance from you the farmer. I need you to provide me with the base information for my study.

Could you please respond to the attached questionnaire, and return it in the stamped, self-addressed envelope I have enclosed, as soon as possible. The questionnaire will take approximately 20 minutes.

All information obtained in this questionnaire will be treated as strictly confidential. You are not asked to identify yourself or your farm and all results will be presented as a whole, not for individual farms.

Thank-you for your co-operation and for your time during a period which I realize is perhaps your busiest. I look forward to receiving your response. In the meantime, if you have any questions, you can contact me most evenings at home (753-6230). Feel free to call collect.

Yours Sincerely,

Doug Ramsey
Graduate Studies
Department of Geography
Memorial University of Newfoundland

P.S. If you would like to receive a summary of the results, please provide your name and address on a separate sheet of paper

Please use this page, and any additional pages if needed, for any additional comments you may have. Where your comment(s) relate to a specific section of the questionnaire, please indicate the section in question.

Please return this questionnaire in the stamped envelope provided

Any additional comments are welcome

Thank-you for your cooperation

A. The following statements have been identified by farmers and government representatives, as issues, concerns and conflicts currently faced in the Lethbridge-Musgravetown Agricultural Development Area (ADA). Could you please respond to these statements, as they pertain you.

Please state whether you strongly agree (SA), agree (A), are neutral or have no opinion (NO), disagree (D), or strongly disagree (SD) with each statement.

	SA	A	NO	D	SD
1. The moratorium on the northern cod fishery will have a positive impact on agriculture.	1	2	3	4	5
2. Residential and commercial development on agricultural lands has a positive impact on agriculture.	1	2	3	4	5
3. More electrical power should be provided to encourage the expansion of new agricultural lands.	1	2	3	4	5
4. More roads should be provided to encourage the expansion of new agricultural lands.	1	2	3	4	5
5. There is no need to improve the level of maintenance on roads that ress agricultural lands.	1	2	3	4	5
6. The current land lease program needs to be improved as a form of land ownership.	1	2	3	4	5
7. There is a need for improved marketing of agricultural products in the Lethbridge-Musgravetown area and surrounding region.	1	2	3	4	5
8. There is a need for greater processing of agricultural products in the Lethbridge-Musgravetown area and surrounding region.	1	2	3	4	5
9. There is currently a lack of agricultural suppliers in the Lethbridge-Musgravetown area and surrounding region.	1	2	3	4	5
10. There is no need for higher levels of financial support from government for agriculture.	1	2	3	4	5
11. Farm incomes from agriculture are lower than they should be.	1	2	3	4	5
12. Forestry development is favoured over agricultural development in the Province.	1	2	3	4	5
13. Cottage development has no potentially significant impacts on agriculture.	1	2	3	4	5
14. It is currently difficult for interested potential farmers to start an agricultural operation.	1	2	3	4	5
15. It is more difficult for farmers with leased land to obtain financial loans from government agencies, such as the Farm Credit Corporation (FCC) and the Farm Loan Board (FLB) than those with granted land.	1	2	3	4	5
16. It is more difficult for farmers with leased land to obtain funding from banks than those with granted land.	1	2	3	4	5
17. Moose are having a negative impact on agriculture in the Lethbridge-Musgravetown region.	1	2	3	4	5
18. Other wildlife, such as rabbits, are having a negative impact on agriculture in the Lethbridge-Musgravetown region.	1	2	3	4	5
19. No significant conflicts exist between forestry and agriculture.	1	2	3	4	5
20. It costs the farmer too much money to meet the environmental regulations established by government.	1	2	3	4	5
21. More financial support is required from government to help farmers meet environmental regulations.	1	2	3	4	5
22. Protected road regulations have a positive impact on agriculture.	1	2	3	4	5
23. Obtaining agricultural lands outside the agricultural boundary is more difficult than inside the boundary.	1	2	3	4	5
24. More administrative support for the farming community is needed.	1	2	3	4	5
25. Supply management is essential for a healthy agricultural industry in this area.	1	2	3	4	5
26. Farmers are involved in the planning process where agricultural lands are concerned.	1	2	3	4	5

	SA	A	NO	D	SD
27. Farmers should be required to develop a five-year plan to obtain financial assistance from banks.	1	2	3	4	5
28. The lands within the Lethbridge-Musgravetown Agricultural Development Area should be legislated for agricultural activities only.	1	2	3	4	5
29. The role of spouses and children on the farm needs to be better recognized by government.	1	2	3	4	5
30. It is not important to get public opinion on agricultural resource issues.	1	2	3	4	5
31. Idle agricultural lands should be brought back into production before more land is cleared for new farmers.	1	2	3	4	5
32. It is not difficult to access suitable agricultural lands in the Lethbridge-Musgravetown region.	1	2	3	4	5
33. The process for obtaining building permits, whether for a farm residence or for agricultural buildings currently takes too long.	1	2	3	4	5
34. The objective of "Right-to-Farm" Legislation is to protect farmers from complaints about their farms from non-farmers. There is no need for such legislation in this Province.	1	2	3	4	5
35. Persons with leased lands should have control over the forest resources on such lands.	1	2	3	4	5
36. Domestic wood cutting areas have a negative impact on agriculture.	1	2	3	4	5
37. More land should have to be cleared each year in Land Lease Agreements.	1	2	3	4	5
38. There is a lack of well-drained land in the Lethbridge-Musgravetown Agricultural Area.	1	2	3	4	5
39. I would be willing to follow environmental regulations, if it was financially possible.	1	2	3	4	5
40. Agriculture and Forestry should be separate provincial government departments.	1	2	3	4	5

B. The following questions are designed to give you a chance to state what you feel are the most pressing issues facing first you as an individual farmer, and second you as a farmer in the Lethbridge-Musgravetown region.
If you need more space, please use the back page of this booklet and/or use additional paper.

1. What are the key issues for YOU, as a farmer in the Lethbridge-Musgravetown region?

Please Rank these issues (number one being the most important).

1. _____
2. _____
3. _____
4. _____
5. _____

2. What are the key issues, in your opinion, facing the agricultural community as whole, in the Lethbridge-Musgravetown region?

Please Rank these issues (number one being the most important).

1. _____
2. _____
3. _____
4. _____
5. _____

3. Are you satisfied with the current process for land planning and management in the Lethbridge-Musgravetown region?
(Please Circle One)

Very Satisfied	Somewhat Satisfied	Neither Satisfied or Dissatisfied	Dissatisfied	Very Dissatisfied

If dissatisfied or very dissatisfied what changes would you like to see?

_____

_____

_____

C. For the following questions could you please estimate the acreage of your present farm holdings.

1. Do you have any acres of granted land? Yes _____ No _____

   If yes, how many acres? _____ Acres.

   How much of this acreage is cleared? _____ Acres.

2. Do you have any acres of leased land? Yes _____ No _____

   If yes, how many acres? _____ Acres.

   How much of this acreage is cleared? _____ Acres.

3. Do you rent land from anyone? Yes _____ No _____

   If yes, how many acres? _____ Acres.

4. Do you rent land to anyone else? Yes _____ No _____

   If yes, how many acres? _____ Acres.

D. These questions ask for the type of farm you operate. If more space is required, use the back of the booklet.

1. What is your MAIN type of farm production? If you feel that you have more than one main type of production in your farm operation please give these, but rank in order of importance if possible.

Cattle_____	Fruits _____
Hogs _____	Vegetables _____
Sheep _____	Greenhouse _____
Poultry _____	Field Crops_____
Furs _____	Dairy _____
Eggs _____	Other _____

2. What other types of farm production are you involved in.

_____

_____

_____

E. For the following, could you please indicate the appropriate response. These questions are simply to provide me with background information on farming in relation to the responses. REMEMBER, THIS INFORMATION IS STRICTLY CONFIDENTIAL.

1. How many years have you been actively farming? _____

2. What is your age?

   under 25 ____ 26 to 35 ____ 36 to 45 ____

   46 to 65 ____ over 65 ____

3. What type of farmer would you classify yourself as?

   Full-time ____ Part-time ____ Hobby ____

4. How many individuals are employed, either full-time or part-time in your farm operation _____.

5. Of this total, how many are members of your immediate family, including yourself _____.

6. Are you a member of any farm organizations:

   Yes ____ No ____ If Yes, could you please name them:

   1. _____
   2. _____
   3. _____
   4. _____

7. Have you attended any agricultural training sessions or agricultural conferences since September 1991?

   Yes ____ No ____ If yes, how many? ____

8. Would you be willing to attend any such sessions or conferences in the future?

   Yes ____ No ____ If no, why not? _____

   _____

   _____

7. Are you located inside the Lethbridge-Musgravetown Agricultural Development Area (ADA) boundary?

   Yes_____ No_____ Do Not Know_____

Appendix 8. Responses to, "Do you feel the provincial resource planning process needs to be improved?

1. Greater awareness of other resource interests. A need for a process which will necessitate greater interaction amongst agencies. Regional/provincial goals for resource development, from which plans could be developed to facilitate the multiple use/development, where applicable of Crown Lands

2. Some resolution of conflicts on a regional basis before submission to ILUC might be helpful

3. I feel there should be more co-operation between Departments in planning land use activities. It appears that agriculture gets lower priority in areas where demand is high for pulp in Central Nfld. Also, in many cases a silviculture project has gone ahead in areas which are suitable for agriculture before Agriculture Staff become aware this land had been cut over.

4. Too many gov't agencies outline what is permitted where and follow the policy

5. 1. Integrated data base available to all departments for better decision making.
   2. Principles, policies, and guidelines need to be spelled out.
   3. Mutually exclusive land use zoning may have to give way to more integrated and/or sequential uses.

6. Stronger policy on sod removal, land clearing, etc., drainage projects

7. Instead of two people with 2 opposing views from 2 different Departments going to a meeting with a closed mind with regards to their specific ideas on what they want to do, there should be more compromise and flexibility with both parties. You cannot always have you own way no matter how adamant you are. Therefore more CO-OPERATION.

8. All levels to be aware

9. The existing system (ILUC) has no teeth. Section with qualified people set up with appropriate legislation and p{r}ocess to make decisions on resource allocation

Appendix 9. Responses To, how would IRP be of benefit to the agricultural community you represent?

1. Ideally the process would demand or require that agencies review issue{s} from a broad perspective. This would appear preferable to conflicts concerning singular issues from a narrow agency perspective.

2. Acquisition of suitable privately owned paper co. lands might be negotiated thru this process.

3. Greater organization, improve {allocation}.

4. Without proper planning agriculture will be phased out in some area{s} because of urban expansion, commercial enterprises etc.

5. More coordinated approach to planning - should remove confusion - "red tape" associated with crown land, land development etc.

6. Lands could be set aside according to suitability and location for future use. ie. Much land is suitable for forestry but not suited to agriculture. Suitable agriculture land should be set aside for future use because of the limited areas available.

7. Zoning, land reserves, access roa{d} development, land mapping, and resource classification.

8. It should be a place where people can challenge decision made due to fear of the unknown as opposed to decision based on facts.

9. Stress the importance of land availability to ensure the viability of the agriculture industry; and to allow for growth and changing trends in the industry.

10. By consultation each party would know what is being proposed, and what is taking place in the area.

11. The conflict between forest lands and agriculture land should be worked out, for growing trees rough land could be used.

Appendix 9. (continued)

12. Agriculture supplies a lot of jobs directly and indirectly (secondary offspins) and yet is probably the least understood Branch by the other dominant high priority Depts with whom Agriculture usually conflicts with. IRP could help in removing this enigma and therefore allow for more useful productive agricultural planning. The end result could be bringing agriculture to the forefront. People in other government Depts and especially the consumer would see the importance of agriculture in the Province.

13. Did not know there was a process being considered. It is good if the people on this committee have unbiased motives.

14. Agriculture would have a say in what is the best use for the land.

15. The existing system (ILUC) has no teeth. Section with qualified people set up with appropriate legislation and power to make decisions on resource allocation {arrow drawn to question 2}.

16. IRP would enable the agricultural community in this areas to designate areas that should be held as agricultural reserves. Due either to accessibility and/or suitability these areas should be assessed for certain resource development;