

**Understanding Forest Values:
Canada's Model Forest Program**

by Angela Bidinosti

A Practicum Submitted in
Partial Fulfillment of the
Requirements for the Degree
Master of Natural Resources Management

The Natural Resources Institute
University of Manitoba
Winnipeg, Manitoba

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0-612-32055-3

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A practicum submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfilment of the requirements of the degree of Master of Natural Resources Management.

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ABSTRACT

The Canadian Model Forest program was established in 1992 as an initiative to accelerate the implementation of sustainable forest management (SFM). There are eleven Model Forests (MFs) in Canada, each designed to involve a variety of different stakeholders and partnership groups from the local, regional area in which they exist. The purpose of this research was to compare how various MFs have attempted to ascertain and integrate information about forest values into their specific projects and activities in order that they might demonstrate sustainable forest management practices. The specific objectives were: to determine which forest values have been identified or documented; to establish the process(es) used to ascertain the forest values of various partner groups; to document the use of forest values in management, decision making and activities; and, to illustrate ways in which forest values have been, or could be, incorporated into sustainable forest management practices as learned from the activities attempted by each of the Model Forests.

The study involved structured interviews with the General Managers (GMs) and Program Management Board members (i.e., Board of Directors) of four case study Model Forests, including: Manitoba, Long Beach, Lake Abitibi and Foothills. Along with the results of these interviews, data was acquired from sources of Model Forest documentation (e.g., annual reports, program evaluations, etc.) as well as from direct observation of Board meetings at each of the case study sites. This information was used to analyze and compare how these Model Forests, specifically, are attempting to incorporate forest values into their projects and programs in order to influence SFM practices. The study also provides an overview of the values work being carried out in the Canadian Model Forest Program in general. To ascertain this information, structured interviews were conducted with the General Managers of five other MFs, including: McGregor, Prince Albert, Eastern Ontario, Bas Saint-Laurent, and Western Newfoundland.

The findings of the study reveal that the MFs have been effective in the following ways: being viable vehicles to assist partner groups in putting the values into action;

serving as good means for bringing together people that hold diverse forest values; and, increasing the different partners' appreciation of the ways in which other people value the forest. More specifically, however, the findings suggest that values research is still in its infancy and that more work needs to be done in the majority of the Model Forests in order for them to influence the transition to sustainable practices in the management of Canada's forests. While some initial work has been carried out to identify the forest values of the various MF Boards and local communities, much work remains to be done in implementing new and varied methods to collect this data. Further effort is also needed to integrate this information into the management, decision making and activities of the Model Forests, as well as those agencies responsible for forest management.

ACKNOWLEDGEMENTS

This study was made possible by the willing participation of individuals from the Board of Directors and Staff of the various Model Forests, and to them I give my thanks. In particular, I would like to thank members of the Manitoba, Long Beach, Lake Abitibi and Foothills Model Forests, for they not only shared their time and personal insights, but their board rooms, office space, homes and kitchen tables. I am also grateful to the Manitoba Model Forest for financially supporting this study, and providing me with a great work experience over the past few months. I have learned much throughout the entire research process and feel it has helped broaden both my academic and personal life. My work experience, in turn, has given me the opportunity to apply what I have learned and to enhance my understanding of sustainable forest management and the challenges posed by competing forest values.

There are also a number of people I would like to acknowledge for their input and assistance throughout various stages of this practicum. During the literature search, Dr. Dan Ballis and Dr. Karen Fox both gave me direction into an area of the literature in which I was unfamiliar. During the initial writing stage, Dr. Betsy Troutt critiqued my work, drawing my attention to details that make this document more clear and concise. Special thanks goes out to David Cosby who took the time to show me a quicker and easier way to enter and organize my data into the computer. Thanks also to Dale Hutchison for “showing me the ropes” during the first phase of the data collection and interviewing process. His enthusiasm and good-naturedness made this work both fun and enjoyable.

In addition, I would like to thank the people who took the time to be on my practicum committee. I appreciate Mike Waldrum joining my committee on such short notice, and for providing further insights into the Model Forest program. I would also like to thank Peter Boxall for his constructive input into the writing and editing of this document. His views helped sharpen my awareness about certain facets of forest values and management. I would like to express my sincere gratitude to Dr. Doreen Smith and Dr. John Sinclair for enabling me to work with, and learn from, them on such a unique

research project. The opportunity to work, travel and share in their discussions has opened my eyes, and many new doors, into areas of research I had not considered or explored. I have truly benefited and learned from such an experience. I am especially grateful to John Sinclair for offering me the opportunity to participate in this research project. Visiting new parts of the country and meeting a mix of interesting people has given me a far greater education than any course or textbook could hope to offer. John's leadership and guidance throughout this project was most appreciated as well.

A word of thanks must also go to my family. To all my siblings, for being who you are and making me who I am. If it were not for you, I would not have become the person I am today and have had the opportunity to undertake such an endeavour. To Rae, for sharing your love of the great outdoors; to Anna, for all the times you helped me with my homework in junior high school; to Chris, for leading the way into many great avenues of life; to Mike, for your good spirit and for letting me use the computer; and, to Lisa, for your love of animals! To the two little, constant reminders in my life as well, my nieces Katrien and Rebecca, for making me realize that my work should always have a purpose - to help serve those generations who have yet to come. Most importantly, to my parents, Rudy and Rosemarie, for all the years you have supported me and given me every opportunity to challenge myself. Thank you!

I would also like to recognize my fellow colleagues and friends that I have come to know over the years at the NRI. Sharing in some good laughs and good cheer helped lighten the load of the school year. Thanks to Joe, especially, for sharing your computer at a crucial time when we were both trying to complete our work. Your generosity and company in "inside world" will be remembered. May we have many more good discussions and debates in the future. And to my best friend, Lance, who has always encouraged me in the kindest and subtlest of ways over the last few years. Your thoughtfulness and caring has made this process all the more fulfilling and worthwhile, and for that I am truly grateful!

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Chapter One

INTRODUCTION

1.0 PREAMBLE

In the wake of the post-industrial era, present day society has become increasingly aware and concerned about the use and sustainability of the world's natural resources. In 1987, at the World Commission on Environment and Economy, the international community focused its attention on these concerns. From this convention the Bruntland Report was published, and the concept of sustainable development emerged. This concept focused on ways to balance social, economic and environmental issues in order to sustain resources for both present and future generations. Subsequently, at the UN Conference on Environment and Development (UNCED) in 1992, concerns about global forest resources were raised. This was the first time that the use and degradation of forest resources were addressed at an international level, and the importance of sustainable forest management (SFM) was first recognized (Brand et al. 1996, CCFM 1995).

In simple terms, sustainable forest management is the application of sustainable development to forestry and forest use (Canadian Forest Service 1996). An essential requirement of SFM is that resource managers understand society's forest values, and that management practices are responsive to, and have the desired effect on, these values (Brand et al. 1996, Canadian Forest Service 1996). Since Canada's forests account for 10% of the world's forest land, it has a responsibility, both nationally and internationally, to develop and implement practices of sustainable forest management. Through international forums (e.g., UNCED) Canada has committed to do so. One approach Canada has taken to achieve this goal is the Model Forest Program. This study focuses on the level at which the public's forest values are researched, compiled and integrated into the activities and decision making in Canada's Model Forests in order to accelerate the implementation of sustainable forest management.

1.1 BACKGROUND

1.1.1 Defining Sustainable Forest Management For Canada

Canada has made a concerted effort to promote and implement sustainable forest management. There are two main documents that describe and define SFM for the nation. The seminal document on SFM is the National Forest Strategy, entitled “*Sustainable Forests: A Canadian Commitment*.” It was developed through the Canadian Council of Forest Ministers (CCFM) in 1992, with input received from the Canadian public. The goal of the National Forest Strategy is “to maintain and enhance the long-term health of our forest ecosystems for the benefit of all living things, both nationally and globally, while providing environmental, economic, social and cultural opportunities for the benefit of present and future generations.” There are nine strategic directions and 96 commitments designed to guide the policies and actions of government, industry, non-government organizations and concerned communities (CCFM 1992).

Accordingly, the Canadian Criteria and Indicators (C & I) were developed to provide a common understanding of what is meant by SFM in the Canadian context (CCFM 1995). The criteria and indicators provide a framework for describing the state of forests and report on Canada’s progress toward sustainability. They also identify those elements of the environmental, social and economic systems that must be measured, sustained, and enhanced over time (CCFM 1995). The C & I supply the information needed to develop effective forest management policies, improve our knowledge and technology and equip the public with the tools needed to participate in forest management decision making (CCFM 1997). There are six criteria categories, 22 elements and 83 indicators that encompass a variety of ecological as well as socio-economic variables.

The goals of sustainable forest management in Canada are outlined in the six criteria and include the following: conservation of biodiversity in forests; the maintenance of forest ecosystem health and integrity; the protection of watercourses and conservation of soil; a positive contribution to global geochemical cycles; and, the maintenance and enhancement of the social and economic benefits that society derives from forests (CCFM 1995). Essentially, SFM is directed toward meeting the needs and wants of society by

managing forest resources in an holistic manner (Brand et al. 1996).

Shortly after the launch of the domestic process, Canada also participated in the development of the international criteria and indicators as agreed to by the forest nations attending UNCED. In 1995, as one of the 12 nations responsible for 90% of the world's temperate and boreal forests, Canada endorsed a common set of criteria and indicators for these forests outside of Europe, known as the "Montreal Process" (CCFM 1997).

1.1.2 Canadian Forest Facts

The forests in Canada cover approximately half of the country's territory (Dufour 1995). As such, they have become a vital part of the nation's economy, supporting 350 communities and providing jobs for over 800 000 Canadians. Canada is the world's leading exporter of forest products, amassing a value of about \$50 billion annually. Canadian forest lands also support a multibillion dollar tourism and recreation industry. Ninety percent of these forests are publicly owned - ten percent federally and eighty percent provincially - the rest are held by private landowners. Under the Canadian Constitution, forest management on provincial Crown land is delegated to each of the provincial governments, which set the legislation, regulations and standards for allocating harvesting rights and management responsibilities (CCFM 1992).

While the forest resources provide substantial monetary benefits to the country, they also support an abundance of wildlife, and perform essential functions for providing clean air and water (CCFM 1992). Sustaining the country's forest resources so that they continue to provide these amenities is no simple task. Balances and trade-offs must be made amongst competing users. Furthermore, the needs of both present and future generations must be considered in the decision making process. There are no quick fixes or easy solutions to managing Canada's forest resources if all these considerations are to be made. Sustainable forest management is a new concept and framework which can help set goals and objectives for forest managers and decision makers in the journey to conserving the nation's forests.

1.1.3 The Canadian Model Forest Program

The Model Forest Program was created out of Canada's Green Plan through the *Partners for Sustainable Development in Forestry Program*. One of the major goals of the Green Plan was to promote the sustainable use of Canada's renewable natural resources. With regard to forest resources, it was specifically designed to accelerate the implementation of sustainable development.

There are eleven Model Forests (MF) in the network that spread across the five major forest eco-regions of Canada (Figure 1). They range in size from 112 000 to 2 760 000 ha (Brand et al. 1996). Each province except P.E.I. has a Model Forest. Nova Scotia is partnered with the Fundy Model Forest in New Brunswick. The Canadian Forest Service observes that each Model Forest reflect a variety of land tenures and uses and is managed for a diverse range of values, such as wildlife, biodiversity, cultural assets, watersheds, fisheries and timber (Canadian Forest Service 1996).

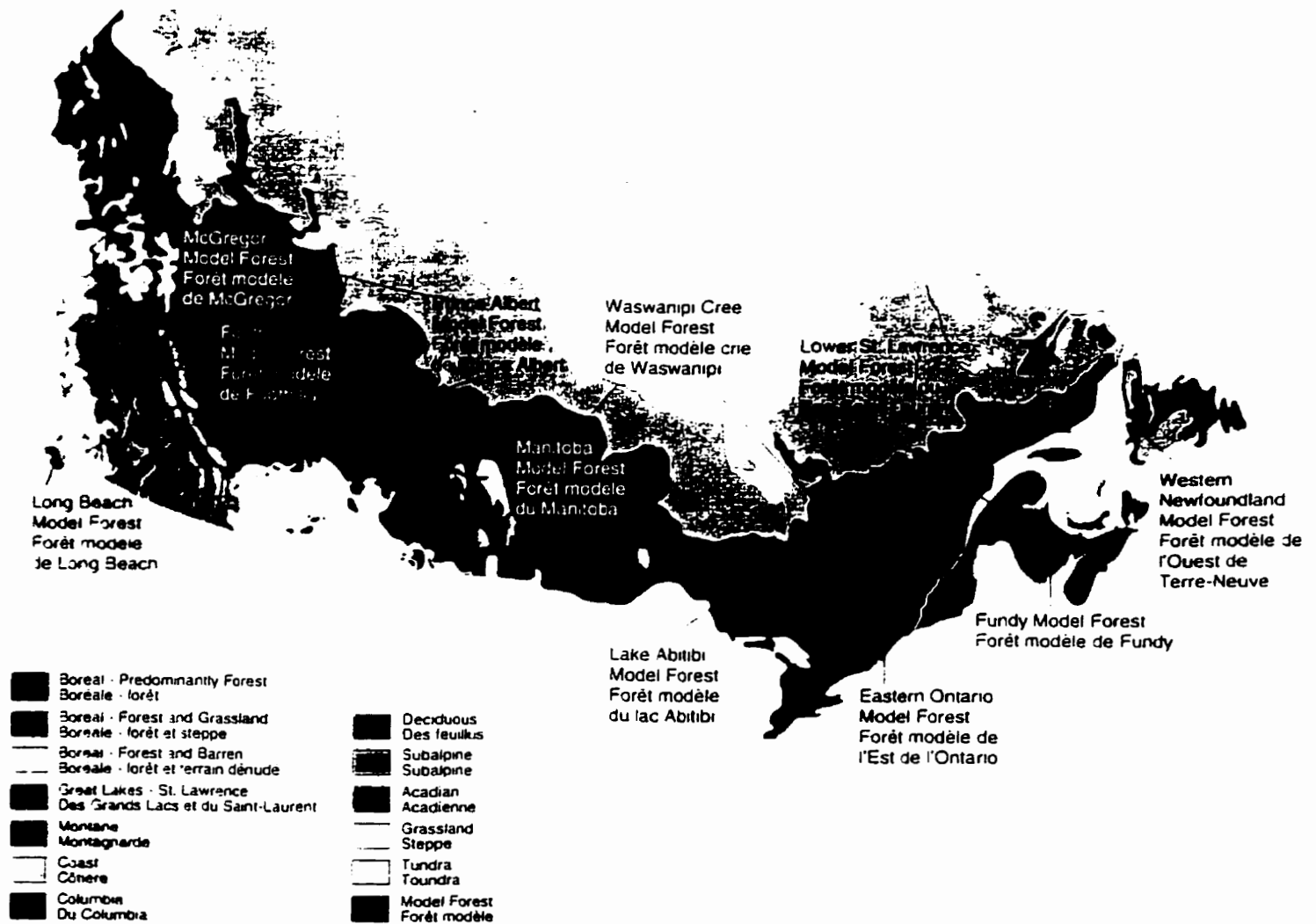
All of the Model Forests have been designed on a multi-stakeholder/partnership basis. The Canadian Forest Service highlights to interested groups that each MF has a management structure that:

- *represents input from several organizations and agencies including government, academia, environmental groups and other interested stakeholders;*
- *is administered by a Partnership Committee consisting of the principal interested parties and representing a wide range of views about forests;*
- *incorporates public consultation and involvement in its ongoing decision making processes;*
- *will support new programs of research and technology transfer, and will share the results with other forest managers and stakeholders.*

The multi-stakeholder aspect of the MF program is particularly significant since the Model Forests themselves have no decision making authority regarding the use of the forest resource. Private lands remain under the control of individual owners, and government agencies retain management authority on public lands (e.g., National Parks remain under federal authority, Provincial Crown lands remain under provincial authority). Each MF, therefore, relies on its multi-stakeholder partners to take up and implement the good ideas that result from the studies undertaken in each MF. This means that each MF must not only have a broad array of stakeholders on their respective Program

Management Board, but also that these stakeholders communicate the results of studies undertaken to a wider constituency. For it is only through effective and efficient multi-stakeholder decision making and communication processes that the MF program will be successful in challenging conventional wisdom to achieve sustainability. By bringing a variety of stakeholders together, the MF program also attempts to address and potentially resolve local forest conflicts and issues.

Figure 1. Canada's Model Forest Network



Source: Manitoba Model Forest (Natural Resources Canada, CFS, 1998)

During the initial five-year period (1992 - 1997), the main objectives of the MF program were:

1. To accelerate the implementation of sustainable development in forestry, in particular the concept of integrated resource management.
2. To apply new and innovative approaches, procedures, techniques, and concepts in the management of forests.
3. To test and demonstrate the best sustainable forestry practices utilizing the most advanced technology and forestry practices (Forestry Canada 1992).

While the last five years have provided insights into defining and implementing the concept of sustainable forestry, the program has built on this knowledge and expanded its objectives for the second phase (1997 - 2002) to include the following:

1. To encourage the development of forest management systems that demonstrate practical application of the concepts of sustainable forest management developed by the Model Forests program.
2. To establish acceptable indicators of sustainable forest management including measurement and monitoring systems, and reporting mechanisms that can measure performance relative to the model forests' goals and objectives.
3. To promote the dissemination of the results and knowledge gained through the Model Forest Program at local, national, and international levels.
4. To encourage Model Forest participants and organizations to work together as a network.
5. To encourage the incorporation of a broad range of forest values into each Model Forest (Canadian Forest Service 1996).

These objectives are essential for making the concept of sustainable forest management socially workable. Of particular importance is the identification and promotion of forest values into forest management. There are a variety of values that have emerged under the rubric of sustainability and the new environmental paradigm. If forest

management is to be responsive to society's demands, then it must follow the dictates of society's values in establishing and implementing management objectives. As microcosms of Canadian society, the Model Forests should incorporate forest values into their programs, and should begin to identify the complexity and interconnectedness of these values in order that sustainable forest management might be successfully demonstrated in Canada.

1.2 ISSUE STATEMENT

The Canadian Model Forest Program has been developed to advance the concept and practice of sustainable forest management. To achieve this goal requires that Canadian's forest values are given due consideration in the decision making and management processes of forest resources. In simple terms, forest values are aspects of forest environments that people deem to be worthwhile and important. While most of the Model Forest organizations have begun to identify and acknowledge the diversity of forest values, little is known at present about the status of these values in the programs or activities of each of the Model Forests, or the implications they may have for forest management strategies and decision making (e.g., to what extent they are or may be a model).

1.3 PURPOSE & OBJECTIVES

The purpose of this study is to compare how various Program Management Boards (PMB) of the Model Forests have attempted to ascertain and integrate information about forest values into their specific projects and activities in order that they might demonstrate sustainable forest management practices. The specific objectives of the study include the following:

1. To determine which forest values (e.g., Board, community) have been identified or documented by each of the Model Forest organizations.

2. To document the process(es) through which the Program Management Boards and project managers have ascertained the forest values of various sector/partner groups involved in each of the Model Forests.
3. To document the use of forest values in the management, decision making and activities of each of the Model Forests (e.g., at PMB or working group level).
4. To illustrate ways in which forest values have been, or could be, incorporated into sustainable forest management practices as learned from the activities attempted by each of the Model Forests.

1.4 METHODS

A variety of methods were employed to carry out the objectives of this study. To provide an understanding of sustainable forest management and the circumstances that have given rise to this philosophy a review of the literature was first undertaken. More specifically, the literature on social values was reviewed to define and outline the nature of values and the implications they have for forest management.

The next phase of this study involved an interview process. During this phase, structured interviews were carried out in person with the General Managers (GM) and Program Management Board members from four Model Forests. The following four Model Forests were included: Manitoba, Long Beach, Lake Abitibi, and Foothills (see Figure 1). The Model Forests were interviewed in that order, respectively. Structured interviews were also carried out via telephone with Board members that were unavailable during the visits to the Model Forest sites. General Managers from the other six Model Forests were interviewed by telephone using the same interview process.

The final phase of this study is based on case study research. The case studies used in this project include the four Model Forests mentioned above. The analysis and examination of the case studies were based on the survey results, a review of MF documentation (e.g., Phase II proposals, annual reports) and observation of a Board meeting at each of the four Model Forests.

1.5 SCOPE & DELIMITATIONS

Each of the Model Forests has been uniquely designed based on the composition of their membership and the context of their situation. As such, each of the four case studies provides an in depth look at how these Model Forests are attempting to deal with the various challenges posed by SFM within their region. More specifically, the case studies highlight how forest values are being, or have been, integrated into the activities, management, and decision making processes within each of the four Model Forests. This information was ascertained from the Program Management Boards and General Managers of the four MFs only.

Within this study, an examination of the overall Model Forest Program is also provided. This examination is based on the information ascertained from the interviews conducted solely with the General Managers of nine MFs. The information from these interviews was compiled to determine the effectiveness of the program at a national level. More accurately, it illustrates ways in which forest values have been, or could be, used to influence SFM practices as learned from the activities attempted by each of the Model Forests.

An eleventh Model Forest is presently developing their first workplan for the Canadian Forest Service. Since it is still in its inception no attempt was made to include it in this study. Only the original ten Model Forests are considered in any further discussion in this document.

1.6 IMPORTANCE OF RESEARCH

Developing sustainable approaches to forest management requires the consideration and integration of many different variables. There is no universal prescription that can guide this process since the management of forest resources varies in relation to the ecological and socio-economic context in which they exist. However, the concept of ecosystem management is discussed in the literature as a new approach to managing forest resources. The driving principle behind ecosystem management is that

ecosystems should be managed in an holistic manner so that the health and integrity of forest resources can be sustained over time.

In consideration of this point, forest management must not only take into account the ecological components of a given environment, but the socio-economic aspects as well. Determining and understanding how and what people value about the forest is central to the achievement of this goal. Throughout the literature, it is stated that determining people's values in relation to forest resources is important for setting objectives and normative conditions for forest management (Kimmins 1991, Kimmins 1992, Bengston 1994a, Brand et al. 1996). In addition, with the inclusion of these values in the management of and decision making about public lands, it should be possible to reduce conflict and distrust amongst competing users. Despite the potential gains to be made from this, research has been lacking in this area and is needed if government policy is to be successful at directing and upholding the concept of sustainable forest management.

As the Model Forest Program has been developed to initiate and experiment with this concept and process, it is important to assess the effectiveness of the program in trying to reach this end. A substantial amount of resources and funding are being channeled into the Model Forest program, and it is important to know whether these resources are being used in an effective manner for achieving sustainable forest management. As Bengston (1994a) notes: "Forest managers and policy-makers need a broader understanding of forest values to develop and successfully implement ecosystem management approaches that are socially and politically acceptable as well as biologically sound."

1.7 ORGANIZATION

This study is organized into six chapters. The first chapter provides a brief introduction to the research study. It discusses the primary purpose of the study, its specific objectives and the methods used to carry out the study. The second chapter

reviews the literature on social values and forest management. The third chapter describes the methods of the research. In Chapter Four the results of the study are presented based on the interviews conducted with the Program Management Boards of the four case study Model Forests. Within this chapter the results from the interviews conducted with all of the Model Forest General Managers are presented as well. Chapter Five provides a comparison of the four Model Forests as well as an overview of the values research done in the Canadian Model Forest Program. Finally, Chapter Six provides conclusions of the overall study, highlighting specific recommendations for the Model Forests to consider.

Chapter Two

FOREST MANAGEMENT AND SOCIAL VALUES

2.0 UNDERSTANDING THE CONTEXT FOR SOCIAL VALUES

2.0.1 The New Environmental Paradigm

In any society, knowledge is acquired and accumulated through generations of observation and experience. This information is then woven together into what is referred to as a worldview (Suzuki 1997). This worldview, in turn, largely influences the way in which people understand, interpret, and react to the world (Clark 1995a).

In Western society, the world view that transpired from years of accumulated knowledge was predicated on philosophies fashioned by such thinkers as Bacon, Galileo, Descartes, Locke and Smith. Their philosophies were developed over 200 years ago and included the following suppositions: that humans could disassemble the natural world into its component parts; these parts could be studied in isolation so that knowledge of the whole could be understood by studying the respective parts; these parts could then be rearranged in a manner that satisfied human desires (Maser 1996).

These philosophies influenced the development of the Western world, and by the industrial era they culminated into a reductionistic, mechanical worldview. This worldview is also commonly referred to as the “dominant social paradigm” (DSP), and throughout the 19th and 20th centuries emphasis was put on economic growth, control of nature, faith in science and technology, ample reserves of natural resources, the substitutability of resources, and a dominant role for experts in decision making (Bengston 1994a). As a result, nature came to be seen as an inexhaustible resource and sink, with its services considered free for the taking. By the 1900s, modern science and Western economies bolstered these views and created the expectation that resources were to be used for the production of material goods for human satisfaction and progress (Clark

1995a, Abramovitz 1997).

However, by the 1960s a counter culture arose. This culture deeply affected the attitudes among all strata of society and challenged traditional views (Roussopoulos 1993). By the 1970s, the “new environmental paradigm” emerged. The key themes of this paradigm include: sustainable development, harmony with nature, skepticism of scientific and technological fixes, finite natural resources, limits to substitution, and a strong emphasis on public involvement in decision making (Bengston 1994a, Kempton et al. 1995). While this new paradigm has had an impact on the Western world, many of the beliefs of the social paradigm remain strongly entrenched in society today. At present, society is in a state of flux as it attempts to balance the need to sustain resources laid out under the environmental paradigm with the desire to maintain human progress as it is pursued under the social paradigm.

The emphasis on environmental values under the new environmental paradigm is considered to have emerged in industrialized countries as part of a broader shift from modernist to post-modernist values. As most material wants were satisfied in society during the post-war era, people could turn their attention to nonmaterial concerns such as the environment (Bengston 1994a, Kempton et al. 1995). In doing so, people observed the inefficiencies and inequities of the dominant social views of that time.

Concerns for the environment, therefore, largely stemmed from dissatisfaction with the underlying beliefs and philosophies of the former paradigm. This is evident, for example, in Western economic beliefs whereby they unwittingly provided incentives to misuse and destroy nature by underappreciating and undervaluing its services (Clark 1995a). It is also apparent in the reductionist views of modern science which succeeded in separating factual knowledge from social values. By asserting the primacy of the former over the latter, science, as a result, has become maladapted to address present society’s wants and needs (Brand et al. 1996). Consequently, the values which played an important role in guiding economic and social progress in the industrial past have become obsolete, and have been partly responsible for the non-sustainable nature of Euro-American society

today (Clark 1995a, Brand et al. 1996).

2.0.2 The Value of Sustainability

In wildness is the preservation of the World
(Henry David Thoreau 1817-1862).

The concept of sustaining resources is not new to humankind or to Western society. Different cultures throughout different times have realized the value of doing so. At present, however, the concept of sustainability has come to a fore on a global scale as the increase in human consumption and production threaten the earth's capacity to assimilate wastes and regenerate resources.

The recent acceptance and emergence of this concept is due to several factors. The recognition that environmental degradation can have fatal consequences for humanity is one factor (Robinson et al. 1990). The consequences of environmental degradation and resource depletion are not confined by time or space and have the potential to affect "every other person sharing the planet, both those present and those yet unborn" (Maser 1996). The fear that we may cause the demise of civilization is a ghastly proposition that many people are unwilling to accept (Moss 1992, Toman & Ashton 1996), and sustaining the resource base upon which we depend has become a more appealing prospect to many people.

Furthermore, the fact that we have the potential to cause our own demise through our consumptive habits violates two very fundamental human values; those being justice and equality. Our belief in free and competitive economic growth has diminished the stock of many natural resources. As a result, it has foreclosed the option for many people of today, and many generations of tomorrow, to choose their own livelihood. These injustices are inextricably linked to our political and economic systems. However, people are no longer willing to tolerate such malaise and contradiction in these systems. They are demanding that intergenerational equity and environmental justice be considered in the

management of the environment and resources (Maser 1996). As underpinnings of sustainability, these ideals have helped popularize and increase the acceptance of this concept as well.

Another factor why sustainability has emerged as a popular concept is related to the fact that more people have come to acknowledge the intrinsic value of nature. While Stern and Dietz (1994) suggest that “an ideological struggle is under way over whether non-human aspects of the environment should be valued in their own right,” it can be noted that many people are beginning to believe that nature should be sustained for its own worth (Redclift 1995, Murphy 1996). The functioning of ecosystems is dynamic and complex, and the fact that all the various components can interact to maintain a state of equilibrium or homeostasis is important. It is important in and of itself, and it is important to human society - without it, humanity would cease to exist. As well, since humans value the intrinsic worth of their own species, they are becoming aware that the intrinsic worth of other species should be given the same consideration (MacDonald 1991, Maser 1994, Murphy 1996).

While many people have come to embrace the idea of sustainability and acknowledge the importance of achieving such a goal, it is important to note that not everyone shares the same interpretation of it, or necessarily knows which values are needed to achieve it (Redclift 1995). This point is evidenced in Ross’s (1995) discussion about forest management in Canada. She states:

If the primary concern in the search for sustainability is to sustain timber supplies to meet ever increasing market demands, the traditional economic paradigm may well jeopardize the long-term sustainability of forest ecosystems (Ross 1995).

In this case, there are two sides to sustainability - environmental and economic - but they are two sides of the same coin (Brand et al. 1996). Depending on which side a person comes from affects their interpretation. The long-term survival of healthy ecosystems drives both perspectives, however. The challenge is to reconcile these two perspectives in order that a confident vision of a sustainable society might truly be achieved (Redclift

1995, Ross 1995). This requires an evaluation of established paradigms and an appraisal of the values that undergird them so that a common definition of sustainability can be established and accepted at various community levels.

2.0.3 The Traditional Paradigm of Forest Management

Since nature was seen as an inexhaustible resource sink under the dominant social paradigm, it was expected to sustain human consumption. This expectation largely influenced the way in which Western society utilized and managed its resources. Forest resources were no exception, and over the years they have been managed on an anthropocentric basis - valued more for human uses rather than for their own inherent worth. As a result, profit maximization and timber production became the primary principles underlying forest management (Steel et al. 1994, McQuillan 1993, Maser 1994).

However, with the emergence of the new environmental paradigm, “the social context for forest management has changed and forest management no longer fits contemporary circumstances” (Bengston 1994a). This is due to several major changes that have taken place in society.

One of these changes has been an increase in urban population. As Bengston (1994a) notes, urban-based groups are having a greater interest in forest management even though they have very little direct contact with forests. As these populations have grown, however, they have been able to exert a greater influence on forest management. As a result, they have introduced a whole new dimension into the arena in which the industry has historically operated. In this respect, the increased population has caused structural changes in the economy. These changes have affected the employment and economic importance of primary raw material industries like forestry (Bengston 1994a).

Other changes include the dissatisfaction with forest authorities. This dissatisfaction comes not only from within society at large, but from *within* the forestry profession itself. Forest practices and the assumptions upon which they were built are

increasingly questioned, as a greater awareness and understanding emerges about the dynamics of forest ecosystems (Bengston 1994a). As forest practices fail to adjust to changes in social and environmental values, dissatisfaction becomes further exaggerated amongst the public (Bengston 1994a).

While Bengston highlights some key points about why the traditional approach of forest management no longer fits contemporary social circumstances, the crux of the problem is much deeper. While changes in demographics, information and social values are part of the problem, and are important points to understanding the issue, they are not the main causes of the problem. What lies at the heart of the matter is that the fundamental tenets upon which Western society is based (e.g., economic growth), and consequently on which the traditional paradigm of forest management is based, are being questioned (M'Gonigle 1992).

However, in attempts to uphold these tenets, the application and workings of various political, economic and scientific concepts have threatened society's livelihood and sustainability. As a result, many of these concepts are becoming less valid to, and less valued by, present society, for sustaining human existence requires the sustaining of natural resources, and when resource management concepts diminish this opportunity, their utility diminishes as well. Given this consideration, the tenets of society would presumably be inoperative and become obsolete to society as well.

The problem with this situation is that not only do the fundamental tenets of society have to shift to meet the new vision of society, but the institutions that uphold these tenets must shift as well. However, in the process of doing so, a state of disarray arises because, while the doctrines of society are being re-conceptualized, the institutions must continue to function largely in the only way they know how - in the old world paradigm (Wikstrom 1987). As a result, the institutions of society perpetuate the status quo and undermine the acceptance of a new worldview, creating conflict, distrust and disharmony in the pursuit of global sustainability.

This situation is currently plaguing forest management in Western society today.

The emergence of the new environmental paradigm is clashing with the dominant social paradigm. Traditional forest management is in a state of flux as the rate of change in the public's expectations and values of forestry has outstripped the rate of positive evolution in the forestry industry's practices and worldview (Kimmins 1991). The fundamental problems of the traditional approach to forest management, therefore, are intractably associated with the political, economic and scientific dimensions in which forest management has evolved in Western society. This is not to say that tenets such as democracy and human progress are no longer valued in Western society, but that the specific nature in which they have been conceptualized has changed, and is in the process of redefining how they will be maintained.

2.0.3.1 Political Dimensions

The political dimensions of forest management have varied over the years. However, as Kimmins (1991) notes, forestry has evolved in three distinct stages, the first of which was predominantly a political process characterized more by:

... legal restrictions and an administrative, bureaucratic approach to resource use and renewal than by regulations that reflect the needs and desires of the local people and the spatially and temporally variable ecological character of the forest (Kimmins 1991).

This stage of forestry evolution (mid to late 19th century) was based on the "doctrine of timber primacy," which considered timber production to be the primary purpose of forestry and all other goods and services of the forest as by-products (Glück 1987). However, political decision making and subsequent forest management based on this premise were neither ecologically sound nor conducive to social stability. As a result, the evolution entered a second stage.

This stage (late 19th century to mid-20th century) incorporated both the ecological and social dimensions into the management and decision making processes of forestry. Largely attributed to the American forester Gifford Pinchot, forest management evolved

to a stage based on the philosophies of conservation. While conservation policy has evolved over time, it was originally grounded on the following ethical and political principles: “the wise human use and development of resources; the preservation and protection of those resources for future generations; and, the democratic allocation of those resources for the greater public good, as opposed to monopolistic economic interests of society” (Steel et al. 1994).

Forest management during this stage focused on the long-term planning of sustained timber yields, and became successful in maintaining the growth and harvest of many tree crops (Glück 1987, Kimmins 1991). It was successful not only ecologically, but socially as well. The notion of using and conserving public forest lands for “the greater good” appealed to the democratic views and values of society at that time and became widely accepted (Freemuth 1996).

However, the long-term planning of forests required scientific and technical expertise in forest management. To scientifically sustain the most economically viable yields of tree crops required an integrated system of science and economics. New developments in forest use (e.g., recreation) were approached with caution as a result, and forest managers became the elected custodians of forest resources (Glück 1987). As forest exports became economically more important, governments increasingly shifted responsibility and gave support to the forestry industry. The traditional approach to forest management and decision making thus became characterized by close relations between the government and industry (Glück 1987, Cayford 1990, Beckley & Korber 1995, Dufour 1995).

From that point, the political decision making process of forest resources evolved to a third stage (mid-20th century to late 1980s) where the monopolistic interests of government and industry dominated the management regime. The democratic ideal of conserving public forest lands for “the greater good” was thereby lost in this evolutionary stage of forest management (Glück 1987). And as the traditional approach of forest management has come under public siege, with demands for greater input into the decision

making process (Beckley & Korber 1995), it must confront the fundamental democratic propositions on which it was built, and begin to shift its principles to incorporate the values of decentralization and public empowerment.

2.0.3.2 Economic Dimensions

The economic dimension in which forest management evolved was predicated on the ideal that the actualization of industrialized society was based on human progress and development. To achieve this end, economic growth was needed. To derive and maintain economic growth, natural resources had to be transformed into material goods. With regard to forest resources, this meant that the economic value of these resources would have to come from the optimal combination of inputs that could maximize the financial benefits derived from a single parcel of forest land (Brandenburg & Carrol 1995, Beckley & Korber 1995). To promote economic growth, forest regulation and use, as a result, were based on the flow of market goods rather than the conservation of the ecosystem (Brand et al. 1996).

The problem with economic growth, and the subsequent forest regulation that supports it, is that while economies can continue to grow from the flow of marketable goods extracted from the forest, the ecosystems on which they depend cannot. Ecosystems are limited by the rate of energy input (i.e., solar radiation) within the natural cycles that regulate their ecological productivity (Brand et al. 1996). The “global ecosystem” is essentially a closed system with a limited capacity to support an ever expanding economy. As such, economic growth and its consumption of resources could potentially threaten to exceed sustainable rates of ecosystem productivity (Brand et al. 1996).

Upholding the ideal of economic growth is not only a threat to the sustainability of forests in and of itself, but is exacerbated by the misuse of economic signals by decision makers. The use of these signals not only grossly underestimate the current and future value of forest resources, they also encourage decisions that run counter to long-range

interests (Abramovitz 1997). For example, future resource benefits are often discounted in the market system because the system is geared towards maximizing current profits. Discounting future benefits, as a result, sends a message to people that it is more profitable to consume a resource today than it is to save it for tomorrow (Abramovitz 1997).

In addition, since the politico-economic market system is geared towards profit maximization, it only measures the goods and services provided by nature that have been converted into something considered to be sold in markets. Consequently, nature's free goods and services, like clean air and water, are valued at zero. Similarly, the degradation of the environment in converting nature's goods remains external to most financial calculations.

Clearly the notions upon which economic growth are predicated on can be problematic for sustaining healthy forest resources. As forest management has primarily been geared toward maximizing the economic gains of forest resources, shifting the philosophies in which it is so deeply entrenched can be confounding. However, if forest resources are to be sustained for the future, the public must inform decision makers of the politico-economic system they deem acceptable so it can:

...shift from an approach that encourages growth for the sake of increased per capita income or government revenues, to one that specifically directs economic activity to sustaining communities and resources upon which they rely (Brand et al. 1996).

2.0.3.3 Scientific Dimensions

The process of generating knowledge and information through scientific inquiry has been important to Western society. It has been deemed important because it has led to what industrialized countries like to refer to as "human progress" and "development." During the industrial era, modern science focused on finding the "absolute truths" of the natural world so that progress and development could be pursued and enhanced. In order to find these truths, empiricism and objectivity were used as the basis for scientific inquiry.

These principles shaped the scientific dimensions in which traditional paradigm of forest management evolved, and were utilized to generate the absolute truths of forest environments. These principles were used so that the natural laws of forests could be studied and understood. These laws were to be studied in order that the various functions and conditions provided by forests could be comprehended (Glück 1987). It was important to understand these variables because they helped to determine which forest resources were of optimal use for human utility. Once these resources were known, forests could be managed in a judicious manner that maximized economic development and human progress.

As the predominant feature of forests, trees have often been regarded as the most valuable forest resource by humans. They have been valued because they provide many “goods,” “services,” and “functions.” However, wood has been considered the optimal forest resource since it can yield a high utility and subsequent economic gain. As a result, wood production has become the aim of forests and the main purpose of forest management (Glück 1987). This production has been enhanced by scientific knowledge over the years since inquiry into forest functions and conditions could discern which were the best conditions for yielding the best quality of wood in a maximum quantity (Glück 1987).

However, forests are very large, complex, and dynamic ecosystems, and in studying their natural laws scientific inquiry has had to break them down into manageable units. Different components of the forests, therefore, were studied and analyzed through the different branches of science (plants in botany, soil in soil science, wildlife in biology, etc.). As each of these disciplines has been built upon different facts and truths, the interpretation and communication of scientific findings has been very technical and esoteric. As a result, the dissemination of information amongst these disciplines has been difficult, and transcribing and meshing the work into a form that is decipherable to all has been taxing and time consuming.

Attempts at managing forest ecosystems, therefore, have been done in a

fragmented fashion. The separation of forest ecosystems into different fields of study and specialization causes the important relationships evident in the larger picture of forests and forest use to be missed (Rowe 1992 in Simpson et al. 1995), leading to a lack of understanding and appreciation for how the parts of the forest work together to provide essential and valuable services. As a result, the health and integrity of many forest ecosystems are presently being threatened. This problem has been exacerbated as technologies have been developed to enhance the rate of resource extraction. Economic growth has been the impetus for this extraction, and as science has served in determining the optimal conditions in which forest resources function, it has subsequently been the mechanism used in determining the optimal means in which to engineer and manipulate these conditions for human satisfaction.

In addition, as political decisions have been made to safeguard and uphold the welfare of society and its desires, they have consequently given support to these scientific and technological endeavors. For if the actualization of society is to be pursued under the aegis of economic growth and development, then the wise choice for the greater good of society is to maintain the mechanisms that can generate this growth. Those mechanisms being scientific knowledge and technology. However, as Suzuki (1997) points out:

The total knowledge base currently accumulated by scientists is still so limited that it can rarely be *prescriptive*; it is almost impossible to generate scientifically based policies or solutions for managing our surroundings when we know so little (Suzuki 1997).

Furthermore, in acquiring and interpreting information for political decision making, specialized government agencies have been created. This situation has ultimately lead to uni-dimensional decision making that has failed to conserve the integrity of forest lands as an integrated whole (Wikstrom 1987). In addition, as foresters hold much of the expertise in understanding forest resources, government authorities have divested much of the decision making and control of forest lands to forestry industries (Griss 1993, Dufour 1995). This process has resulted in a society that has a fragmented and competing set of

interests in, and uses for, the forest (Brand et al. 1996).

While this situation has been acknowledged and is currently being addressed, the problem continues to manifest itself as forestry schools and educational processes have been slow to incorporate the social dimensions of forest management (e.g., social cohesion and community well-being in forestry dependent communities) (Maser 1994, Jones et al. 1995). While the new environmental paradigm has stimulated change and induced the re-conceptualization of many hard-held doctrines of the dominant social paradigm, the process of initiating these changes in social institutions can be slow. As a result, the practices of forest management continue to be learned and executed, impeding the advancement of new forest management practices.

New forest management practices are focusing on a more holistic approach to managing forests, in which the ecological, economic and social aspects of forests are managed together. This endeavor requires that input from the public and different social interests are given consideration in the process. However, the belief in forest management, as Glück (1987) notes, has been that “People and their interests do not teach the forester how to manage the forest: ‘People are not to be trusted in such matters.’” If this underlying assumption remains amongst the forest science community, then the assimilation of social information into present forest management will continue to be impeded. In addition, the manner in which science informs both policy and economics, and the manner in which they all collectively influence each other, ultimately affects the shift in forest management practices. Consequently, the succession of new forest management practices cannot be procured unless the political, social, economic and scientific underpinnings of the traditional paradigm of forest management are re-conceptualized and reconciled.

2.0.4 Forest Ecosystem Management

While there has been an increasing awareness about the need to manage forests sustainably and the concept of sustainable forest management has become a central policy

focus of the international community, there are many questions about the practical approach to achieving it (Brand et al. 1996). There are very few, if any, concrete examples of SFM in practice and many questions remain about the underlying philosophies that are needed to implement it and put it into operation (Brand et al. 1996).

One philosophy that has recently emerged and attempts to operationalize SFM is the notion of ecosystem based management. Ecosystem based management emphasizes a concern for the following: biodiversity, ecological system complexity, aesthetics, protection of all indigenous species of flora and fauna, clean air and water, respect for those who find spiritual values in the forest, a re-emerging 'ethics of nature', holistic or systems-oriented approaches to management, desires for commodity production, economic prudence, and, humanistic concern for rural communities (McQuillan 1993).

The main feature of ecosystem based management is that it represents a new paradigm or belief system for the theory and practice of forest management (Rowe 1994 in Brand et al. 1996). Like the new environmental paradigm, ecosystem management reflects first and foremost a shift in values (McQuillan 1993). As seen in Table 1, the shift to forest ecosystem management is distinctly different from the paradigm underlying traditional approaches to forest management, such as sustained-yield forestry or multiple-use management (Brand et al. 1996).

This shift largely emphasizes the value of long-term sustainability, in which both the health of the ecological and social conditions of forests are taken into consideration (Beckley & Korber 1995). It is a new orientation in forest management that elevates the value of all natural organisms and non-commodity resources into a system that can better integrate commodity production with the protection of ecological values (Tanz & Howard 1991, Steel et al. 1994). The intentions of forest ecosystem management essentially are to maintain the forest system as a forest system (Tanz & Howard 1991).

A key concept of forest ecosystem management is that it must be tailored according to the ecological, cultural and economic setting that each forest occupies (Brand et al. 1996). As such, it attempts to sustain multiple forest values rather than just

Table 1. Key Differences Between the Traditional Paradigm of Forest Management and Forest Ecosystem Management

	Traditional Paradigm of Forest management	Forest Ecosystem Management
Philosophical Base	Utilitarian.	Leopoldian environmental ethic.
Objective	Maximize commodity production Maximize net present value.	Maintain the forest ecosystem as an interconnected whole. Maintain future options.
Constraints	Sustained yield: harvest must be less than growth capacity.	Long-term ecosystem sustainability. Maintain forest aesthetics. Social acceptability of management practices.
Role of Science	Views forest management as applied science.	Views forest management as combining scientific and social.
Value	Forests valued as a resource - instrumental value only.	Forests valued instrumentally and intrinsically.
Major Themes	Focuses on outputs (goods and services demanded by people). Management that fits industrial production processes. Timber is the most important forest output (timber primacy). Impending timber famine. Mechanistic, reductionist view of forests. Scale: typically stand-level.	Focuses on inputs and processes (e.g., biodiversity). Management that mimics natural processes. All species - plant and animal - are important. Biodiversity loss. Systems view of forests - the forest is more than sum of parts. Scale: ecosystem and landscape level.

Source: Bengston 1994a.

multiple forest uses. It blends these values with the needs of people in a manner that sustains the health, integrity, productivity, and diversity of the ecosystem (Jones et al. 1995, Brand et al. 1996, Freemuth 1996). As forest ecosystem management represents a move to sustainability, it requires the acceptance of many new things. For example, it requires the harmonization between the social and ecological dimensions of forests. Harmonization has presently become a requirement because past management efforts have led to both social conflict and environmental degradation. These situations have arisen because the need to sustain non-commodity and environmental amenities has been largely overlooked. In most cases, management objectives have been set for wood production and all other values had been identified as constraints (Brand et al. 1996). As Griss (1993) notes:

The best that could be said for non-timber values in the past is that they entered the management decision process late, and as constraints, never as part of the objective. It has only been recently that these values have been acknowledged in forest management. Previously, they had only been given token, if any, attention (Griss 1993).

In implementing commitments for sustainable forest management, therefore, these values must be considered, and timber management must begin to be defined within the context of forests, instead of forest management in the context of timber. Forest management must also be designed with the combined goals for all uses in clear view from the outset, and not as constraints to whatever values come first. In addition, for it to be responsive to society's values and needs knowledge and information must be derived from a number of sources. (Griss 1993, Brand et al. 1996).

Ecosystem management, however, cannot be considered a panacea for all the ills that presently plague forest management, as it is still largely mired in conceptual imprecision (Jones et al. 1995). There is no single, unified definition for ecosystem based management, and the application of this concept is still being debated and negotiated amongst foresters, academics, politicians, and the like. As Brand et al. (1996) note, some definitions of ecosystem management tend toward the philosophical basis of management

where, for example, there needs to be a fundamental re-framing of how humans work with nature. On the other hand, “others frame ecosystem management in terms of its operational objectives, such as maintaining biodiversity and ecosystem integrity at the landscape level” (Brand et al. 1996).

In addition to these shortcomings, the predominant thinking about forest management at present remains largely geared toward incorporating non-timber values into a system oriented heavily toward *forestry* management (Griss 1993). If forest ecosystem management is to identify what society values about forests and set appropriate objectives for managing them, then it must move away from a management approach that dismisses values as if they were merely band-aids needed to patch the failings of current forest management practices. If forest ecosystem management is to shift forest management from the dominant social paradigm into the new environmental paradigm, then it must also begin to define the objectives for management by acknowledging and accepting the values of society as a legitimate part of the management process.

Furthermore, if forest management is supposed to maintain ecosystems in the appropriate condition to achieve desired social benefits, then it must be defined by society, not just scientists and politicians. As Freemuth (1996) notes, the definitions assume that ecosystem management is acceptable to society, and expert-centered decision-making assumes experts can just collect social information and include it into an ecosystem management framework. These definitions do not consider that people may wish to disapprove of ecosystem management as they understand it. Some people see ecosystem management as the solution, others see it as a problem whose solution is to prevent it from happening (Freemuth 1996). Given this argument, it may be difficult to obtain people’s values if they distrust the processes of forest management and view them as being unacceptable. Any legitimate attempts to acquire people’s values and incorporate them into forest management decision making could prove to be problematic. Therefore, hindering the move to sustainability.

2.0.5 The Need For Social Values in Forest Ecosystem Management

In a world of finite resources, where of necessity, some degree of lifeboat ethics is practiced, how do we decide, once we move away from the criterion of usefulness to humanity, which parts of the natural world we will protect and which we will abandon?
(MacDonald 1991).

In a world of finite resources, society is beginning to acknowledge the need for understanding and using social values in decision making so that the protection and abandonment of natural resources can be made. This situation is currently happening with the management of forest resources. By understanding what society values about forests, managers and decision makers can establish and justify appropriate goals for the use and protection of them (Bengston 1994a). By doing so, social conflicts and disharmony can potentially be reduced, and environmental degradation can possibly be curtailed.

Social conflict is the struggle over values and claims to scarce status, power and resources. Social conflict arises when the promotion of some values or claims are undercut by the promotion of others. This situation arises with forest resources when policies only promote the interests and values of certain forest users. As a result, competing users engage in incompatible activities and interfere with each other, or conversely, cause an alteration to forest resources which diminishes the use and utility for other users (Jones et al. 1995).

These problems have befallen forest management many times in the past, but with the incorporation of social values these problems may potentially be alleviated. The consideration of social values in forest management can illuminate the social context of forestry and forest use, and can help policy makers understand the social dynamics of local places where their decisions have the greatest impact (Beckley & Korber 1995). By understanding what people value and want from the forests, managers and decision makers can incorporate these values into the management process at an early stage. With the application of forest ecosystem management, an holistic view can be obtained about what people want from forests, as well as what forests can provide. As a result, forest

managers can then design management objectives that promote various uses in a manner that does not encourage conflict or exceed the forest's capacity to provide these uses.

For example, if social values were known at the outset, they could be monitored over the years to determine if changes had occurred in particular populations. If changes had occurred, then management could assess the efficacy of these needs in a more accurate and timely fashion. They could also determine how people will react to forest practices and deal with inevitable conflicts at an early stage in the process. By doing so, time, money and heartache could be saved by all parties involved in such circumstances (Bengston 1994a, Stern & Dietz 1994, Brand et al. 1996). In addition, by understanding how people value the forest, better communication could be linked between various users and managers, potentially forestalling ensuing differences or conflicts. Furthermore, social values can assist in determining an appropriate level of mitigation or compensation when certain forest uses are promoted at the expense of others (Doig 1987).

Since forests provide many goods and services, the maintenance of their health and integrity is important and must be sustained. In order to sustain them, an adequate inventory of forest resources (e.g., fish, wildlife, plants) is needed. However, if forest ecosystem management is to be successful it cannot simply collect and compile biological resource findings into forest practices. It must take into consideration the value of these resources at different temporal and spatial levels. If these values are not considered, then the forest ecosystem cannot be sustained and the delivery of goods and services cannot be perpetuated. The maintenance of forest ecosystems, therefore, relies on an accurate cataloguing and comprehension of both biological resources and social values. In addition, it relies on an understanding of the linkages between them. There must also be a balance amongst these values so that the forests' capacity to provide all these services is not diminished by the intolerance of certain sectors of society whose temporal and spatial preference of forest resources is discounted to the present and spans over large areas (Doig 1987, Kimmins 1991).

While knowledge of social values are important for alleviating disharmony among

forest users and reducing degradation amongst their uses, the incorporation of social values has several other benefits for forest management as well. Doig's (1987) discussion about wildlife values sheds some light on this fact. He discusses the need for including wildlife values into public and private business enterprises that are based on these uses. He also discusses the importance of including wildlife values into various education curricula. These are two very important factors to consider, because the inclusion of all social values in the consideration of forest developments and forest curricula could alleviate many problems that presently persist in the economic and scientific dimensions of forest management.

For example, if all social values were considered in economic developments, then perhaps some developers would be less apt to initiate a certain type of business at one time or place if they knew it would extinguish the ability of the forest to continue to produce that resource. The inclusion of social values, therefore, could assist in determining what is the right time and place for certain economic developments and enterprise. In addition, the inclusion of social values into education curricula might help curtail the myths that presently exist in forestry schools about the economic perpetuity of timber products and the application of technological fixes for maintaining these products (Maser 1994).

Social values are not only needed within these dimensions, however. Social values are also needed to help determine the appropriate processes for the management and decision making of forest resources. Studies about how society values forests could help shed some light on the normative and ethical questions of how forest ecosystem management should be carried out (Bengston 1994a). These processes should be collaborative and should be valued by the actors involved. If people feel their participation in social values research and forest management is being undermined, then the process is all for naught. As a result, people may not wish to share their true values. If their true values are not shown, then forests will not be managed for what society truly wants and believes in. Consequently, this could undermine forest ecosystem management and the sustainability of forest resources.

In addition, social values need to be known so that people can tolerate and accept each other's different values. As Freemuth (1996) states:

The bulk of public forest lands will likely remain neither wilderness nor tree farm. Instead they will be managed eclectically, in accordance with specific conditions and desires. This will require tolerance. Just as we do not expect ourselves, as individuals, to like every piece of art that is produced, we should not expect to like personally every acre of forest land (Freemuth 1996).

Science informs of what is possible, and ethics and economics prescribe what is prudent. However, humans continue to operate largely within the realm of what they want and value. Our wants and values, both individually and collectively, arise in a social context, and, therefore, should be understood in that context (McQuillan 1993).

2.1 THE FIVE “Ws” OF VALUES FOR FOREST MANAGEMENT

2.1.1 Why is it Important to Understand Values?

Is the function of values theory simply to examine the operation of values, or is to prescribe what values ought to be held for the most optimal functioning of society? (Alicke & Kahle 1988).

As outlined in section 2.0, the systems and institutions that were established during the modern, industrial era are now defunct within a society that has evolved to a post-modern stage and aspires to uphold the values emerging under the new environmental paradigm (e.g., biodiversity, ecosystem health). While the value of sustainability, and the benefits of incorporating social values into forest management practices have been recognized, it has become apparent that the changes needed in our value system are profound and go beyond simple readjustments (Clark 1995a). “We can no longer trust that a few moral adjustments on the surface, together with hoped for technological breakthroughs, will be anywhere near enough” (Clark 1995a) to redirect our destructive habits and patterns of consumption. Values, therefore, “are addressed precisely because they offer the possibility of effecting change in social, economic and political behaviors,

logics and benefits” (O’Brien 1995). Environmental values must drive changes in our underlying behavior and assumptions if we are to truly progress toward an environmentally sound and socially just society (O’Brien 1995, Maser 1996).

2.1.2 What are Values?

2.1.2.1 Disentangling the Concept of Values

Attempts to understand the nature of values can easily become mired in confusion. Since values are the core concept used in the study of personality, culture and society, they cut across all the social sciences (Rokeach 1973). As such, values can be defined and conceptualized differently, both within and across many of the academic disciplines (Brown & Manfreda 1987, Beckley et al. 1997). Given that values are also constructed in complex and varied ways, (Clark 1995b) disentangling the concept of values can become a frustrating endeavour. The environmental values that have emerged under the new environmental paradigm, for example, can be understood in many of the following senses: as economic values placed on specific resources or goods; as political values attached to particular locations or lifestyles; as social values circulating within and between different human communities; as personal values interconnected with wider frameworks of belief and moral commitment; and, as spiritual values underpinning codes of cultural conduct (O’Brien 1995).

Furthermore, values often have been treated synonymously with various other concepts, including: attitudes, traits, needs, norms, opinions and choices. Values are related, and link, to these concepts, but do differ from each one of them in certain ways. For example, values pertain more to desirable end states or modes of conduct, and can transcend specific situations, whereas many of these other concepts do not have such attributes (Schwartz 1994). While it is important to acknowledge the differences in these concepts it is beyond the scope of this study to delve into a discussion on each of them. As these concepts can convolute the meaning of value, it is important though to learn to distinguish between them before embarking on a values related study.

To help decipher amongst the competing concepts and meanings surrounding values, Brown (1984 in Bengston 1994a) provides a useful discussion based on what he describes as the three “realms of values.” The first realm of values is the conceptual realm, in which a value is defined as an enduring conception of the good (Brown 1984 in Bengston 1994a). In this realm the main concern is with the basis of values. A value in this sense is often referred to as a *held value*, and can be classified as modes of conduct (e.g., honesty), beliefs, morals, qualities (e.g., beauty) and end-states of existence that are considered to be desirable by individuals and groups (Bengston 1994a, Beckley et al. 1997a). The second realm of values is the relational realm in which a value arises from a relationship between a subject and an object in a given context. This realm of values is primarily concerned with the valuation process. The third realm, in contrast, is concerned more with the end result of the valuation process, and with the relative importance or worth of an object (Bengston 1994a). A value in this sense is often referred to as an *assigned value*, since it is the worth ascribed or assigned to given goods or services (Bengston 1994a, Beckley et al. 1997a).

To provide a clearer understanding of values, the differences between *assigned* and *held* values be can explained further. Assigned values are derived from held values and are more concrete in that they are theoretically measurable in some common currency. These values tend to be associated with economic systems and can be expressed through market mechanisms (Beckley et al. 1997a). For example, a person may hold equality as an important value in their life, and therefore may only “value,” or be willing to purchase, goods that have been produced in an equitable and just manner (e.g., anti-child labour) Held values, conversely, tend to be more abstract in that they are associated with such things as beliefs. However, they can be assigned value as they are “objects” within a broad sense (Bengston 1994a). By assigning a value to held values, a rank ordering of values is created. For example, someone may value freedom more than security and achievement, and by ranking them in that order they may choose a life of travel and adventure over a life devoted to a career with earned material possessions and personal

attachments.

Held values can also be subdivided into the categories of *instrumental values* (e.g., honesty, fairness) and *terminal values* (e.g., freedom, equality). Terminal values are the ends one seeks in life, whereas instrumental values are the means through which one lives. As such, terminal values can be subdivided further to distinguish between personal (e.g., happiness, freedom) and social (e.g., equality) values, and instrumental values can be subdivided on the basis of moral (e.g., honest, kindness) and competence (e.g., logical, rational) values (Beckley et al. 1997a).

Another important distinction to make with respect to held values, is between the subcategories of *instrumental* and *intrinsic* values. This distinction is particularly useful when distinguishing between environmental values. Instrumental values in this sense are still defined as being means to an end (Bengston 1994a). For example, nature would be considered useful to humans since it serves a purpose, or meets a need; it is a means to provide us with food and shelter. However, intrinsic values relate more to the value that lies within an object itself, rather than the benefits that can be received from it. “Intrinsic value is concerned with the inherent worth of something as an end in itself” (Bengston 1994a). These two types of values are not mutually exclusive, since everything can be evaluated in terms of having an instrumental value; “that is, everything or every event has consequences for other things or events” (Bengston 1994a). In this sense, all parts of nature would have some kind of instrumental value, since every part or function of the environment is inter-related with another aspect of the environment, creating an ongoing cycle of production and decomposition.

2.1.2.2 Forest Values Defined

Given the dynamics of forest environments and the different notions of value, it is evident that the values related to forests can be defined in a number of ways. For example, a *held forest value* could be defined as an enduring concept of the good related to forests and forest ecosystems (Bengston 1994a). An *assigned forest value*, in turn,

could be defined as the relative importance or worth of objects related to forests and forest ecosystems (Bengston 1994a). An *instrumental forest value* would be the means by which specific ends are derived from forest ecosystems. For example, economic efficiency would be the means whereby forest products and services could be provided to the market in an affordable manner. A *terminal forest value* would be the end states that could be derived from utilizing a forest in a certain way. For example, satisfaction or happiness would be the end state derived from using the forest as the location for a camping trip. The *intrinsic value* of the forest would be the inherent worth of the forest ecosystem itself.

As the concerns about, and the demands placed on, forests continue to increase, it is important to understand the complexity and relationships amongst the different levels of forest values. It is not enough to merely know the different meanings they have, because the interaction between held and assigned values set a number of different priorities in the ways in which society would like to see their forests managed and utilized. For example, the assigned values (i.e., monetary worth) of many forest goods and services may not completely represent the range of held values (i.e., harmony with nature) that are emerging under the new environmental paradigm. This is due to the fact that assigned values can be incorporated into economic systems, but held values cannot be completely revealed through economic valuation (Brown & Manfredi 1987). However, held values, to a large degree, determine how, and for what, forests are to be managed. Given that there are different held values emerging in society, it is important for forest managers to understand what those values are so that proper connections can be made with assigned values and can accurately be taken into consideration in the decision making process in ways other than through economic calculation (Steel et al. 1994).

2.1.2.3 A Classification of Forest Values

Since forest values can arise within a number of different contexts and can derive several different meanings, it can be useful to classify them in order to gain a better understanding of their diversity and complexity. While the following list is adapted from

various sources (Rolston 1985, Clayoquot Sound Scientific Panel 1995, Gregerson et al. 1996, Abramovitz 1997, Canadian Council of Forest Ministers 1997, and Robinson et al. 1997) it is by no means exhaustive, and the categories are in no way mutually exclusive.

1. Environmental Quality Values

1a. Air Quality

Most life on earth depends on photosynthesis to produce food, generate oxygen and remove carbon dioxide. The oxygen people breathe comes from green plants; large forest are major producers of oxygen and filter pollutants from the air.

1b. Water & Soil Quality

Forests act like massive pumps, helping to recycle water, making it repeatedly available from plant growth. Through this action and their extensive rooting systems, forests also help to maintain a regular pattern of water flow in streams and reduce erosion, thus helping to maintain soils and their nutrients. In doing so they help maintain stream conditions favourable for fish and other species.

1c. Climate & Atmospheric Regulation

Forests capture carbon dioxide and store vast amounts of carbon which might otherwise accumulate in the atmosphere and contribute to global warming. By producing oxygen and absorbing carbon dioxide forests provide a vital air-conditioning service to the planet.

2. Biodiversity Values

2a. Ecosystem

An ecosystem is an infinitely complex entity wherein plants, animals and microorganisms interact with each other and their surroundings. Because of the dynamic interactions that exist among the various elements they comprise, ecosystems are constantly changing. Almost the entire original complement of forest species is still present in Canada, and can be found in distinct forest ecosystems that have adapted to particular climatic conditions and disturbance patterns.

2b. Species

Some 180 tree species grow in Canada, and it is estimated that the forest is home to approximately 140 000 species of plants, animals and microorganisms

2c. Genetic

The genetic diversity of forest vegetation ensures that species retain their capacity to evolve and adapt. Conserving this diversity sustains the productive capacity and resilience of forest ecosystems.

3. Amenity Values

3a. Scenic

People experience scenery over a large area. To understand scenic resources, it is necessary to look at broad patterns in the landscape. Forests are part of many of the world's most highly valued landscapes. To many people, removal of the forest reduces scenic resource values.

3b. Aesthetic

Nature's problem solving yields works of grace. On small scales and large, both ensemble and individual, nature's patterns can please the eye. Intimate contact with a forest ecosystem can provide such values to people.

4. Market/Economy/Commodity Values

Forests provide many goods, such as wood and its diverse products, fish, wildlife, plants and water - all of which support human society. Some of the many products include: timber, pulp & paper, fuel wood, mushrooms, berries, minerals, maple syrup, Christmas trees, furs, wild rice, etc.

4a. Tourism

The forest landscape also supports a number of small businesses, such as outfitters and eco-tourism/tourism operators, which help create jobs and generate income. As populations and development continue to grow the value of wilderness will continue to increase. Subsequently, these types of businesses will continue to grow.

5. Non-Market and Public Use Values

5a. Existence/Intrinsic

People may value a forest for its existence and without any intention to directly use it in the future. Individuals may derive utility from the mere knowledge that these systems exist in tact. This includes the intrinsic value of forest ecosystems and the fact that it has inherent worth as an end in itself.

5b. Option

People may value to use a forest in the future, or merely the option to have it available in the future.

5c. Bequest

People value forests even though they may never actually visit or use them. They simply want to know that forests exist and will continue to be available in the future. To ensure this is possible they may become a member of or donate to conservation organizations.

5d. Recreation

Forests have two kinds of recreational values. One includes what we can do (activity) and what we can share with nature (contemplation). Forests are valued for the opportunity to partake in sports activities which help challenge and demonstrate people's skills. They also provide opportunities for enjoying the splendor and beauty of wildlife and the landscape.

5e. Subsistence Goods & Services

Forests also supply goods from such activities as subsistence hunting, berry picking, mushroom picking, etc. Although money often is not exchanged when these goods are obtained directly from the forest, they do contribute to people's quality of life, sense of social continuity, heritage and security.

5f. Scientific/Educational

Forests are a laboratory for the pursuit of science, and are good not just because individuals like it, but because society gains pure knowledge, which enlarges our understanding of the world and our roles in it, and gains better applied science, which enables us to manage and rebuild our environments.

5g. Historic/Heritage

Forest environments provide both cultural and natural heritage values. Our cultural heritage is often seen as self-development against a diverse and challenging environment, seen in pioneers and frontiersmen. Many parks and sites thus have been preserved as souvenir places for each generation's learning. Many of these places have also been preserved for their natural heritage as ecological benchmarks and as tangible relics, which contribute to our sense of duration, antiquity, continuity and identity.

5h. Character Building/Education/Therapeutic

By venturing into forest environments people can learn to challenge themselves through recreational pursuits. What is valued is the competence gained in oneself. Such pursuits can teach one to care about his/her physical condition, and the environment can provide a place to gain humility and a sense of proportion. This can increase individual well-being and the social good.

6. Cultural and Spiritual Values

Forests have values that go beyond specific resource attributes. They provide traditional foods, materials, and medicinal plants important to indigenous cultures. As systems, they provide a context which physical and spiritual events take place. Because of their longevity and many values, forests often form part of the cultural identity of the people who inhabit or live near them. Sacred places and traditional ceremonies are often associated with these values as well.

2.1.2.4 Value Systems and Value Orientations

As mentioned in section 2.1.2.1, when an individual assigns a value to held values they create a rank ordering or hierarchy of values. This hierarchical arrangement is also defined as being one's *value system*; it is an enduring organization of instrumental (modes of conduct) or terminal (ends states of existence) values ranked along a continuum of relative importance (Rokeach 1973). While a value system is considered to be somewhat stable (Rokeach 1973), an individual will shift the relative importance of values as they draw upon them for achieving specific goals in certain situations (O'Brien 1995).

Since an individual's value system is a specific arrangement of values suited to their desired goals and beliefs, their value judgements will typically be made within the context of their general orientation to life, and their values will be tied to a larger purposive system that mediates their pursuit of goals (Alicke 1988). This is considered to be one's *value orientation* - "a set of linked propositions embracing both value and existential elements" (Rokeach 1973). For example, people tend to develop a certain value orientation toward the environment based on three classes of valued objects, including: other people, nonhuman objects, and the self (Table 2) (Stern & Dietz 1994).

In terms of valuing "other people," one would be considered to have a homocentric, anthropocentric, or social-altruistic value orientation. In terms of "nonhuman" objects, one would be considered as having an ecocentric or biospheric orientation, and in terms of "the self," one could be classified as having an egocentric or egoistic orientation toward the environment (Stern & Dietz 1994, Kempton et al. 1995). O'Riordan (1995) identifies another orientation which he labels as technocentric. In relation to the environment this orientation places a high value on organizations and institutions. Value orientations, like value systems, are fairly stable, but are not mutually exclusive. Individuals may hold several value orientations to some degree, and these orientations may vary across individuals, social-structural groups and cultures (Stern & Dietz 1994).

As seen in Table 2, each value orientation, or any variant thereof, could yield a number of different forest values. It is important, therefore, to understand these orientations, as well as the related values systems, since they determine why people value the forest in a certain way. By understanding the context in which forest values are derived, and the key factors affecting the relative importance of forest values, socially acceptable ecosystem management approaches could be developed. Understanding these dimensions of values could also assist in dealing with conflict over the management of public forest land (Bengston 1994a).

Table 2. Basic Environmental Value Orientations

Biospheric	Social-Altruistic	Egoistic	Technocentric
Recognize the intrinsic importance of nature.	Judge phenomenon on the basis of costs or benefits for a human group, such as community, ethnic group, nation-state, or all humanity.	Predispose people to protect aspects of the environment that affect them personally (e.g. Not In My Backyard), or to oppose protection of the environment if the personal costs are perceived as high.	Believe in the indefinite continuation of economic growth and resource exploitation, given a suitable price structure, the legal right to a minimum level of environmental quality, and compensation.
Believe that ecological and other natural laws determine morality.	Individuals experience a sense of moral obligation and act on it when they believe adverse consequences are likely to occur to others.	Use some economic approaches to value the environment in attempt to determine the social value of environmental conditions by summing material costs and benefits to individuals across the whole society, assuming that only outcomes to self matter.	Believe humans can find a way out of difficulties, either through politics, science or technology.
Accept the right of endangered species or unique landscapes to remain unmolested.	Through personal, appropriate action individuals will prevent or ameliorate adverse consequences (e.g., buy lead free gas).		Believe that scientific and technological expertise is essential on matters of economic growth.
Lack faith in modern, large-scale technology and its need for elitist expertise.			

Sources: Adapted from Stern & Dietz 1994, and O’Riordan 1995.

Furthermore, given the rise in environmental values, and an increased biospheric orientation amongst the younger cohorts of society (Yankelovich 1994, Kempton et al. 1995, Adams 1997, Robinson et al. 1997), it is unlikely that environmentalism will be a

passing fad (Kempton et al. 1995, Adams 1997). The concerns and values related to forest ecosystem health and productivity, therefore, will continue to be complex and diversified. As these values are closely tied to our core values (i.e., held values) it is also important to understand the evolution of our underlying core values and their relation to the environment.

It has been noted (Yankelovich 1994, Adams 1997) that in the 1960's and 70's there was not only an emergence of environmental values but changes in some of Western society's core values. For example, the traditional values of security, conformity and respect for institutions, were succeeded by values related to pluralism, autonomy (individual and personal choice), and hedonism (live for today, short-term satisfaction). These values, in turn, have been modified to suit present situations and people are now inventing distinctive blends of choices and values that are creating sweeping changes in relation to family, work, health, morality and leisure (Yankelovich 1994, Adams 1997). For example, public participation is now valued as a means and an end in itself (Macnaghten & Jacobs 1997) in terms of political representation and decision making. If forest management and related policies threaten our core values (i.e., public participation), they will inevitably invite backlash and undermine the policymaker's intentions. Successful management directed at sustaining a diversity of forest values, therefore, should understand the core values upheld by society in order to avoid undermining them (Yankelovich 1995).

2.1.2.5 The Determinants of Values

In order to understand the value orientations concerning forests, and the core values that exist in society, it is helpful to know the factors that influence them. Decision making processes and forest management practices, as a result could be designed in a manner that are more responsive and sensitive to the views and values of society. As Steel et al. (1994) note, values and value orientations are largely influenced by the following factors: socio-demographic characteristics, self or group interest, and geographical

location.

Since values may develop from shared experiences (Adamowicz et al. 1997), it is evident that socio-demographic determinants can play a primary role in influencing people's values. These determinants include such things as gender, age, education, ethnicity, income and occupation (Steel et al. 1994, Adams 1997). In terms of the environment, evidence suggests that women, individuals with higher education levels, and younger cohorts are significantly more likely to have value orientations (i.e., biospheric) sympathetic to these concerns (Steel et al. 1994).

However, as Adams (1997) points out, "for Canadians...demography is no longer destiny, and is certainly less reliable as a predictor of values [now] than at any time in the past" (Adams 1997). Although such things like age and gender are still factors in determining social values, what is becoming increasingly apparent are the differences between individuals of similar ages and demographic characteristics. When Canadians are divided according to their social values, twelve groups, or "value tribes" as Adams (1997) refers to, emerge. There are three groups among Canadians fifty years of age or older, four groups among the baby boomers, and five among the post-boomers (see Appendix 3). This is significant because it indicates that younger Canadians divide into more values "tribes"(Adams 1997), and that age perhaps has become less of a determinant for values amongst this strata of society.

Furthermore, research shows that working women in Canada share more values with working men than they do with housewives, and young women share more values with young men than with older women (Adams 1997). While value differences still remain between men and women, this information suggests that age and occupation are better predictors than gender (Adams 1997).

While generation is not typically classified as a socio-demographic variable, it is an important determinant of values as well. The term generation in this sense is used to imply more than age and maturity, and is intended to reflect the transformation of value systems based on unique experiences (Adamowicz et al. 1997). An example of how generation

influences values is evidenced between pre-war and post-war (World War II) generations. A central feature of pre-war generations is the priority they placed on economic growth and security issues. This value priority is in contrast to the values held by post-war generations, which have emphasized such things as the aesthetic qualities of the environment (Steel et al. 1994).

Adamowicz et al. (1997) provide another example, based on the experience of some of the younger generations of Canadian Indigenous People who were taken from their families and placed in boarding schools. Through this process many of them were dislocated from their culture and only have come to learn about their traditional ways as adults. From this experience, they developed a value system very different from that of previous generations who lived a traditional life out on the land (Adamowicz et al. 1997).

In relation to this point, it is evident that culture can also play a significant role in influencing people's value systems. The spiritual relationship with the environment and the aspect of sacred values, for example, is one of the many differences that lie between Indigenous and Euro-American cultures. While the spiritual connection with other life forms in the natural environment is central to the traditions of Indigenous cultures, the mastery and control of nature has dominated much of the way in which Euro-Americans think and interact with the natural world (Adamowicz et al. 1997). As such, these two philosophies have greatly influenced the way in which members of these cultures view and value the environment.

Interests are also an important factor influencing people's values. As Canadian values are being increasingly shaped by the globalization of technology, trade, travel, finance, and communications (Adams 1997), the amount of time and interest they dedicate to these variables will impact and influence their value system. With respect to communications, the media can play a large role in shaping people's values orientation toward the environment, since they can provide prolonged coverage on certain issues and can link the problems to individuals' day-to-day behavior (O'Riordan 1995).

Television, for example, has had a particular influence on people, especially in its early years in Canada when there was little or no choice in what could be viewed. At that time it served as a force of social homogenization and conformity (Adams 1997). However, with the induction of more advanced communication technologies (e.g, the internet), and a greater variety in messages and sources available on television, Canadians are now exposed to competing and often contradictory sources of information as well as a wide spectrum of values (Adams 1997). This has contributed to the emergence of a population that is more suspicious and critical of what it hears, leading them to question the values held by previous generations and to establish values of their own (Adams 1997).

Interests can also be influenced by where one stands in relation to the productive arrangements of society (Steel et al. 1994). For instance, an individual's involvement in an environmental organization (e.g., Greenpeace) would likely lend one to be more biocentrically oriented toward the environment, since these organizations tend to promote the preservation of natural resources (Steel et al. 1994). Conversely, if an individual was strongly connected to the timber industry their disposition toward the environment would probably be more anthropocentric if they were to view commodity interests as the most beneficial use of the forest (Steel et al. 1994).

This point relates to the third main determinant of values which is geographical location. As Steel et al. (1994) suggest, citizens within a particular region, such as the Pacific Northwest in the U.S.A., may hold more anthropocentric views of the forest than citizens within a national context, due to their identification with the natural resource extraction culture and industry. However, when studied, it was found that there was a strong biocentric orientation toward forests among both publics, but the national public maintained stronger biocentric values overall (Steel et al. 1994). Similarly, Robinson et al. (1997) found that Canadians, within a national, provincial (B.C.) and regional (Fraser-Fort George) context, have a more biocentric orientation toward the forest as well. They conclude that:

All three publics support an ecosystem management approach that accommodates a broad array of values, benefits and services rather

than a dominant single-use management approach, and that meaningfully involves the public in the development of land use management decisions ... Canadians value their forests for ecological reasons before they value forests as a source of economic wealth and jobs (Robinson et al. 1997).

While these findings confer that there has been greater public support for the environment in recent years (Steel et al. 1994), differences in value orientations still remain amongst the public based on their place of residence and “experience of place.” With respect to place of residence, some studies indicate that urban populations are more likely to have “proenvironmental values due to their better access to information and educational opportunities, and because they are more likely to experience environmental problems firsthand due to industrial activities and high concentrations of people” (Steel et al. 1994). Since resource extraction largely takes place in rural areas, rural populations, in contrast, tend to value the environment anthropocentrically as a means to provide jobs and to support their livelihood.

However, broad sweeping generalizations like this fail to consider the attachment that many rural people develop with the environment based on their experience within a certain place. Physical locations affect people, and their experience with a place enables them to create individual environmental values and landscape meanings (Brandenburg & Carol 1995). For example, an individual living in close proximity to a forest may regularly hike and fish within a favored river valley. This experience can create certain values for that individual, thus giving them a more biocentric orientation to the environment than previously considered within the urban-rural context.

Furthermore, the cultural differences *between* rural communities (e.g., First Nations, Metis, Anglo-Saxon) defy such a simplistic and uni-dimensional view based on the urban-rural definition. As Adamowicz et al. (1997) note, the values between Indigenous and non-Indigenous communities cannot always be aggregated using economic valuation, because some of the resources considered to be sacred or taboo within Indigenous cultures are beyond valuation in an economic context.

In addition, values *within* rural communities are not always easy to define and cannot be always be simply aggregated. For example, Beckley and Sprenger (1995) found that members within the Sagkeeng First Nation (Fort Alexander, Manitoba) were divided along three dimensions in terms of valuing the forest environment; there were those individuals who were pro-development, those who were concerned with the environmental integrity of the forest, and others who desired to return to traditional culture practices and beliefs (Beckley & Sprenger 1995). These findings indicate that the values defined within a “rural” context should be more than just a generalization of values that run counter to values that exist in the urban context.

Given the different value orientations that can arise from the co-mingling of all the possible determinants, it is obvious that devising forest management plans and practices that are inclusive and reflective of all segments of society can be a daunting task for forest managers. However, as Adams (1997) indicates, it is important to remember that “Canada, a country that historically accommodated and even celebrated differences, has actually ended up creating a culture where a broad range of values unites us.” The collection and classification of values for forest management, therefore, does not have to be zero-sum game in which only certain values are considered. It can be a win-win situation for all those concerned as long as the valuation process is effective and done in a manner that is sensitive to people’s value orientation and conducive to eliciting their specific values.

2.1.2.6 The Functions of Values and Value Systems

As mentioned in section 2.1.2.4, value systems and orientations remain relatively stable but can change as individual perceptions or situations change. These changes arise because different values are useful to people in different ways, and people will draw upon them as resources for achieving the goals they may seek in both their private and public lives (O’Brien 1995). Furthermore, value change will not occur unless it has some benefit to a person (O’Brien 1995), so selfish values will tend to predominate over more altruistic

ones, at either an individual or group level (Chase & Panagopoulos 1995).

Essentially, the reason that values and value systems change is due to the fact that they serve different functions in people's lives. As Rokeach (1973) identified, they serve three main functions: (1) they serve as standards that guide ongoing activities, (2) they are employed as general plans to resolve conflict and make decisions, and, (3) they serve a motivational function by giving expression to human needs (Rokeach 1973).

As standards, values guide conduct in the following ways: they lead us to take particular action on social issues, to guide presentations of the self to others, to evaluate and judge ourselves and others, and to persuade and influence others (Rokeach 1973). In any given situation several conflicting values within one's value system may be activated (e.g., to behave independently or obediently in a situation), a value system therefore, also helps one to choose between alternative values, resolve a conflict, and make a decision. Given the myriad end states (e.g., happiness, wisdom) that people can achieve, values also motivate us to follow certain modes of conduct so that we can reach desired goals. In this sense, values function as tools to maintain self esteem and to defend one's ego as well (Rokeach 1973).

With respect to environmental issues, the ego defense and conflict resolution function often play a unique role in how people will react to certain situations. When employed in an ego defensive manner, values are used as justification of people's attitudes toward social issues. People use them to defend their position by exaggerating the relevance of values that support their position, and minimize the relevance of values that support the opposite perspective (Kristiansen & Zanna 1994). They attempt to bolster their values and denigrate the perspective of opposing parties by swaying people to believe that the other party's views violate important values and lack moral sensibilities (Burningham 1995, Kristiansen & Zanna 1994). The appeals that both loggers and environmentalists made to the public in Clayoquot Sound is a good example of how people have used values in an ego defensive manner.

In terms of employing values in a manner that would resolve conflict depends on whether the issue activates values that are of unequal importance, or activates values that are equally important (Kristiansen & Zanna 1994). If it activates values of unequal importance, an individual or group may attempt to spread or bolster the value considered to be of greater importance. However, if it activates values of equal importance then people will usually be more vigilant in evaluating an issue (Kristiansen & Zanna 1994).

For example, consider the impact a new logging road would have on an individual who works as a logger for the local forest company, is a trapper in the region and owns his own wild rice operation. If the construction of the road would increase his employment opportunities (i.e., family security value) or give him better access to his favorite fishing hole (i.e., pleasure value), then he would probably support the construction of the road, since the values activated are of unequal importance and an increase in employment is of greater importance to him. However, if the road was to impact both his trapline and rice production (i.e., subsistence values), but give him increased employment opportunities (i.e., family security) then several values may be activated. As a result, he may experience conflict over his preference for the road construction because of the multiple interests he has in the forest. In this situation he would probably be more vigilant in evaluating the issue with building the road and may actually oppose its construction.

Given these examples, it is obvious that the functions of values have far reaching consequences that can affect both groups and individuals. As Lavalley and Suedfeld (1997) point out, when people bolster their values (i.e., ego defense) at the expense of others in order to legitimize their perspective, they create negative spirals of destructive tactics and strategies. At the same time they also bias people's ideas of what an equitable or just resolution to the problem could be (Lavalley & Suedfeld 1997). They suggest that a better understanding of the factors that could decrease polarization and hostility between groups, and improve the quality of forest land use discussions and solutions is needed. Understanding the functions of values, therefore, is important, since it could assist in this process. If the reasons behind people's actions were better understood then perhaps

conflicts could be resolved in a more accurate and timely fashion. When groups are pitted so strongly against each other in environmental issues, the underlying values and important issues at hand get lost, and the debate turns into an issue about who is right and who is wrong. By understanding that the ego defense function can escalate and induce destructive conflict, then perhaps forest managers and decision makers would attempt to resolve these disputes in manner that more appropriately addresses peoples concerns and dissolves polarization.

Furthermore, Lavallee & Suedfeld (1997) suggest that “land use decisions require a movement toward pluralistic reasoning, in which decisions provide a synthesis of alternative interests without compromising important social, economic and environmental values.” Given the array of values that people may hold about forests and the complex decisions they may have to make about them, it would only seem fitting that decision making processes are designed in a collaborative manner with people, so that they could better determine the outcomes that will impact their lives. People can make reasonable and rational decisions about complex issues, and instead of forcing them to choose an all or nothing decision between equally important values, they should be given the opportunity to design options and synthesis alternatives that best suit their lives. At a time when decision making processes are being constantly scrutinized by the public, it would be beneficial if the conflict resolution function of values was better understood, so that these processes could be transformed into something that is both meaningful and acceptable to people.

2.1.3 When Should Values be Measured?

With the shift to environmental values expected to gain momentum as the younger cohorts of society age (Kempton et al. 1995, Adams 1997), the logical answer to this question is that values should be measured now, and should continue to be measured in the future.

As Yankelovich (1994) notes:

Generally speaking, it is not until changes in values are well advanced that they

begin to be measured. By then, however, the opportunity to establish a baseline has been lost. Unlike economics, which is rich in time-series data conducted year after year, values research is often done in ad hoc studies conducted sporadically, some published, most unpublished, some in the public domain, much of it not.

With changes in values expected to occur in the near future, baseline data should be established now, so that the opportunity to collect it is not lost. It is important to establish baseline, because the meanings and values of particular resources change over time and if forest management is to adapt to these changes, trends in values need to be documented on a regular basis (Robinson et al. 1997, Beckley 1997a). Furthermore, it can be used to determine whether the forest values held by society are being adequately sustained by present policies and practices. If they are not, this information can be used to assist in determining what corrective measures (e.g., policies, practices) are needed in order to sustain them. Essentially, the inventorying of values increases the demand that forest policies take them into account *ex ante*, and baseline helps in the *ex post* evaluation after the policy has been carried out (Healy & Ascher 1995).

In addition, baseline data is important to use in environmental assessments. If values were known before a project was developed, then significant amounts of time and money could be saved. Instead of mitigating or compensating for losses incurred from a project (e.g., loss of traplines due to flooding by dams), negative impacts and potential conflicts could be avoided from the outset.

2.1.4 Whose Values Should be Considered?

*The people must take a greater interest in the welfare of the forest.
Under our democratic system it is the privilege of every citizen to
participate actively...it is the duty of those familiar with forest values
to express public opinions for the guidance of governments
(Canadian Forestry Association, 1943 in Natural Resources Canada 1997).*

In Canada, ninety percent of the forests are publicly owned. As tax payers, owners and beneficiaries of this land, citizens, therefore, have the privilege and right to inform the

government(s) on the use and management of their forests. Public involvement is essential because it helps establish how and for what reasons forests are to be managed. Public involvement is both a means and an ends for developing effective forest management policy (Beckley et al. 1997a). At a time when the public is demanding that a greater diversity of forest values be sustained on the landscape, it is essential that the public is given the opportunity to inform the government on these values.

Acquiring this information is difficult since all citizens technically have a legitimate stake in the use and management of forests. As Robinson et al. (1997) suggest:

...an identification of all social values is required to develop a decision support system that facilitates the equitable integration of all forest values in a socially acceptable manner...Information about social values held by international, national, provincial and local region publics can provide an overall social context and vision within which forest management decision making can be made at the landscape level (Robinson et al. 1997).

However, the reality of the matter is that not everyone can, or is willing, to participate in setting objectives for forest management policy and practices. The problem that hinders public participation in forest management, thus, is determining who in the public *can* participate. This task does not become any easier since the public can be defined in many ways (Gregerson et al. 1996, Robinson et al. 1997). The public itself is a loosely organized group that changes in size and shape as it develops and passes into and out of existence along with an issue (Robinson et al. 1997); and individuals within the public can be part of many different "publics," shifting among them as the issues change (Higgelke & Duinker 1993).

However, Beckley et al. (1997b) provide a useful classification for breaking down and defining the public based on the following three broad categories: managers, active users and passive users. They define managers as the legal stewards, (e.g., individuals, groups or institutions) who have responsibility for the management of natural resources (Beckley et al. 1997b). Included in this category are government and non-government officials who have legislated (e.g., elected politicians), delegated (e.g., government agency

personnel), and negotiated (e.g., industrial lease holders) authority (Beckley et al. 1997b).

Active users are those individuals that derive some direct benefit from their relationship to, and use of, the forest. Active users can derive both psychological (e.g., experiential) and material (commodity) benefits from their use of the forest. Included in this category are loggers, trappers, canoeists, wild rice harvesters, bird watchers, hunters, paper mill workers, cottage owners, tourists or any other individual who participates in some activity that brings them in direct contact with forests or forest resources in a specified geographic area (Beckley et al. 1997b).

Passive users, on the other hand, are those individuals that do not have as direct a relationship with a specific forest area as the people who use it (Robinson et al. 1997). They may never see or experience any benefits of the forest directly, but they do value and attach importance to it based on the mere fact that it exists (i.e., existence values, option values) (Beckley et al. 1997b). Passive users' values are extremely important, for they define the broad social environment within which forest management decisions take place (Robinson et al. 1997).

Table 3. Matrix of Stakeholders Along Active/Passive and Psychological/Material Benefits Axis

	<u>Psychological Beneficiaries</u>	<u>Material Beneficiaries</u>
Active Users	Participants in recreation, nature viewing, appreciation.	Resource extractors and producers of commodities, subsistence users.
Passive Users	Consumers of forest based culture, heritage, holders of existence values.	Users of forest products, e.g., paper, lumber, furniture, wild game, maple syrup, etc.

Source: Beckley et al. 1997b.

As seen in Table 3, the categories are not mutually exclusive and any individual could be both an active and passive user, receiving both psychological and material benefits from the forest (Beckley et al. 1997). Since most Canadians derive benefits from within at least three of the four cells seen in the table (Beckley et al. 1997), this form of categorization provides a means in which to divide the public in order to get a good representation of values (e.g., economic, recreation, aesthetic, etc.).

However, it should be noted that different users claim they have legitimate access to the decision making process for different reasons. In the region of the Manitoba Model Forest, for example, legitimate access to the decision making process has been justified on the following grounds: contribution to society (e.g, job creation), moral and legal stewardship, legal/authoritative tenures, customary tenures/usufruct rights, majority rule (e.g., demographics, taxes, etc.), dependence on a resource (e.g., forest industry town), geography, and religion/spirituality (Beckley et al. 1997b). If forest management is to incorporate a broad cross-section of the public's values, then there should be adequate representation from each category of users, and a suitable balance between their competing claims of legitimacy in the decision making process. This is important, for as Gregerson et al. (1996) note:

No matter how many perceptions of values we identify, what ultimately matters in terms of action is the value perceptions of those who actually will determine what happens in the forest (Gregerson et al. 1996).

Ultimately the choice among competing values and claims becomes a judgement call by decision maker(s) who may be partial primarily to their own values (Gregerson et al. 1996, Cramer et al. 1993). Therefore, the process for determining whose values will be incorporated in forest management decision making should be done in a cooperative fashion with a good representation from the public so that the subjectivity of decision makers can be eliminated.

2.1.5 How Should Values be Identified and Assessed?

2.1.5.1 Processes For Identifying Values

Just as it is important to understand what values are and whose values to identify, so too is it important to understand *how* to identify them. This can be done using various processes such as public hearings and meetings, opinion polls, workshops, focus groups and quasi-experiments (Beckley et al. 1997a). The workshop and quasi-experiment are considered to have the most promise for effective input because they enable the public to participate directly with the decision makers, drawing information forth from actual experience rather than hypothetical situations (Beckley et al. 1997a). Using a combination of different processes to elicit values has also been suggested, since the shortcomings of one process could be countered by the strengths of the other processes (Beckley et al. 1997a). The combined use of processes could also help elicit a more colorful and broad array of values, providing a clear picture of what it is people truly value about the forest.

While it may appear a simple task to employ one of these processes, the current social and political climate dictate that processes should be established in a manner that yields values which people can respect (Parker 1995). It is not just a matter of identifying values, it is a matter of understanding how to identify values in a manner that is meaningful and acceptable. It has become widely recognized that communities need to “own” their values (Parker 1995). Processes employed to identify people’s forest values, therefore, have to be collaborative and purposeful to local citizens and the public at large.

This has arisen out of the fact that the public has become increasingly critical and distrustful of the way management decisions have been made in the past (Higgelke & Duinker 1993, Tanz & Howard 1991). Previously, the public was not substantively involved in the development of management plans and policy (Beckley et al. 1997a). As a result, they have become frustrated with processes that “end run” around them (Tanz & Howard 1991), or include them gratuitously at the last stage of the planning process. If managers and decision makers are going to attempt to identify the public’s values then processes should be established in a manner that can be widely accepted as both politically

and ethically valid (Parker 1995). This means that decision makers should know the processes that people accept and feel are effective. They should not rely on the processes they feel are effective, nor should they rely on their impressions of what they think the public feels is effective. As Beckley et al.(1997b) have noted in their assessment of stakeholders' values in the Manitoba Model Forest:

Very few citizens felt that public meetings were effective, while resource managers feel these are the most effective means to solicit public involvement, and the one they are most likely to use (Beckley et al. 1997b).

If decision makers fail to realize the importance of using the "right process" then citizens may continue to feel frustrated with these processes and consider it futile to participate in them. Conversely, it could lead to confrontation and hostility (e.g., eco-terrorism). In either case, it diminishes the opportunity to identify people's values and utilize them in a manner that could enhance forest management.

2.1.5.2 Methods For Assessing/Measuring Values

For the public's values to be used effectively in forest management and decision making processes they must not only be identified, but measured and assessed as well. Valuation methods are important complements to public processes, because they "enable managers, researchers and decision makers to examine values on temporal and spatial scales, and permit the specific comparison of different stakeholder groups on an equal footing" (Beckley et al. 1997a). As seen in Table 4, there are a number of different social science methods that can be used to measure and assess people's values. This is not a complete list of all the methods that can be used, but it does give a good indication of the variety of methods that are available. For further information on the various methods and their application Beckley et al. (1997a) should be considered. Specifics on each method, on the other hand, must be sought within the literature itself.

Table 4. Social Science Methods For Assessing/Measuring Values

<u>Economic Methods</u>	<u>Sociological/Pyschological Methods</u>	<u>Political Science Methods</u>
Direct Market Price	Quantitative	Policy Community/Policy Network Approach
Indirect Market Price	- Questionnaires	
- Residual Values	- Surveys	
- Value of Production in Increases	Qualitative	
- Surrogate Prices	- Participant Observation	
- Opportunity Cost	- Nonparticipant Observation	
Non-market Values	- Surveys	
<i>Direct</i>	- Case Studies	
- Contingent Valuation	- Delphi Model	
- Surveys	- Historical Analysis	
- Interviews	- Content Analysis Procedure	
- Questionnaires	- Picture Preference Procedure	
<i>Indirect</i>	- Discourse Analysis	
- Hedonic Pricing	- Group Analysis	
- Travel Cost		

Sources: Burgess et al. 1988, Kaplan & Kaplan 1989, Bengston 1994a, Gregerson et al. 1996, Beckley et al. 1997a, Lavalley & Suedfeld 1997.

However, since the concepts of value are diffuse (Beckley et al. 1997a), and people's values can change with different situations, it important to employ a number of different methods to capture the essence of what it is people value about the forest. As Bengston (1994a) states:

...each disciplinary approach to conceptualizing and studying values can contribute to a more complete understanding of the diverse values of forests and forest ecosystems. Sole reliance on any one perspective or analytical framework would provide an incomplete picture (Bengston 1994a).

Furthermore, some methods may not be adequate for measuring particular values. Burgess et al. (1988), for example, assert that quantitative analyses are not suitable media for

discovering feelings and meanings for the environment. It is believed that with quantitative analysis the essence of the everyday lifeworld is often removed from the substance of the research (Brandenburg & Carroll 1995). As stated in previous sections, it is important to understand the “lifeworld”, or context (e.g., determinants of values, value orientations, etc.), in which values arise because it assists in designing management practices that are socially acceptable.

However, quantitative methods, especially economic methods, have largely been used in the past as the basis in which forest management decisions have been made. Economic value measures establish a common metric of value (i.e., money) and thus can be used to establish values of unlike things such as timber and wildlife benefits (Gregerson et al. 1996). Because of this common metric the values of unlike goods and services can be added up and an aggregate of values can be established. This aggregation is useful for making comparisons of, and ultimately making decisions on, proposed forest management changes and use (Gregerson et al. 1996).

While these are valid reasons for utilizing economic methods, the sole reliance on such methods can be problematic as they preclude other values from entering into the decision making process. For example, in many Indigenous cultures certain resources are considered taboo or sacred goods and defy being valued in monetary terms. If resources must be valued using a different “currency” (e.g., money in the non-Indigenous context and another good in the Indigenous setting) then the lack of comparability will preclude values from being aggregated (Adamowicz et al. 1997). As such, the values of Indigenous peoples will not enter into the decision making process. Decisions which fail to include the values of Indigenous peoples can lead to inappropriate and unenforceable uses of the forests, which in turn can have detrimental effects on their cultures (Adamowicz et al. 1997).

Another problem with the use of current economic methods is that commodity values such as timber dominate the decision making process. If forests are valued only as sources for timber then they will be liquidated more rapidly than they would if other

services such as biodiversity or scenic values were explicitly taken into account (Healy & Ascher 1995). This is significant because the other values and uses of the forest (e.g., ecotourism opportunities) may not only be more valuable in the short run, but they may also be sustained over the long-term and potentially benefit more people (Abramovitz 1997). In Canada, for example, the tourism and recreational values of forests are expected to increase with increases in global population and development (Ontario Forest Policy Panel 1993, Natural Resources Canada 1997b). However, if these values are overshadowed in the decision making process by timber values, then Canadians could miss out on both the opportunities to profit from, and sustain, a variety of other economic and non-economic values.

Formal broader economic methods have had limited use in forest management decision making because decision makers tend to accept market values as being more logical and defensible than non-market values to use in a practical administrative context (Gregerson et al. 1996). However, most resource managers and decision makers are not trained in this area and are not exposed to the many concepts of economic value (Beckley et al. 1997a). Thus they may distrust other methods used to measure values. It is also assumed that the quantification of non-marketed forest values, such as wildlife, will make it easier for protective policies to compete with other policies that emphasize timber values (Healy & Ascher 1995). This competition may be at odds with current economic development policies which utilize market values.

Evidently, there are certain assumptions people make about the use and validity of different research methods. Science is not value free, and throughout any research process people can assert different assumptions and biases that will ultimately affect the research design and outcome. Brunk et al. (1995) provide a good example of this in their discussion on risk assessment. Their article focuses on an assessment that was done to determine the risk of cancer to farmers from the use of the herbicide Alachlor. Three assessments were carried out by the following agencies: the Monsanto Corporation (producer of the herbicide), the Health Protection Branch of Health and Welfare Canada,

and an appointed scientific Review Board. In each case the estimated level of exposure to the chemical that was believed could cause cancer differed widely. Estimates ranged from .0000009 to 2.7 mg/kg/day. Brunk et al. (1995) conclude that the discrepancy in the exposure estimates did not result from differences concerning the facts of the case, but rather resulted from differing *value assumptions* about the case (Brunk et al. 1995).

To combat such underlying assumptions, Hetherington et al. (1994) present a strategy which they argue assists in eliminating bias in the methods of measuring values. Moreover, they assert that their strategy, *critical multiplism*, provides the best strategy for understanding the multi-faceted values people assign to forests (Hetherington et al. 1994).

It is a strategy that is “critical” in the identification of biases inherent in methods of measurement, and is “multiplistic” in the strategic organization of an array of unavoidably imperfect methods in a manner that minimizes systematic biases. By selecting complementary samples of people and environments, methods, and contexts, researchers employing critical multiplism are better able to ensure that constant biases are avoided, and to inspire greater confidence in resultant empirical knowledge (Hetherington et al. 1994).

Bengston (1994b), however, contests that their strategy only helps in understanding one dimension of forests values, namely, the instrumental value of forests. He reasons that critical multiplism is based on a positivist-utilitarian approach that has already been extensively employed in past studies, and has limited use in measuring people’s values because it is too narrow and disregards the values (e.g., spiritual values, sense of place) that are truly critical in understanding the human dimensions of forests (Bengston 1994b). Bengston (1994b) concludes that, in order “to understand the diverse ways in which people value forest ecosystems - all of which are relevant for public forest management and policy - we need to look beyond the positivist-utilitarian approach.” He presents (1994a, 1994b) the case that there is a need for *methodological pluralism*, in which diverse disciplinary approaches and frameworks of analysis are combined to provide a more complete picture in how people value the forest.

Clearly, this debate reveals that human values and value orientations dictate people's perceptions and notions about the "goodness" or "badness" of all elements in life. This methodological debate hinges directly upon the values people hold within their worldview. It stems back to the discussion dealing with the new environmental paradigm and the dominant social paradigm. Depending which camp one is in determines their values and view of the world. To answer the question, *How should values be identified and assessed*, therefore, goes beyond merely providing a description of processes and methods. It even goes beyond offering valid reasoning for choosing one methodology over another. In order for values to be identified, assessed and incorporated into SFM, people must begin with an examination of their worldviews. They must step outside of their paradigms so that the values that are held within those paradigms do not limit them in their conceptions to change to a new form of management. Our methods, methodologies and participation processes are inherently limited by the underlying values held by people who utilize them. Thus for forest management to transform to a truly sustainable stage, people must understand the complex nature of values.

The first step to identifying and measuring values, as a result, should begin with training and education of values and value systems. Peyton and Decker (1987) suggest that many resource managers are in need of training which (1) broadens awareness of their own values and of public values, (2) increases their skill in using the valuing processes, and (3) makes them skilled in finding ways of incorporating this dimension into the management process. The present social and political climate, however, suggest that perhaps this training should be done in conjunction with the public so that everyone's values are identified and integrated at the outset and the underlying assumptions from one stream of society are eliminated. SFM could then grow from an accepted and coalesced group of societal values. As Maser (1996) notes:

...to save our planet and human society as we know it, we must be willing to risk changing our thinking in order to have a wider perception of the world and its possibilities, to validate one another's points of view or frames of reference. The world can be perceived with greater clarity when it is observed simultaneously from many points of view. Such conception requires open-mindedness in a collaborative

process of intellectual and emotional exploration of that which is and that which might be, the results of a shared vision (Maser 1996).

2.1.6 Where Should Values Work be Initiated?

Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed it is the only thing that every has (Margaret Mead).

Despite the fact that all levels of government in Canada have proclaimed principles of sustainable forest management and have accepted the need to manage forest resources sustainably, a gap remains in how forests are still actually used and managed (Redclift 1995, Ross 1995, Natural Resources Canada 1997). Little has been done in Canada as of yet to accommodate changing forest values at the landscape level. The problem with actually implementing change is that both knowledge and tools are still lacking (Brand et al. 1996).

People have been looking at ways to reform forest-sector policy in Canada and have looked at redirecting both property rights and tenures (Duinker & Bull 1991, M'Gonigle 1992, Ross 1995, Stone 1995). Stone (1995), for example, argues for a change in property rights which would allow for greater protection of the environment. He suggests that rights should be given to natural objects and the violation of rights against these objects (e.g., eagles, wilderness areas) should be a cost, declaring the "pirating" of them as an invasion of a property interest. Ross (1995), similarly, focuses on diversifying current forms of tenure to accommodate the needs and values of a variety of forest users such as local communities, Aboriginal Peoples, woodlot owners, and tourist outfitters. M'Gonigle (1992), on the other hand, calls for restructuring of the constitution. He believes Canada is in the need of an "eco-constitution" where social power would no longer be delegated from the Crown down, but be re-rooted to territorial communities and would work from the bottom up. He states:

In short, it can be argued that our constitution - that is, the fundamental political basis for the treatment of our resources and environment - is founded on several false assumptions about the nature of the individual, the irrelevance of community

and the neutrality of central power...[therefore] political restructuring (i.e., eco-constitution) could lead to much greater resource efficiencies (M'Gonigle 1992).

As radical as these ideas may sound, they are precisely what is needed to drive change in forest policy and management. However, the problem is that Governments must be convinced to pass legislation that will enable such changes to take place (Kimmins 1992). In order to convince them, therefore, it must be demonstrated that all parties concerned can benefit from these changes (Brand et al. 1996) .

As Parker (1995) notes, the rational democratic route for individuals to take who want to influence value change is to engage members of the democratic community in debate. She argues that “the development of reflective communities - wide-ranging communities of inquiry - can help justify faith in the ability of a revived local democracy to generate environmental values worthy of respect” (Parker 1995). Furthermore, since the values of forests and the responsibilities for safeguarding them, are held by a wide variety of people and organizations, cooperation is needed amongst everyone in order for the transformation to SFM to be achieved. Maser (1996) supports this point and believes communities are the appropriate scale for initiating and driving change, because “through collective action people can successfully resolve their issues as well as organize and implement change” (Maser 1996).

2.2 CHAPTER SUMMARY

The literature reviewed in this chapter focuses on two main areas. The first area describes the changes that have taken place in society and the reasons why values need to be accounted for in forest management. It explains the emergence of the new environmental paradigm, the values associated with it (e.g., sustainability, ecological integrity) and how the shift to SFM attempts to operationalize these values based on the concept and philosophy of ecosystem based management. The traditional paradigm of forest management, which is based on various political, economic, and scientific theories of the dominant social paradigm, have grown out of phase with the changes in societal values.

As such, the institutions, policies and practices that influence and shape forest management, diminish and undermine our ability to uphold the emerging environmental values of the new paradigm.

The second section of this review defines and explains the concept of values. More specifically, forest values are defined and classified, and the determinants and functions of values are described to give some insight into the diverse and complex nature in which forest values can arise. The basis upon which values should be used and considered in forest management is also discussed. It outlines whose values should be considered in forest management as well as how, when and where they should be considered.

Essentially, this review highlights the fact that the shift to SFM ultimately depends on the process in which values are utilized. Values must inform, influence and drive changes in forest management. Held and assigned forest values must be identified and implemented into forest management, so that the end states and benefits society values can be sustained. However, the identification and measurement of values cannot be merely implemented into the status quo system of forest management. This system has proven to be incapable of sustaining forest values in a manner that society deems acceptable. Values, therefore, must also be identified and used as a means to shift the traditional paradigm of forest management. In this sense, instrumental values, the means by which forests can be managed (e.g. efficiently, sustainably, meaningfully), are critical in the transformation of forest management.

The shift in societal values has not only brought forth the emergence of environmental values, but has prompted the emergence of some very core human values such as equality and justice. As such, society desires to participate meaningfully in the management of their forests. They want their values, their core and forest values, to be respected and given due consideration. This requires that forest management be designed collaboratively and in a fashion that can transform the present management system into a process that is both socially acceptable and biologically sound. Thus the complex nature of values must be completely understood and meshed into the process of forest management.

The held, assigned, intrinsic and instrumental values of forests, therefore, must be used by society to unravel and re-weave the pattern of forest management.

Chapter Three

METHODS

3.0 PREFACE

As this study was part of a larger research project done in conjunction with research undertaken by Dr. John Sinclair and Dr. Doreen Smith, the methods employed reflect those used within the broader project. While both this study and the research project were primarily based on a case study approach, several other methods were employed in the research process. These methods are presented in section 3.2 (data collection and analysis processes), and are described within the broader context of the project.

3.1 THE CASE STUDY AS A RESEARCH STRATEGY

The use of the case study as a research strategy is applicable in many circumstances, but was chosen as the research strategy for this study for several reasons. One reason, is that this type of strategy is preferred when the investigator has little control over the events of the study, or when the focus is on a contemporary phenomenon within some real-life context (Yin 1994). In light of the four cases used, this method was particularly relevant for describing the context of each of the Model Forests and highlighting the specific forest issues that challenge them.

Second, the central tendency among all types of case study research is an attempt to illuminate a decision or set of decisions: why they were taken, how they were taken, and with what result (Yin 1994). In each case study Model Forest this type of an approach enabled the researcher(s) to focus on the dynamics of each of the organizations and illuminate their specific management and decision making processes. This was important because it revealed how diverse forest values are, or could be, integrated into MF

programs, and what implications these decisions have for local forest management practices.

A third reason for using this method is that it allows an investigator to retain the holistic and meaningful characteristics of real-life events (e.g., organizational processes), thereby enabling him/her to carry out a general analysis of the phenomenon under investigation (Yin 1994). This approach enabled the researcher(s) to conduct such an analysis and provide a detailed description of each of the individual cases. It was also useful for making comparisons between the four case study Model Forests.

3.2 DATA COLLECTION PROCESS

3.2.1 Literature and Document Review

The first phase of the data collection process began with an extensive review of the literature on social values and forest management. This information was used to develop specific questions for the survey used in the interview process. A document review of relevant Model Forest reports was also carried out at this time. This review was used to supplement the literature and the design of the survey questions. Many of the following documents were used during this process: Phase II proposals, evaluations, annual reports and project reports.

These reports were received from the various Model Forests in response to a letter sent by Dr. John Sinclair in request for information. All Model Forests responded to this letter and provided the requested documents. This letter also introduced the research project to the General Managers and Program Management Boards of each of the ten Model Forests. Response to this letter was used to gauge the receptiveness of the Model Forests and to determine their willingness to participate in the research project.

3.2.2 Development of the Survey Instrument

The second phase of the data collection process involved the development of the survey. The survey included the following three theme areas: decision making and communication processes, change and social values. The theme areas were developed by Dr. Doreen Smith, Dr. John Sinclair and Ms. Angela Bidinosti, respectively, for their specific research purposes. The survey consisted of approximately 56 open-ended questions, of which 15 were specifically designed for the social values portion of the survey. Integration and review of the survey questions was done through a collaborative process by the study team.

Before the final survey was administered a scoping exercise was first carried out with the draft survey. The purpose of the scoping exercise was to assess the suitability of the survey and the appropriateness of the questions. This exercise was carried out with several representatives in the MF Program (e.g., CFS representatives, academics, General Managers). The feedback and comments from this review were then incorporated into the survey. The final survey was titled, "Survey of Views on Model Forest Activities Aimed at Achieving Sustainable Forest Management" (Appendix 1 - Social Values Section). Subsequent revision was made to the survey upon appraisal of the interviews conducted with members from the Manitoba MF (see Appendix 2 for revised questions). The final step in the development of the survey involved a review by both Ethics Committees at the Natural Resources Institute, University of Manitoba and the Department of Sociology, University of Winnipeg, with approval being given by both committees.

3.2.3 Interview Process

3.2.3.1 Case Study Interviews

The third phase of the data collection process involved the interview process. This process was carried out with four of the Model Forests in the Canadian Model Forest Program. The four Model Forests included: Manitoba, Long Beach, Lake Abitibi, and Foothills. These Model Forests were selected for several reasons. The Manitoba MF was

chosen since it was the funding agent for the project. It was also selected because its proximity to the study team helped facilitate the interview process, thereby alleviating both time and financial constraints. The other Model Forests were chosen based on their willingness to participate within the time frame that was set out for the research project (July to December 1997).

The Manitoba MF was the first Model Forest to participate in the interview process. The interviews were conducted during May and June of 1997. Eighteen interviews were conducted at this MF. As Drs. Sinclair and Smith were unavailable at the time to facilitate the interviews they were administered by Mr. Dale Hutchison and Ms. Angela Bidinosti. Mr. Dale Hutchison was chosen to assist in this project based on his experience in conducting similar interviews with the Manitoba MF two years previous. His assistance was only required during the interviewing stage.

Long Beach MF was the next MF site visited. The study team visited Long Beach for one week in July of 1997 and conducted 14 interviews. Lake Abitibi MF was also visited for one week in July of 1997 with a total of 12 interviews conducted. Foothills MF was the last MF to be interviewed and was visited for one week in December of 1997. Eleven interviews were facilitated by Dr. Smith and Ms. Bidinosti at that time. In total 55 interviews were conducted. During the visits to the MF sites the study team also had the opportunity to observe a Board meeting, tour the MF area and collect any further documentation needed for the study.

During the site visits, structured interviews were carried out with the General Managers and Program Management Board members of each of the Model Forests. Due to the nature of the survey questions, only those Board members who had participated in the Model Forests for at least one year or more were interviewed. In some cases this eliminated members who had only recently joined, and members who had formally held the position were interviewed instead. In other cases both the present and former members were interviewed (e.g., local government representatives in Long Beach MF) to gain both perspectives from Phase I and Phase II. These interviews were arranged prior to and

during the visit to each of the Model Forest sites. The majority of the interviews were carried out in person during that time. In some instances Board members were unavailable to be interviewed during the study team's visit, so a convenient time was arranged to interview the individual by speaker phone at a later date.

Each of the interviews took anywhere from 1.5 to 3 hours for each member to complete. Before the interview session began each respondent was informed of the purpose and scope of the research. They were also informed that they were not obligated to answer all the questions and could withdraw from the survey at any time if they chose. They were given the opportunity to ask any questions during the interview session as well. The interviews were facilitated by the whole study team (i.e., one person asked questions, other two recorded responses). All responses were recorded by hand during the interview session and were later typed into a computer. All final responses were compiled into both written and tabular form.

3.2.3.2 Interviews with General Managers (Non-Case Study Related)

This phase of the interview process took place between October 1997 and April 1998. These interviews were conducted with the General Managers from the Model Forests that were not visited by the study team for use as case studies. In total, five interviews were conducted by Ms. Bidinosti and involved the following Model Forests: Western Newfoundland, Bas Saint-Laurent (lower St. Lawrence), Prince Albert, Eastern Ontario and McGregor. Fundy MF did not participate. The purpose of these interviews was to ascertain information solely from the social values portion of the survey. This information was gathered in order to provide a general overview of the social values work that has been done in the Canadian Model Forest Program in general. It was also used to illustrate ways in which values have been incorporated into SFM practices across the nation.

Prior to the actual interview session all GMs were contacted by telephone to arrange for a convenient date and time in which the interview could be conducted. In three

Model Forests (Prince Albert, Eastern Ontario and Bas Saint-Laurent) the General Managers were unable to partake in the interview due to extenuating circumstances. *In abstentia*, another person (e.g., employee of the MF or Board member) with substantial knowledge of the subject was proxy for the GM. All of these interviews were done by telephone and took anywhere from .5 to 1 hour to complete. The same protocol was used for these interviews as that used during the in-person interviews. Each of the respondents was informed of the purpose and scope of the research project in general, and of this study specifically. They were also informed that they could withdraw from the interview process at any time and they were not obligated to answer all the questions. They were made aware that questions were welcome at any time during the interview session as well. The responses were recorded by hand during the interview session and then later typed by computer into written and tabular form.

3.3 DATA ANALYSIS PROCESS

The data collected in the surveys were analyzed using qualitative techniques. For each of the questions in the survey frequency responses were determined in order to obtain an indication of the respondents' views on the issues surrounding values. Comments made by respondents were used to qualify and supplement this data. Specific trends in the data were noted at this time as well. To complete the data analysis process observations from the Board meetings, and information gathered from MF documents were later triangulated with the survey results. The analysis of each case study is presented in Chapter Four. A comparison of the four Model Forests is presented in Chapter Five.

It should be noted that during the interview sessions responses to questions were recorded in their respective section of the survey (e.g., decision making and communication processes, change and social values). However, many respondents gave detailed and important information regarding values in the other portions of the survey. As this information was befitting for use in this study's case studies it was incorporated into the analysis, but was analyzed in the context it was given (i.e., decision making,

communication, change).

The process used to analyze the results from the General Managers' interviews followed that used for the case studies. In order to analyze all of the Model Forests collectively, the GM responses from the four case study Model Forests were extrapolated from the case study survey results and compiled with the other GM's responses. Information from various MF documentation and the national evaluation of the MF Program was then triangulated with the survey results to complete the analysis. This analysis is presented in the following chapter.

Chapter Four

AN ASSESSMENT OF VALUES RESEARCH

4.0 INTRODUCTION

Forest managers, decision makers and the public alike have been wrestling with the concept of managing forests sustainably. To put this concept into action, however, the values that people hold with regard to forests must first be understood. It is important to understand these values, because they can help set objectives and normative conditions for forest management.

As one means to initiate SFM in Canada the Model Forest Program was created. In Phase I of the Model Forest Program (1992-1997) one of the main objectives was to accelerate the implementation of SFM practices. The program is now in its second phase (1997-2002), with an increased and broader set of objectives. One of these objectives has been specifically directed at encouraging each Model Forest to incorporate a broad range of forest values into their programs. The focus of this study was to compare how the Program Management Boards of each of the Model Forests have attempted to integrate forest values into their activities.

The results of the four case study Model Forests are first presented, followed by the results of the interviews with the General Managers of all the Model Forests. The case study Model Forests are presented in the order in which they were interviewed, Manitoba, Long Beach, Lake Abitibi, and Foothills. Each case study is divided into three main sections. The first section provides a brief overview of each Model Forest to give the background and context in which they exist. An analysis of the results is then presented in the section titled *values research*. The final section critiques and summarizes the values research of each of the Model Forests. The interview results with all the MF General Managers are presented in the same fashion.

4.1 MANITOBA MODEL FOREST

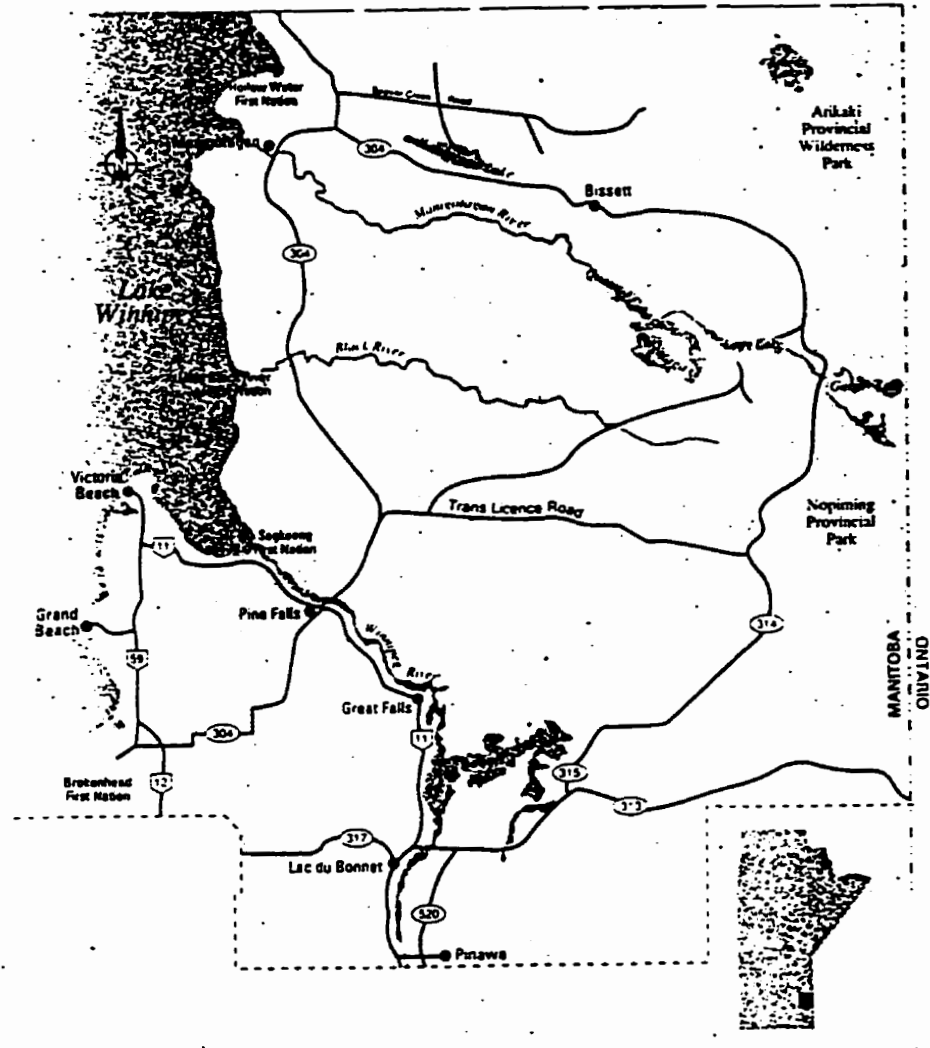
4.1.1 Overview

The Manitoba Model Forest (MBMF) is located in the southeast region of the province within the area between Lake Winnipeg and the Ontario border. It is approximately 100 km northeast of Winnipeg (Figure 2). It spans an area of over 1 million hectares and contains four different types of boreal forest. It has an extraordinary diversity of sensitive ecosystems ranging from upland jack pine ridges to lowland spruce-tamarack swamps. Represented within the boundaries of the MBMF are both recreation and wilderness parks (Grand Beach, Nopiming and Atikaki), private woodlots, four First Nation reserves (Brokenhead, Hollow Water, Little Black River and Sagkeeng), provincial forest, and a large Forest Management area licensed to Pine Falls Paper Company (PFPC) (Natural Resources Canada 1996).

Along with its diverse ecological features, the MBMF also has a diverse socio-cultural mix. Being in close proximity to Winnipeg it has a high seasonal influx of people for recreational purposes, several First Nations, a small Metis population, and several small communities including Pine Falls, which is dependent upon the pulp and paper industry (Natural Resources Canada 1996).

The MBMF was selected as one of the eleven MF sites in Canada in June 1992 by the Canadian Forest Service, and officially joined the Model Forest Network on June 3, 1993. Its business office is located in the town of Pine Falls, adjacent to the Pine Falls Paper Company office. The affairs and activities of the MBMF are conducted by its managing partners by virtue of membership on its Program Management Board (i.e., Board of Directors). The Board makes decisions using a combined approach of consensus and Roberts Rules of Order (i.e., consensus is aimed for, but a final vote is taken on all decisions). Each member of the Board is to act as a conduit between their member organization and the board; reporting to their organization the business of the Board and relaying their organization's views back to the Board.

Figure 2. Manitoba Model Forest



Source: Manitoba Model Forest 1995.

At the time of interviewing, 14 of the 20 Board seats were active, and included the following managing partners: the Province of Manitoba (Department of Natural Resources), the Pine Falls Paper Company Ltd., the Universities of Manitoba and Winnipeg, Time to Respect Earth's Ecosystems (T.R.E.E.), the Manitoba Naturalists Society, Municipalities and Local Government Districts within the Model Forest area, the North East Sustainable Development Association (NESDA), Union Locals connected to the Pine Falls Paper Co. Ltd., a local Economic Development Association, and the Woodlot Association of Manitoba. The First Nation's and the Manitoba Metis Federation Southeast Region seats were inactive at the time. At present the Board has expanded to 30 seats of which 22 are active.

In the course of the research, at least one person from each of the active partner groups was interviewed, with the exception of Pine Falls Paper Company, the Province of Manitoba and NESDA who had two representatives interviewed. The Canadian Forest Service representative and a representative from the Provincial Department of the Environment were also interviewed. The representative from the Department of the Environment had been involved in the IRM working group and was waiting to be appointed a seat at the Board at the time of interviewing. In addition, the General Manager and the Executive Assistant of the MBMF were interviewed for a total of 18 interviews.

4.1.2 Values Research

Values can be identified in a variety of ways, using both formal (i.e., direct) and informal (i.e., indirect) means. Formal means are directed at explicitly identifying values using some type of research method or approach (e.g., surveys, interviews, contingent valuation). On the other hand, values can also be identified indirectly through informal means, such as conversations and observations, in which the objective of the process is not necessarily to acquire values, but values are emitted due to the nature of the occurrence.

To assess what attempts had been made to identify and incorporate values research

into the MBMF program, respondents to the survey were initially asked if *formal* attempts had been made to identify the forest values of Board members. Of the eighteen Board members interviewed from the MBMF, nine of the respondents indicated that formal attempts had been made. Half of these respondents believed it had been done through several of the projects undertaken by the MF. The other half felt it occurred by virtue of the Board's composition and indicated that values could be identified implicitly through the representatives themselves and through the discussions that occur amongst them. Several of the other respondents did not think that any formal attempts had been made to identify values and were unaware if any opportunities for such an initiative were forthcoming.

Table 5. Values Perceived to be Present Among the Manitoba Model Forest Program Management Board

- | |
|--|
| <ul style="list-style-type: none"> • From timber to aesthetics and everything in between. • Those that don't want to see the forest clear-cut and those that want to see the animals and birds preserved. • Some want to make money off of the forest. Others like recreational values, traditional values, economic values, and preservation values of environmental people. • Some value that there should be no cutting, others value that they should do cutting, and other value that they should cut and let no one else do it. • Utilization of the resource, preservation of the resource, maintenance and sustainability of the resource, regional economic development, and implications on regional economic development. • Each of us has our own agenda. However, we do not have cutters sufficiently informed and do not have methods to change their methods. • Recreation, aesthetics, economic, ecosystem health. • Jobs, recreation, environment, preservationists, conservationists, livelihoods from forests. • Biodiversity, participation of Aboriginals, and use of the forest (i.e., jobs). • Some on the Board hold forestry values (i.e., that the forest should be used - forest production). Other values are consistent with sustainable forestry and allocation issues. Other people want to look at all forest values and what things other than trees might be used in the forest. |
|--|

Regardless of whether values were implicitly understood or explicitly expressed, all of the respondents indicated that they could identify the forest values held by other Board members. Tables 5 and 6 reveal the values that the respondents believed were present among the Board. Table 5 highlights the values that some respondents perceived to be

present among the Board in general, whereas Table 6 outlines the values that partner representatives identified as being specific both to their own group as well as to other groups.

Table 6. Specific Values Identified by Partner Representatives of the Manitoba Model Forest Program Management Board

Canadian Forest Service:

Forest Values Identified by Partner Representative:

- CFS does not have a “forest value” because they only study forests.

Forest Values Identified by Other Partner Representatives:

- No response given.

Manitoba Naturalists Society:

Forest Values Identified by Partner Representative:

- Strong emphasis on the desirability of maintaining the integrity and biodiversity of the area. Making the area available as much as possible for non-consumptive use throughout all the times of the year.

Forest Values Identified by Other Partner Representatives:

- Maintaining natural processes and functions of the forest to ensure air and water quality.

Municipalities and Local Governments:

Forest Values Identified by Partner Representative:

- We value the trees and the wildlife. We all care about the things in the forest.

Forest Values Identified by Other Partner Representatives:

- No response given.

North East Sustainable Development Association (NESDA):

Forest Values Identified by Partner Representatives:

- Perpetuity of the forest.
- We value the forest because we live, work and play in the area. We value it for an economic and heritage area. We value the forest for all forest values. We value it as a resource - cultural, heritage and financial. We see ourselves as part of the ecosystem and sustaining with it.

Forest Values Identified by Other Partner Representatives:

- No response given.

Pine Falls Paper Company Ltd.:

Forest Values Identified by Partner Representatives:

- Continue the utilization of the resource.
- Timber, wildlife and getting the best out of the forest without impacting the forest. Our mission statement deals with passing the forest on to our children in good stead.

Forest Values Identified by Other Partner Representatives:

- Economic value, sustain forest since the Company is community owned.

- Value black spruce.
- Economic opportunities.

Province of Manitoba (Departments of Environment and Natural Resources):

Forest Values Identified by Partner Representatives:

- Sustainable development. All development should be done sustainably. Our department puts the environment in front of economy. Our mission statement is to ensure a high level of environment quality through sustainable development.
- Resource for everyone and we want to operate in a way that won't compromise one over the other. Ensure timber harvest does not compromise other values. Our mission statement deals with sustainable development and forestry.
- We value everything out there and always have. For example, in the Duck Mountains we value moose, trout, hiking trails and buffers along the lakes for the last 60 to 150 years. However, we now have buzzwords for this.

Forest Values Identified by Other Partner Representatives:

- Don't care.

Time to Respect Earth's Ecosystems (T.R.E.E.)

Forest Values Identified by Partner Representative:

- Wildlife, ecosystem integrity, productive forests, clean water. To actually protect natural resources and wilderness. We have benchmarks and look at preserving old growth.

Forest Values Identified by Other Partner Representatives:

- Interest in maintaining ecological integrity.
- Value preservation of representative areas.
- How forests relate to hiking trails.
- Environmental issues.
- Maintaining natural processes and functions of forest to ensure air and water quality.

Union Locals (PFPC):

Forest Values Identified by Partner Representative:

- They could be a very vocal group if it tried to stop cutting, but they have a "if it's not in my backyard don't do anything about it" attitude if there is no threat to them.

Forest Values Identified by Other Partner Representatives:

- No response given.

Universities of Manitoba and Winnipeg:

Forest Values Identified by Partner Representatives:

- There is no collective vision of forests within my organization because it is made up of a number of individuals.
- To maintain the ecological integrity of the forest for those who are involved in the program.

Forest Values Identified by Other Partner Representatives:

- Try to play leadership role and role of neutrality. Perceived as being on side of environmental groups. In quest of information so that correct decisions can be made.

Winnipeg River Brokenhead Community Ventures Futures Development Corp.:

Forest Values Identified by Partner Representative:

- To provide employment opportunities. But there are more opportunities than just cutting

the forest. There are things like heritage and natural, holistic healing. These things have never been explored. WRBDC can get involved in new opportunities that come out of the MF.

Forest Values Identified by Other Partner Representatives:

- No response given.

Woodlot Association of Manitoba:

Forest Values Identified by Partner Representative:

- Our ideas are different than a foresters. We want to plant trees, but not necessarily to harvest them. We want to beautify the land, use them [trees] for recreational purposes, grow ginseng and berries, and use the wood for walking sticks, etc.

Forest Values Identified by Other Partner Representatives:

- No response given.

The majority of respondents indicated that they were attempting to translate their values into action (i.e., make them recognized/legitimized), and felt that the MF was a viable vehicle to assist them in doing so. While most respondents were putting their values into action through the work of their own organizations, several people felt the MF was an effective means to assist them in such endeavours since it could help foster new relationships and create a greater awareness of certain forest management strategies (e.g., criteria and indicators).

Moreover, all the respondents felt that the MBMF has served as a good means for bringing people together that hold diverse forest values. Half of the respondents indicated that it was through certain projects undertaken in the MF (e.g., video on sustainable development), or through discussions at either the Board or working group level (e.g., Social Issues Group) that members were able to gain a better understanding of each other's values. In turn, the other half of the respondents believed that certain processes like formal workshops (e.g., conflict resolution) or research projects (e.g., surveys) should be put in place in the future for members to maintain an understanding of each other's values. One respondent also made the suggestion of limiting the Directors' stay on the Board since this could alleviate burn out, bring in new perspectives, and help capture changes and differences in social values.

This capturing and bringing together of diverse values has made an impact on the MBMF, as ten respondents affirmed that there have been changes in the decision making

process of the MF due to the consideration of partners' values. Many of these respondents believe this has largely come about because people have been able to get a better understanding of the values present at the Board which has induced changes in their attitudes. As a result, Board members have tried to find common ground in the midst of diversity and have made changes with regards to the input of the Phase II proposal, the involvement in projects (e.g., moose management project) and the consideration of additional seats for Aboriginal groups at the Board.

The decision making processes of the Board seem to be affected, not only by the values present among the Board, but by the composition of its membership as well. While eleven respondents disagreed that any one group's values were *formally* given more consideration than any others for inclusion in the decision making process of the MF, the majority of respondents did believe that certain concessions have been made *informally* to some groups. Several people felt that Pine Falls Paper Company was given more consideration because of their influence in the area. Conversely, other people felt the Aboriginal groups have had an influence in the decision making process based on their absence and by the number of seats that have been designated for them at the Board. A few respondents felt that consideration in the decision making process was based more on the strength of the individual (i.e., "squeaky wheel gets the grease") or by virtue of their involvement with certain projects.

While the values of Board members may be considered in the decision making process of the MF, and may have influenced certain changes, it seems they have not had any influence outside of the MF as of yet. As thirteen respondents have indicated, the Board has not considered how the values held by the its members might apply in forest management decision making inside or outside of the organization. However, many respondents believe they have the potential to impact other decision making processes since the Board could test different methodologies for gathering and incorporating values into their operations. They could then disseminate this information to other organizations who, in turn, could adapt these new processes to reflect the context of their own situation.

Examining values at the Board level is important for understanding its function and its implications for SFM. However, if the implementation of SFM is to be accelerated and applied at the landscape level, it is important to examine and understand the values of community members as well. Based on the responses given by the majority of respondents it is evident that the MBMF has given consideration to this issue. Fifteen respondents indicated that the MF has considered engaging in values research among the broader community not directly involved in the MF organization.

It appears though that very few Board members know what has been considered in this regard. While there has been some values work done in the MF area, very few respondents seemed to be aware of it. Only three respondents make any mention of it in their responses. For example, most respondents did not think that work had been done in assessing how different Board members perceive the legitimacy of other partners and their values, even though there has been research done in relation to this issue.

Furthermore, the majority of respondents did not know if this research had induced any changes in the functions of the Board or in their understanding of other people's values. Most respondents also indicated that the Board had not yet considered sharing the findings of the values research with outside groups or how it could use it to influence forest management decision making outside of the MF. However, several people did indicate that if the MF were to undertake further research it could potentially use this information to influence decision makers.

Despite the fact that MBMF has not utilized much, if any, of its values research (Beckley & Sprenger 1995, Beckley et al. 1997a, Beckley et al. 1997b), the majority of respondents felt that the MF has increased their appreciation of the ways in which other people value the forest. Most members indicated that they had gained a greater awareness of different values and could thus appreciate the diverse ways in which people use the forest. This has had an obvious affect on the Board, as many people felt that the Board has learned to work together so that "mistrust can crumble away and they [Board] can find mutual compromises" to the challenges posed by SFM. It was also noted that even though

“Aboriginals haven’t participated well in the MF... we have learned much about their values even in their absence” (e.g., cross cultural workshops, project presentations).

Subsequently, many respondents believe that research can create awareness about the diversity of forest values and is one way to assist in accelerating the implementation of sustainable forest management practices. Most Board members felt that values research done by the MF, and in conjunction with other agencies and processes (e.g., EBM and criteria & indicators with the Province), could help inform decision makers about the management practices needed for integrating and sustaining different values on the landscape. As one respondent stated; “Through social values research... it should become evident to decision makers that different things can be done with forests to reflect these other values.”

4.1.3 Critique: Values Research in the Manitoba Model Forest

In light of these responses, it is evident that MBMF is beginning to grapple with the issue of forest values. Much work remains to be done in order to understand the complexity of this issue and it is up to the Board to guide the process. In its attempts to deal with this issue the Board of the MBMF has been effective for bringing people together that hold diverse values. All respondents attest to this fact and believe it has helped “open their eyes” to new perspectives. This is largely evident in the structure of the Phase II proposal and the decision making process of the Board. As many respondents indicated, they felt the Board has worked together to find common ground, which in turn has influenced the attitudes and opinions that have gone into shaping these processes.

The MBMF has also been effective in assisting groups to translate their values into action. It seems the MF is a good medium for the different groups to sound out their views and channel them through the available means of the MF (e.g., projects, proposals) so that they can be heard. And it is apparent that they have been heard, as most respondents believe they have gained a greater awareness and appreciation of the ways in which other people value the forest.

However, it is questionable how well they have been comprehended. While half of the respondents felt formal attempts had been made to identify the values held by the Board members, it is obvious from most responses that respondents could not readily identify the values of the groups participating on the Board (see Tables 5 and 6). Many respondents may not have felt comfortable in doing that or may not have interpreted the question as asking for that, which are valid considerations to take into account.

If there had been formal attempts to share values though, it would only seem reasonable that respondents would be able to identify values in a more specific manner. Most values were just stated as existing at the Board with very little reference being made to any one particular group(s). A few groups such as PFPC and TREE were specifically made mention of, but as several respondents stated, values are often inferred just on the basis of a group's representation. Furthermore, the identification of Aboriginal values were highlighted in a response, even though they do not have a representative sitting on the Board. This suggests then that values are inferred more implicitly and informally based on the strength of the individual representative or group. It appears the formal attempts that have been made to identify values have had a minimal effect on the Board. The comprehension of values seem to be at a basal level, and are learned more intuitively by individuals indirectly through discussions rather than by overt expression.

It was recommended in the "Sinclair Study" (1995) that the Board should attempt to build a common understanding of the values and perceptions among its members. Given the number of values identified by the various partner groups (see Tables 5 and 6), it is evident that the Board has not given much consideration to this recommendation. It was stated by some respondents that the "Sinclair Study" was useful for redefining the Board's focus in Phase I and assisted in the development of the MF's Phase II proposal. However, it seems to have had little to no impact on the Board with regard to values research and work. This is an unfortunate omission by the Board because one of the program objectives for Phase II specifically states that the MFs should encourage a broad range of forest values into their programs. If the process of understanding values does not begin at the

Board, then it is questionable how well they can design projects that are directed at incorporating a broader range of values into their program.

The valuation process has not been completely overlooked in the MBMF, however, as a workshop was held in the fall of 1997. This workshop was held so that the Board might begin to identify and share their values. At present, however, little is known about the outcome or effects the workshop has had on the Board. Two other workshops were held in the spring of 1998 as part of the MBMF's valuation process. The work from one workshop has been used to develop goals and indicators for Pine Falls Paper Company ten year management plan. The results of the other workshop are in the process of being analyzed, but are intended to be used to develop a common research framework (i.e., methodology) for identifying and assessing a plurality of non-market values in the MBMF.

This work is important because it can assist in the establishment of baseline data, which would help the Board in affirming common ground and a collective vision. It could also help members keep abreast of changing values should present representatives resign or any vacant seats at the Board be filled. In addition, it could dispel any mistrust or misconceptions people may have about certain groups attaining more access to the decision making process of the MF due to the consideration of their values (e.g., PFPC).

It should be noted that there has been other values research done within the MBMF. Most of this work has been initiated by the Canadian Forest Service and includes the research carried out by Beckley et al. (1997a, 1997b). Their research focuses on some of the underlying attitudes and values of the MF Board members, as well as their opinions on effective public participation processes. Research has also been carried out by Beckley and Sprenger (1995), who look at the socio-political dimensions of the communities in the MF area. However, it appears that very little has been done with this information since very few respondents made mention of it or seemed to be aware of it. At this juncture of the valuation process it is important to consider this information because it can help design processes that are culturally sensitive and socially acceptable. Furthermore, by understanding the broader context in which SFM might apply and the impending tasks

needed to accelerate it, the Board might be able to better define their focus in achieving the objectives of the program.

Sustainable forest management practices can be tested and recommended for implementation through research work done by the MF, but the final acquisition of this goal must be exercised through the policies and practices of forest management decision makers. Thus, the work of the MF must be well orchestrated by the Board in order for it to make an impact on decision makers and have relevance to the goals of SFM.

As most respondents felt the MF has the potential to offer advice and influence decision makers, the values work done by the MF must be comprehensive and sound at all levels (i.e., Board and community level). Many respondents indicated that the policy problems in the province are related to the annual allowable cut and the fact that it precludes the actualization of some forest values. While the majority of the same respondents believe that recommendations of MF projects have implications for forest management policy, little has been done in regards to defining the diverse nature of values that exist on the landscape. What work the MF has initiated, very few people are aware of. Therefore, the Board must have a full comprehension of the magnitude of this work and should have a well defined focus to instigate projects that will have a profound enough impact to accelerate change aimed at achieving this end.

The Phase II proposal of the MBMF has addressed such issues and has set out objectives to drive this process. Community values research will be done in the area of the MF in conjunction with the Province through their ecosystem based management (EBM) pilot project. The work coming out of this project will be used to develop a future process in which to use EBM in Manitoba. The results of this project may help develop recommendations for the EBM process, but will not ensure concrete changes are applied on the ground at this time. The MF, as a result, is instrumental in providing “a conduit for a transfer and understanding of values amongst the stakeholders” and forest management decision makers.

As it was indicated in the survey, the MBMF has liaised most closely with the PFPC and the Province. Through the EBM project they have an opportunity to truly inform policy, management practices and negotiate change. As one respondent noted; “the problem with the MF is that no one thinks of taking advice out of the *MODEL* and putting it into reality.” For the MF to be “a beacon of hope in this province” the Board thus, must continue to look objectively and positively at its design and responsibilities in order to achieve the goals it was set out to meet.

4.2 LONG BEACH MODEL FOREST

4.2.1 Overview

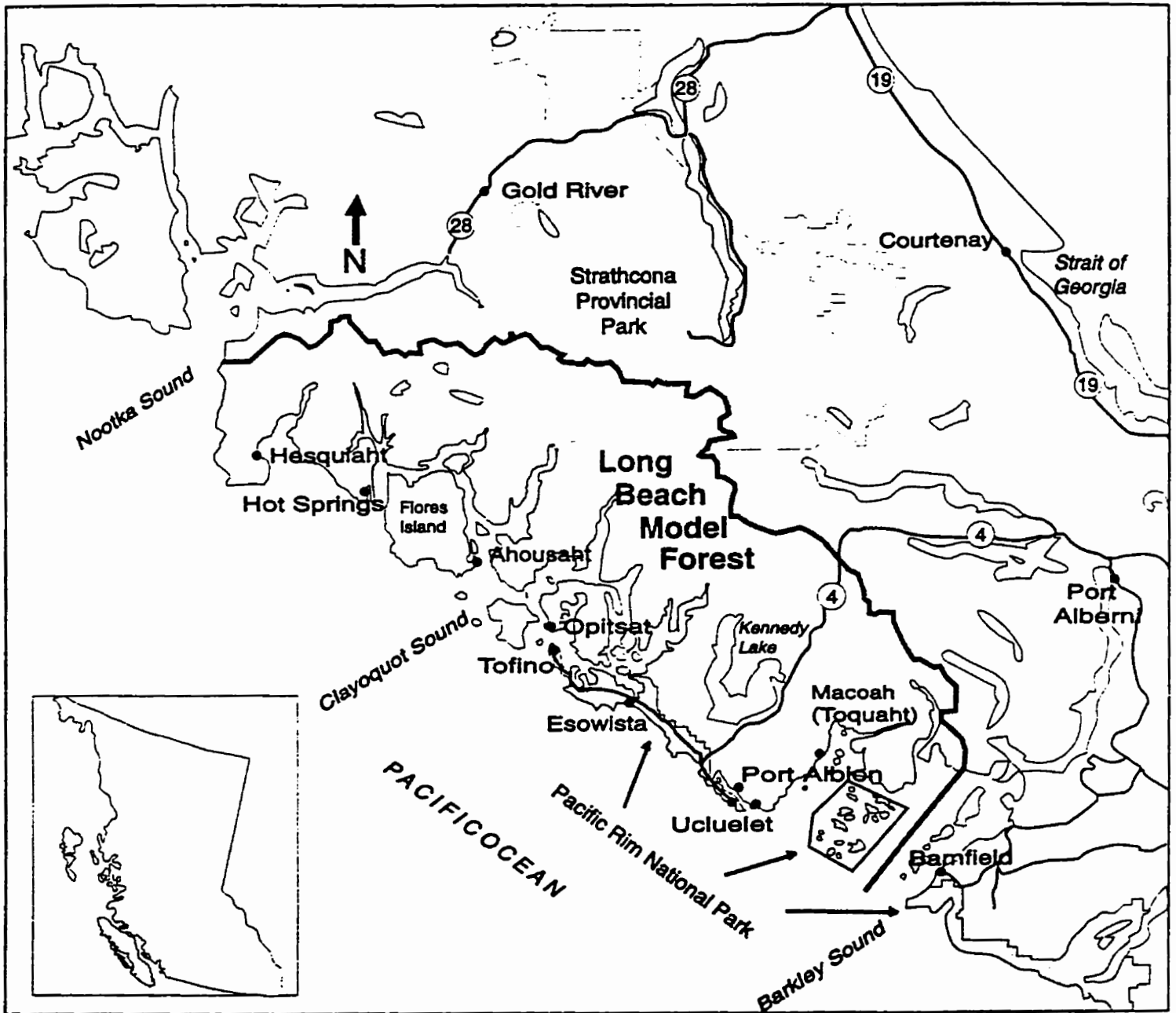
Long Beach Model Forest (LBMF) is situated on the west coast of Vancouver Island. It covers an area of 400 000 hectares (Figure 3) and contains an extraordinary variety of marine and terrestrial ecosystems. With the mild, wet climate allowing plants to grow year-round and wild fires being rare, the conditions in the area of LBMF area have permitted the development of old-growth forests dominated by very large, long-lived trees such as western hemlock, Sitka spruce, western red cedar and amabilis fir (Long Beach Model Forest 1997).

Included within the boundaries of Long Beach Model Forest are Pacific Rim National Park, Clayoquot Sound and eight principal communities. Approximately equal numbers of First Nations and non-First Nations people live within these communities. Ucluelet and Tofino are the only non-First Nations communities in the LBMF area, which contain the Long Beach Model Forest Office and Rainforest Interpretive Centre respectively.

The west coast region in which LBMF is situated has a long history of land use conflict and negative experiences; with the controversy in Clayoquot Sound being the most notable in recent years. With the negotiations between First Nations and the Province of B.C., and the establishment of the Clayoquot Sound Scientific Panel, LBMF was established later than most Canadian Model Forests in order to develop organization arrangements that could accommodate all the different interests and processes in the region. However, by September 1994 it was incorporated into the network (Long Beach Model Forest 1997).

The LBMF Board is comprised of 14 directors who are each elected to represent a local sector. Community members are invited to become a member of the society by joining a sector. Particularly unique to this Model Forest is the inclusion of a youth representative that sits on the Board as an equal partner to all other sectors.

Figure 3. Long Beach Model Forest



Source: Long Beach Model Forest 1997.

The Board operates using a philosophy of shared decision-making and consensus, and there must be complete consensus before the Board initiates any action. Like all Model Forests, the members report the happenings of the Board to their sector group and bring their groups views back to the Board.

Of the 14 sectors that comprise the LBMF Board, the following 12 were available to be interviewed during the study visit: Federal Government (Pacific Rim National Park), First Nations Government, Provincial Government, Local Government, Social and Economic Sustainability, Conservation Science, Youth, Value-added, Fisheries, Recreation, Tourism and Education. The Major Manufacturers' (MacMillan Bloedel) seat was vacant at that time, and the Labour Sector representative was unavailable for either an in-person or telephone interview. The Acting General Manager was interviewed, and both the former and present representatives of the Local Government Sector were interviewed for a total of 14 interviews.

4.2.2 Values Research

Of the fourteen members interviewed nine affirmed that formal attempts had been made to identify the forest values of the Board. Most of these respondents indicated that attempts had been made through such means as workshops, meetings, presentations and discussions at the Board table. Conversely, four of the respondents felt that the Board's values were identified more on an informal basis, and indicated that it had been done indirectly through certain projects and programs (e.g., Traditional Ecological Knowledge and inventories on First Nations' cultural values), or through sector representatives themselves. For example, one respondent noted that, "the sectors divide off pretty clearly and speak for themselves." Some respondents mentioned that it was helpful to learn about other sector's values and felt the LBMF was a good forum for addressing them. Others felt that values sharing should happen on a regular basis within the Model Forest or that a values sharing exercise should be revisited, since much of this sharing had been done at previous meetings during the formation of the LBMF.

Given that twelve respondents felt that they could identify some of the forest values held by Board members participating in the Model Forest, it is evident that both formal and informal processes have been effective in drawing forth the values of sector groups. While most respondents identified specific values that they thought were characteristic of specific groups, some respondents gave more generalized statements about sector's forest values. For example, one respondent felt that "everyone recognized the need for more careful logging," whereas another individual mentioned that "many sectors had monetary values." In addition, one respondent felt that all the sectors themselves were representative of their values. The summary responses outlined in Table 7 reveal what sector representatives identified as being forest values for their own sector as well as those of other sectors.

Table 7. Specific Values Identified by Sector Representatives of the Long Beach Model Forest Program Management Board

Conservation Science:

Forest Values Identified by Sector Representative:

- Biodiversity.

Forest Values Identified by Other Sector Representatives:

- Preservation of forests.
- Biocentric values and concerns about forestry. Less clear-cutting, more value-added.
- Religious and spiritual values.
- What part the forest plays in the ecosystem and the Earth.
- Trees left standing.

Education:

Forest Values Identified by Sector Representative:

- Education has a vision to try to communicate all the exciting news about the ecosystem.

Forest Values Identified by Other Sector Representatives:

- Children and a sense of forest values.
- Move to environmental side of things (forest management issues/forest values).

Federal Government:

Forest Values Identified by Sector Representative:

- Our mandate is for a healthy forest ecosystem and a sustainable environment in which humanity is included. First Nations are our biggest ally.

Forest Values Identified by Other Sector Representatives:

- Tax revenue.

First Nations:***Forest Values Identified by Sector Representative:***

- Respect for Mother Earth and everything that is connected. If we take too much of the forest out it will affect all life.

Forest Values Identified by Other Sector Representatives:

- Value the life of the forest and what they will pass on to the next generation (heredity). The cedar is life to them.
- Traditional uses of the forest.
- Not sure. Put corporation in place of forest management - sustainable forestry.
- Home.
- Cultural values.
- Religious and spiritual values.
- Religious values.

Fisheries:***Forest Values Identified by Sector Representative:***

- We value the protection of salmon and riparian zones. We need to protect salmon values as they relate to forestry. Bad forestry practices have created down turns in the fishing industry.

Forest Values Identified by Other Sector Representatives:

- Want to know how logging has impacted fisheries.
- Aquatic areas.
- Fish production.

Labour:***Forest Values Identified by Sector Representative:***

- No response given.

Forest Values Identified by Other Sector Representatives:

- Value work (concerned on how to bring the forest down).
- Jobs.

Local Government:***Forest Values Identified by Sector Representatives:***

- Resource use - resources have an economic value.
- To get a bit more people focusing on forestry - a working forest. Things have got to change, we can't just cut and cut.

Forest Values Identified by Other Sector Representatives:

- Local economy.
- Status quo employment issues.
- Maintain all relations with MacMillan Bloedel.

Major Manufacturers:***Forest Values Identified by Sector Representative:***

- No response given.

Forest Values Identified by Other Sector Representatives:

- Lacklustre of process. The representative represents what they do. They are wanting to feed mills and markets outside of the region.
- Profit and public relations value (to get positive PR).

Provincial Government:

Forest Values Identified by Sector Representative:

- In the Scientific Panel the Province put forth the message that they are trying to legitimize and address all the values that are out there. It is trying to do everything it can to see the process through and find resolution. There is a commitment to find a process that works out here and have people buy into it. We aren't sure what will work and what the costs/benefits will be.

Forest Values Identified by Other Sector Representatives:

- Maintain status quo. Protect agency. Do what they are told.
- Tax revenue.

Recreation:

Forest Values Identified by Sector Representative:

- A supply of drinking water where I'm camping, I don't want pollutants. Places to explore, habitat for species I want to observe, a source of edible plants, a source of fish I can catch, a source of game to hunt if I hunted, a place to camp and driftwood for fire though this comes as a by-product of logging.

Forest Values Identified by Other Sector Representatives:

- Want scenic corridors to be established.
- Ecotourism.
- Habitat.
- Recreational activities in the forest and aquatic/marine life.

Social and Economic Sustainability;

Forest Values Identified by Sector Representative:

- My sector is pretty broad. It includes groups from Ecotrust to Clayoquot Sound (CSSDSSC) and we have varying degrees of interests.

Forest Values Identified by Other Sector Representatives:

- Value resource utilization (resources have an economic value)
- Value-added.
- Value-added and the status quo.
- Mainly value the timber from the forest.

Tourism:

Forest Values Identified by Sector Representative:

- We value its existence [forest]. Old growth and its value to tourism. If it is harvested it doesn't have a value. Cultural/ First Nations values are interesting to people. Environmental knowledge, hiking experiences and different values we value.

Forest Values Identified by Other Sector Representatives:

- Value resource utilization (resources have an economic value).
- Want scenic corridors to be established.
- Viewscape values - a balance of the viewscape.

- Some values are to maintain logging for communities.

Value-added:

Forest Values Identified by Sector Representative:

- We believe it would be a more sustainable way of harvesting to use more parts of the tree. This would create more jobs. Doing more with less is the way of the future. In the past one logger would cut fifty trees before coffee. Now, I can make a living on two trees a year for a family of four.

Forest Values Identified by Other Sector Representatives:

- More community economic development and secure access to a wood supply.
- Non-commodity and non-pulp values of timber.

Youth:

Forest Values Identified by Sector Representative:

- It's a mishmash. It is like a Model Forest unto itself. We have a cross-section of all these values. First Nations members, non-First Nations, etc. All values of society can be found in the youth sector.

Forest Values Identified by Other Sector Representatives:

- Future. Economic future. Concerned with sustainability.
- Employment.
- Research values and underlying biodiversity values.

When respondents were asked if their sector was currently making any attempts to translate their values into action (i.e., make their values known, legitimized, or validated), nine out of eleven Board members indicated that they were attempting to do so. Ten of those respondents in turn felt that the Model Forest was a viable vehicle to assist them in their endeavors, and that many of their values were being put into action via projects and programs undertaken in the Model Forest (e.g., The Rainforest Interpretive Centre, the Mapping Values project, symposiums, etc.). Some respondents indicated that they were also attempting to put their values into action by working with the Clayoquot Sound Scientific Panel or other local committees and projects.

All fourteen of the respondents agreed that the LBMF has served as a good means for bringing people together that hold diverse forest values. Some individuals gave strong affirmation to this question; "Yes, it is the best opportunity available at the time. Given the history of conflict and different interests I would be surprised if another agency could do a better job." On the contrary, some of the respondents qualified their answers with the

following statements: “Yes, but we’ve been dancing around the edge. We haven’t dealt with forest management issues. We haven’t looked at the implications of making decisions one way or another.” “It has been excellent but that may be because we don’t tackle difficult issues... It is like training wheels.”

Eight of the fourteen respondents felt that some of the present processes such as workshops, newsletters/publications, speakers, and the functioning of the Board itself were effective means for sectors to gain a better understanding of each others’ values. The Board was mentioned because individuals felt it allowed for discussion and consensus decision making. Respondents also identified future processes that should be considered, such as working with the Clayoquot Sound Scientific Panel and getting the research results of Model Forest projects to decision makers (e.g., government, forest managers). In addition, it was felt that the media and workshops should be used more in the future. “We should have more workshops instead of all business. The more we share and learn, the more we can trust each other, and to me that makes decision making easier.”

Despite the fact that all fourteen Board members agreed that the Model Forest has served as a good means for bringing people together, their answers were not as unified when asked how these values affected decision making processes. For example, only four out of eight respondents felt that they could identify any changes in the decision making process of the Model Forest due to the consideration of stakeholder values, and indicated that such changes occurred either in people’s attitudes or in their ability to stop decisions in consideration of certain values.

Conversely, three respondents felt there had been no changes in the decision making process. One person thought there had been no changes in decision making specifically because:

...the consensus model actually fosters the power play of different sectors. There are biases and people will try to usurp other people out. If there was a more relaxed democratic process it wouldn’t foster that type of problem. The problem with the Board is if people bring their baggage to the Board, it becomes dysfunctional. The multi-sector Board may not be the best way to go with these kinds of things.

In direct relation to the previous question, ten of the fourteen respondents affirmed that the values of certain sectors are given more consideration than others in the decision making of the Model Forest. Four respondents did not agree. When asked how sector values were given more consideration, the most common answers given were: that it tended to happen informally, consideration was often given to the First Nations Sector, and that the Model Forest is perceived to be “green” or “preservationist” and, therefore, perceived to give consideration to those sectors with that type of orientation. When Board members were further questioned whether the Model Forest had discussed how values held by Board members might apply in forest management decision making outside of the Model Forest, most respondents did not know if it had been discussed or felt it had not been discussed at all.

In regards to whether values research had been done in the broader community (i.e., those individuals or groups not directly involved in the Model Forest organization) eleven of the respondents stated that the Model Forest had not engaged in such research and that most of this work had been done previously by the CSSDSSC (Clayoquot Sound Sustainable Development Strategy Steering Committee) or through other outside research projects (i.e., those not done by LBMF). Two individuals, however, believed this work had been done previously by the Model Forest. They stated it had been done through a workshop and through certain projects. These projects were done in attempts to “hit on the community with larger issues,” and to determine “what they [communities] want to do with sustainable forest management and the Model Forest mandate.” Despite this slight discrepancy in views one individual highlights the potential of undertaking such an endeavor:

What the Long Beach Model Forest has going for it is that there is a broad membership on its Board of Directors. If Long Beach Model Forest gets involved with social values research it would be better respected than if another group did it. The Model Forest organization has a good opportunity to get involved in this, especially with Traditional Ecological Knowledge.

Following on that note, the majority of respondents (13) agreed that Long Beach Model Forest had increased the different sectors' appreciation of the ways in which other people value the forest. Only one respondent remained uncertain. When asked how sectors had gained an appreciation of other people's values most of the respondents indicated that it was through dialogue and by becoming aware of issues and what other people value about the forest.

In a similar vein, nine of the respondents felt that by doing values research, and incorporating it into various processes, the implementation of sustainable forest management practices could be accelerated. Three of the respondents, however, did not think it would help, whereas two "hoped" that it would. When asked to explain why they felt social values research could or could not accelerate the implementation of SFM practices the answers given by respondents varied. The response given by one individual perhaps provides a good synopsis why people agreed:

Unless you get the people behind you as willing participants in creating a vision of the forest in the area you will be fighting the local populace every step of the way. It is extremely valuable to address and consider the values of the local populace. To keep them out of the loop would be a very poor move. It would increase the prevalent distrust of government and government decision making.

Another reason given was that the Model Forest had a good representation of sector values which facilitated learning and decision making. Other respondents believed that the Model Forest should work with the Scientific Panel on this aspect. Some respondents agreed with the above statement, but cautioned doing such research because it is a "tough field" that needs a full and balanced spectrum of community values.

Of the group of respondents that did not think that values research could accelerate sustainable forest management practices their reasons are as follows:

We've valued these people to death. We have to develop practical management regimes to protect the values that have been identified and to perpetuate and maintain these values;

...they [governments] don't care. They are the multi-national corporations. They don't care what the opinions of fishermen, etc. are. Seven hundred people showed public opinion in Clayoquot Sound at the protests a few years ago and that is the only way to change policy. They were jailed, and that is what our government thinks of their opinion. The only other way is with the possible collapse of the salmon fishery.

4.2.3 Critique: Values Research in the Long Beach Model Forest

In summary, a large majority of the respondents have affirmed that the Long Beach Model Forest has served as a good means for bringing people together that hold diverse forest values. It has also helped many groups put their individual values into action (e.g., through different projects and programs). As such, it has brought people together and has made them more aware, knowledgeable and appreciative of how other people value the forest in the Clayoquot Sound area. Responses indicate that the Board has served as a good means to facilitate these functions but other endeavours such as workshops and presentations have also fostered greater awareness and appreciation of diverse forest values present in both the Model Forest and the local area.

While responses indicate that both formal and informal attempts have been made to identify the values of Board members and obvious links have been made in understanding these values, it appears that this type of sharing should be revisited. When respondents were asked if they could identify the values of other sectors a large majority indicated they could, but the actual identification of sector's values was limited and scant. This could be in part due to the interview process and the formation of the interview question. However, if respondents have affirmed so strongly that the LBMF has served as a good means for bringing people together and for learning about other people's perspectives, then perhaps it would be appropriate to have a constant up date or re-acquaintance of values at the Board level to ensure fluidity of the Board's functioning and decision making. This is especially important since some people felt that people's attitudes on the Board have changed by being aware of other people's values and that this in turn has had a slight impact on the decision making process.

The majority of respondents also felt that social values research and the incorporation of such research could accelerate the implementation of sustainable forest management practices. While it was noted that most of this research has not been done by the Model Forest, it has been undertaken and is available. Since the Model Forest has been considered a good forum for bringing people together, and its multi-sectoral approach provides a relatively balanced representation of the local populace, it would not be unrealistic for the Model Forest to undertake and utilize values research to accelerate the implementation of sustainable forest management practices. The Clayoquot Sound Scientific Panel (an advisory panel established to develop a sustainable forest management plan for the Clayoquot area) has outlined specific recommendations for values research in order to achieve the goals of SFM, and the LBMF has considered these factors in its Phase II proposal. If LBMF continues to do research and link with organizations like the Scientific Panel then sustainable forest management could potentially become more of a reality than an aspiration for the Clayoquot area.

4.3 LAKE ABITIBI MODEL FOREST

4.3.1 Overview

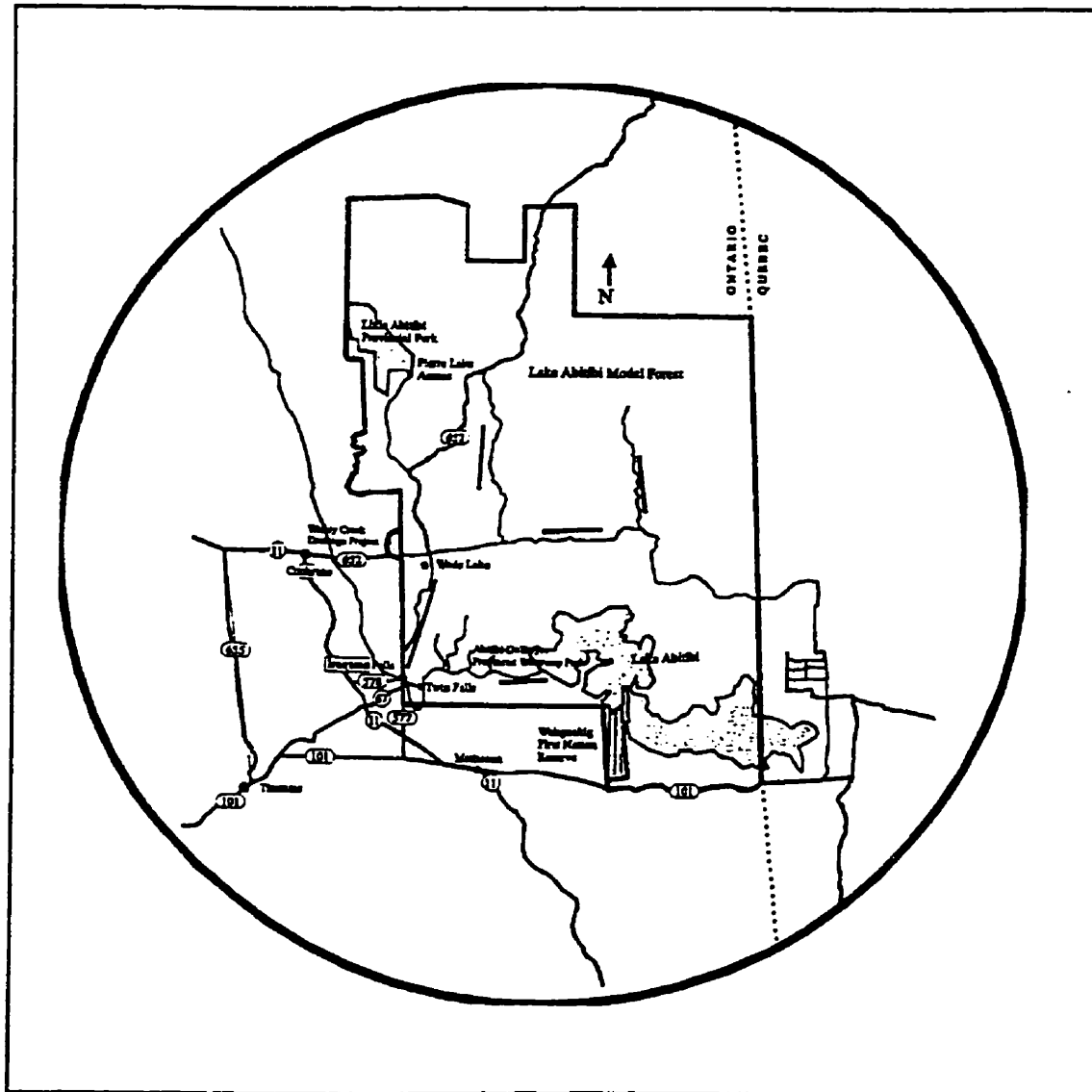
The Lake Abitibi Model Forest (LAMF) is located in the northeastern part of Ontario, and is part of the boreal forest region of Canada that is dominated by the Great Northern Clay Belt. It covers an area of 1.1 million hectares (Figure 4) with most of the area covered with softwood species such as spruce, fir and jack pine. Commercial harvesting has taken place in the area since 1915, but traditions of forest use date back hundreds of years by ancestors of the Wahgoshig First Nation (Lake Abitibi Model Forest 1995).

The majority of the land in LAMF is Crown land. It is divided amongst various management regimes which largely include, the Iroquois Falls Forest Management area (Abitibi-Consolidated Inc.), Little Abitibi Provincial Park, and the Wahgoshig First Nation Reserve. The towns of Iroquois Falls and Cochrane are located in close proximity to the MF and rely heavily on the timber industry. Iroquois Falls is a one industry town supported by Abitibi-Consolidated Inc., whereas Cochrane relies on several smaller industries.

Lake Abitibi Model Forest joined the network on June 4, 1993. For the first five years the Board made decisions based on majority vote. Just prior to the study visit the Board had been reorganized and shifted to a consensus decision making approach. In addition, a Management Committee of the Board had recently been established to deal with the administrative tasks of the Board. The Management Committee meets once a month to discuss these issues, with the larger Board meeting only three or four times a year to decide the course of action for the MF, including deciding on the workplan projects for a given year.

The Board is comprised of 17 partners which represent a wide range of resource users. At the time of interviewing, only the following eleven partner groups were available: Abitibi-Consolidated Inc., Cochrane Area Fur Council, Cochrane Partners, Cochrane Citizen, Iroquois Falls and District Chamber of Commerce, The Canadian Forest

Figure 4. Lake Abitibi Model Forest



Source: Gardner Pinfold Consulting Economists Ltd. 1998.

Service (CFS), Integrated Resource Advisory Committee, Twin Falls Marina, Polar Bear Riders Snowmobile Club, Remote Tourist Outfitters, Ontario Ministry of Natural Resources (OMNR). The LAMF office is located in Iroquois Falls within Abitibi-Consolidated's office building. In total 12 interviews were conducted, which included the General Manager and eleven Board members (two staff members from Abitibi-Consolidated were interviewed at the same time and their responses were combined).

4.3.2 Values Research

In response to the first question regarding whether formal attempts had been made to identify the values of Board members, five of the twelve respondents indicated that no attempts had been made in Phase I, but believed that this type of work would be done in Phase II through the criteria and indicators process. Conversely, seven respondents indicated that formal attempts had been made. One respondent mentioned it had been done through a workshop while three others stated it had been done through different projects (e.g., Cultural Heritage Project, Communications Project). Six of the seven respondent contradicted themselves, however, by stating that values had been identified *informally or indirectly* at the Board table. This would indicate that there has been few, if any, actual *formal* attempts (e.g., workshop, survey, etc.) made to identify the Board's values, but rather the values are distilled out of discussions at the Board table and identified indirectly through that process. With the work of the criteria and indicators forthcoming, however, perhaps a more *formal* process will be initiated in Phase II.

All twelve of the respondents indicated that they could identify the forest values held by other Board members. While many respondents identified specific values that they thought were characteristic of specific groups, some respondents gave more generalized statements about partners' forest values. For example, one respondent indicated that "the timber industry values the harvesting of trees whereas most everyone else does not." Several other respondents listed values that they felt were shared by, or present among, the Board as a whole without delineating between specific groups or values. Table 8 outlines

these values.

Table 8. Values Perceived to be Present or Shared Among the Lake Abitibi Model Forest Program Management Board

<ul style="list-style-type: none">• Healthy fisheries• Solitude, peace, quiet, commune with nature.• Remoteness.• Intrinsic nature of the forest.• Wildlife and bird watching.• Berry picking.• Education values - value of what kids see and understand.• Historical sites.• Preservation of waterway sites.	<ul style="list-style-type: none">• Recreation values - fishing, hunting, canoeing, etc.• Healthy moose population.• Steady level of employment.• Maintaining the quality of the environment.• Maintaining wood supply for mills in the area.• An understanding and awareness of First Nations cultural values and concerns.• Clean air, clean water, clean forest.• Biodiversity.
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In contrast, Table 9 reveals what partner representatives identified as being specific forest values for their own group as well as for those of the other partner organizations.

Table 9. Specific Values Identified by Partner Representatives of the Lake Abitibi Model Forest Program Management Board

Abitibi-Consolidated Inc.:

Forest Values Identified by Partner Representatives:

- Fiber (big and small). If we don't have it sustainably managed we don't have a future.

Forest Values Identified by Other Partner Representatives:

- The economy of northern Ontario is from forest use - value for the industry.
- Interested in sustainable forest management.
- Producing money - single industry town.
- Values harvesting of trees.
- Keep fiber supply.
- Careful logging.

Canadian Forest Service:

Forest Values Identified by Partner Representative:

- We value having a well managed resource, jobs for people, and good relations with the province. We also value sustainable development in a general sense, as well as healthy communities and people.

Forest Values Identified by Other Partner Representatives:

- No response given.

Cochrane Area Fur Council:

Forest Values Identified by Partner Representative:

- The value to the trapper is the forest. The forest is there and that is where the animals are. The management of forests is the management of animals and fur-bearers. Trappers manage wildlife. Habitat loss leads to wildlife loss.

Forest Values Identified by Other Partner Representatives:

- See value in the trees standing.
- Keep cover for fur bearing animals.

Cochrane Citizen:

Forest Values Identified by Partner Representative:

- Just about everything. All values about the forest including economic (e.g., for the town), berry picking, canoeing, hunting, fishing, camping, drive-in love birds. All these things I value about the forest.

Forest Values Identified by Other Partner Representatives:

- No response given.

Cochrane Partners:

Forest Values Identified by Partner Representative:

- Value fiber production to maintain the two companies in town. Increasing the value of recreation (e.g., snowmobile trails are a huge benefit to the town - hotels are busy in winter now). The town places a value on this [snowmobiling].

Forest Values Identified by Other Partner Representatives:

- Tourism groups and associated values.
- Values trees standing and trees being harvested.
- Get tourism in the community for their benefit. They don't want the surrounding area degraded. The forest has value in tours (e.g., old growth forest, logging operations, etc.)

Iroquois Falls and District Chamber of Commerce:

Forest Values Identified by Partner Representative:

- Value forest so people can basically earn a living.

Forest Values Identified by Other Partner Representatives:

- Tourism groups and associated values.

Integrated Resource Advisory Committee:

Forest Values Identified by Partner Representative:

- Concerned about employment and sustainability of the fiber resource.

Forest Values Identified by Other Partner Representatives:

- Recreation opportunities.

Ontario Ministry of Natural Resources (OMNR):

Forest Values Identified by Partner Representative:

- Sustainable forest management - economic, social benefit and sustainability for the forest resource.

Forest Values Identified by Other Partner Representatives:

- Value development of septic system for rangers at Wade Lake; value small mammals project.

Polar Bear Riders Snowmobile Club:

Forest Values Identified by Partner Representative:

- The ecological impact of what the forest looks like. There is nothing to see snowmobiling on power lines. Snowmobiling in the bush has nicer aesthetics.

Forest Values Identified by Other Partner Representatives:

- See value in trees standing.
- Recreational aspects of non-logged forest.

Remote Tourist Outfitters:

Forest Values Identified by Partner Representative:

- See value in the trees standing.

Forest Values Identified by Other Partner Representatives:

- Tourism groups and associated values.
- Stay remote, no roads for logging (a buffer is not good enough).
- Camp and location; sell appearance of remoteness; value of a really remote area even if it is not (e.g., noise is a factor for areas).
- Remote wilderness strategy.

Twin Falls Marina:

Forest Values Identified by Partner Representative:

- Want to see sustainable forest management. Like careful logging stuff. We could brag about it - think it is good.

Forest Values Identified by Other Partner Representatives:

- Values washroom area for the public and sewage dumping station.

Wahgoshig First Nation:

Forest Values Identified by Partner Representative:

- No response given.

Forest Values Identified by Other Partner Representatives:

- Intrinsic values; archeological sites.
- Value grave sites, encampments and other locations; spiritual values; view of life.

In relation to values identification the majority of respondents (10) indicated that their partner organization was currently making attempts to translate their values into action and agreed that the Model Forest was a viable vehicle to assist them in such

endeavours. The ways and means in which the partner groups were attempting to do this varied. For example, some groups were attempting to create dialogue and associate themselves with different organizations, while others were participating in formal processes such as Forest Management Plans and the Remote Wilderness Strategy. Some respondents were also getting involved in local activities and projects (e.g., annual clean up, research projects), and were promoting their values through direct action of this kind.

All twelve respondents agreed that the Model Forest has served as a good means for bringing people together that hold diverse forest values, with some individuals giving strong affirmation to this question; “Yes, absolutely”; “Yes, immensely. The reason for this is that other avenues are short-term, ad hoc and confrontational. The Model Forest is not. It is long-term, ongoing and non-confrontational.” It is clear from most responses that there were no processes in place for the partners to gain a better understanding of each other’s values during the first phase of the program.

A majority of respondents, however, thought that it would be beneficial to have a process that would facilitate this type of learning at the Board level. Some respondents felt that this could be done if the partners were to engage in *less business* and participate in field trips, role playing experiences and hands on orientation. For example, some respondents made statements that are captured by the following:

We should have on-site visits to trappers’ traplines, remote tourism outfitters destinations, etc. We should all walk in each other’s shoes;

A tourist outfitter could take members to a cabin and show them what they value about the forest. People would have to visualize and personalize the experience, so they could see and experience what the trapper sees and experiences.

As mentioned previously, a few respondents felt that this type of experience would be initiated during Phase II of the program (i.e., through the criteria and indicators work).

The importance of sharing values, however, goes beyond identifying them and becoming aware of differences. The importance of sharing values is to understand and interpret their influences at the Board as well. As several respondents indicated, they felt

that partner's values impacted the MF's decision making process. For example, many respondents indicated that it was due to the consideration of partner's values that the process of consensus decision making came about. As one individual noted:

Change from a strong majority to consensus decision making was a response from partners saying lets not create winners and losers. Let's make a portion of some decisions palatable for all partners.

Furthermore, the majority of respondents (10) felt that the values of some partners were given more consideration than others in the decision making processes of the Model Forest, with over half of the respondents indicating that it was *perceived* by people, both inside and outside of the MF organization, that Abitibi-Consolidated was "getting the lion's share of things."

In regards to how the Board's values could apply in forest management decision making outside of the MF, three respondents indicated that the Board had discussed this issue and was attempting to have an impact by promoting research projects and by getting involved in forest management planning processes and practices. However, five respondents felt the Board had not discussed or approached this issue, and as one respondent clearly summarizes, "this is related to the fact that we don't see ourselves as a regular policy tool. We don't see the fact that what we do is good for the forest beside us."

In focusing on community values, eight respondents affirmed that the MF had engaged in values research amongst the broader community (i.e., those individuals or groups not involved in the MF organization). Many of these respondents indicated that it had been done directly through the Cultural Heritage Project and indirectly through such things as the Communications Strategy or by hearing peoples values at tradeshow and fairs. Other respondents, however, believed this work was just being initiated now in Phase II through the socio-economic and criteria and indicators projects.

All twelve respondents agreed that the MF had increased partners' appreciation of the ways in which other people value the forest. Several respondents indicated that this

was occurring because people both inside and outside of the MF organization were beginning to talk to each other about forest issues. Various projects and programs have also provided information for people to learn about different values. For example, the Cultural Heritage Project, which identified cultural values of the Wahgoshig First Nation (e.g., special places, grave sites, etc.), have increased Abitibi-Consolidated's awareness about the need to protect certain forest sites. Furthermore, projects and programs initiated by LAMF have also been catalysts for getting people involved in processes that engage them in formal learning experiences.

With the exception of one individual, all respondents felt that values research and the incorporation of such research into various processes could accelerate the implementation of sustainable forest management practices. Most respondents felt that this could happen by having different values recognized and validated so that they were not superseded or impeded by other forest uses. The concluding remarks of two respondents give insight into this reasoning: "If you are aware of the values and see how they fit into SFM then you can decide on action for or against those values." "By knowing other values and resources that aren't traditionally thought of, helps accelerate the sustainability of them."

4.3.3 Critique: Values Research in the Lake Abitibi Model Forest

In summary, a large majority of the respondents have affirmed that LAMF has been very effective for bringing people together that hold diverse forest values, for increasing the appreciation amongst the partners of the ways in which other people value the forest, and for being a viable vehicle to assist the partners in putting their values into action.

As a result, it appears there has been an exchange and awareness of forest values in the MF. This is supported by the fact that most of the respondents indicated they could identify the values of the partner groups participating in the program. However, as a large portion of respondents have also revealed, there have been no formal attempts or processes put in place to facilitate this type of sharing. This clearly suggests then that

values are recognized implicitly through projects, programs and Board discussions, and values sharing has occurred more in an informal basis in the MF organization.

While this forum has been beneficial for generating dialogue and creating awareness of diverse values, it lacks the processes needed for effective values sharing. With eleven partner groups participating in the survey only a few of the groups' values could be significantly identified by a handful of the other respondents. The rest of the responses in contrast were very generalized (see Tables 8 and 9). This is not to discriminate and insinuate that these responses are inaccurate and that groups cannot share values, but it is to reiterate the need of having a formal process for identifying values in the organization. Instead of having partners rely on assumptions and gut feelings, values should be clarified and identified in an open process to alleviate any potential misconceptions. While the scant responses may be due in large part to the interview process and the formation of the interview question, initiating such an endeavor, however, could not only provide baseline information and insight into the chronology of changing forest values, it could also assist in the evolution of the organization.

This is particularly true since many respondents indicated that it was through the consideration of partner values that consensus decision making and compromises have come about. In light of this fact, if forest values have had that much influence on the decision making process of the organization only through informal and indirect interpretation, then a formal recognition and cataloguing of values could instigate changes and continue to propel the MF forward.

To clarify further, the reason for outlining the values as identified by the partners was not to highlight any inadequacies or shortcomings in the MF organization or partner groups. Rather, the purpose of these tables is to help the partners get a better understanding of the values that are present at the Board. It is significant to note that two respondents declined to answer this question and to identify the values of the other partner groups, because they did not want to be presumptuous and disrespectful of the other group's values should they have improperly identified them. These statements indicate that

a certain level of trust and respect have been established at the Board and if partners were given an opportunity to articulate their values openly and honestly in such an environment an understanding of values could be enhanced. It could also help foster communication links that appear to have been weak between the MF organization and the partner groups during the first phase of the program. It may, as well, help dispel any myths about some organizations getting greater consideration than others in the decision making process of the MF (i.e., Abitibi-Consolidated getting the lion's share of things).

As many respondents have indicated, they believe such an undertaking (values sharing) will be forthcoming once the criteria and indicators work is initiated. With this work to be scheduled in the near future a values exercise at the Board level could also set the framework and the groundwork for processes that would have to be initiated to do values work at the community level.

The potential criteria and indicators have for informing sustainable forest management (SFM) practices is as yet unknown. However, given the fact that many respondents identified the Cultural Heritage Project as being successful because it influenced some of the harvesting practices of Abitibi (e.g., First Nations cultural values were identified and protected), the research into values through criteria and indicators could be a significant catalyst to encourage SFM practices. The criteria and indicators work could help define and articulate forest values that have predominantly played second fiddle to other values, such as timber and fiber use. The MF's guidance in this process is important, because as several respondents have stated, the satisfactory part of the MF decision making process has been the fact that it has given minorities [in forest management] a voice. The MF's criteria and indicators work could, therefore, play an important role in amplifying the "minority voices" and values that are not of primary significance in forest management practices at present.

There are other facts to still consider in this regard. One fact is that a majority of respondents (11) felt that values research could accelerate the implementation of SFM practices. Another fact is that approximately half of these respondents also believed that

the present policy problems plaguing forest management were related to tenure issues and the restriction of values in relation to timber use. Given these facts it is evident that the values work through the MF's criteria and indicators process could help forest management become succinctly attuned to society's needs. As a multi-sectoral, community-based organization the Lake Abitibi Model Forest has the potential to inform this process and to truly accelerate the implementation of SFM.

4.4 Foothills Model Forest

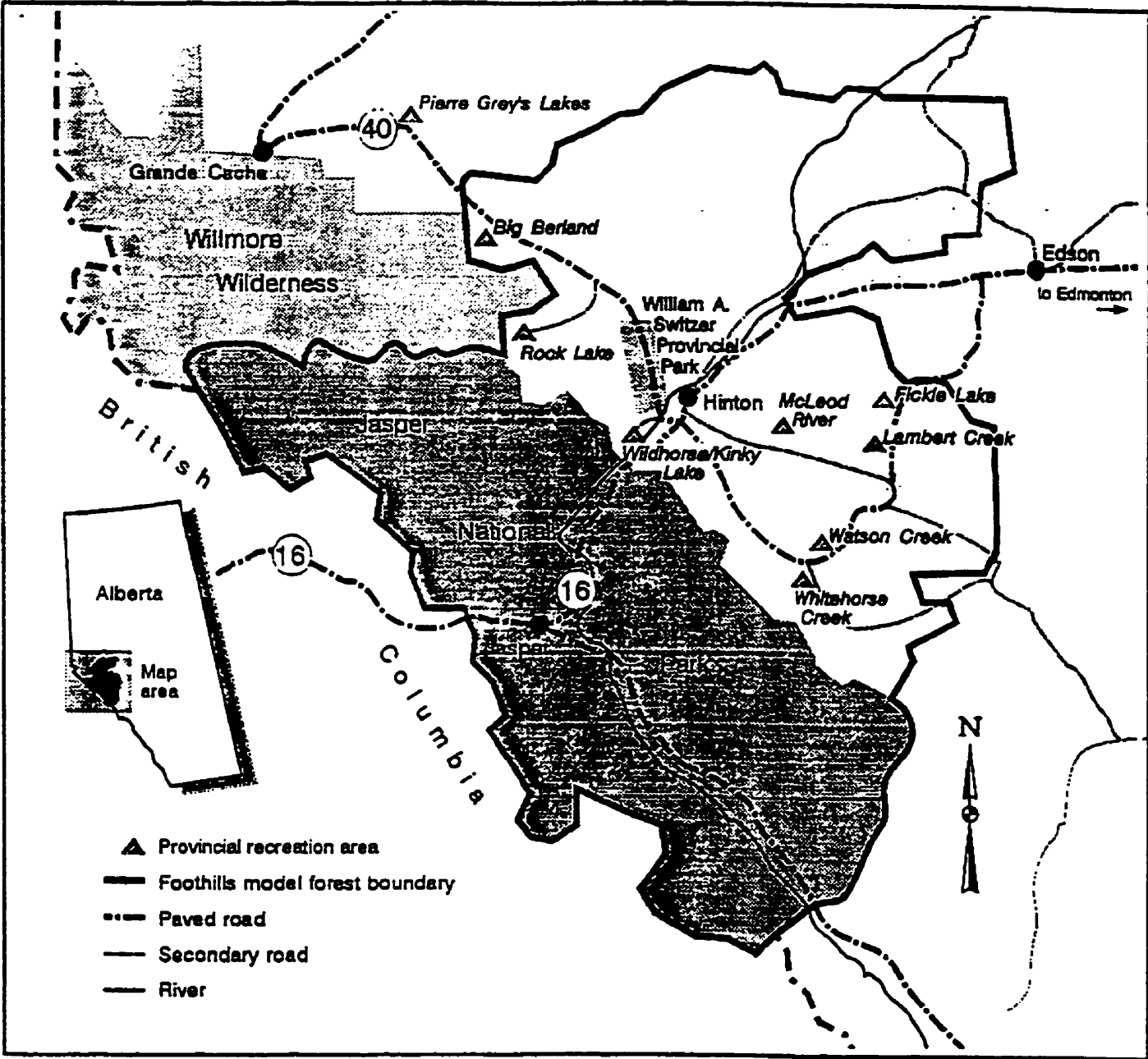
4.4.1 Overview

Foothills Model Forest (FHMF) is located in west-central Alberta and is the largest Model Forest in the network. In Phase I it encompassed a total area of 2.3 million hectares, but with the addition of Willmore Wilderness Park in Phase II it increased in size to 2.7 million hectares (Figure 5). Boreal, montane, subalpine, and alpine forests exist within the area of Foothills MF. Contained within the boundaries of FHMF is Jasper National Park, William A. Switzer Provincial Park, Willmore Wilderness Park, the Forest Management area of Weldwood of Canada Ltd. (Hinton Division), several Crown management units, and the towns of Jasper and Hinton.

Foothills MF was officially incorporated into the Canadian MF Program on March 1, 1993. It is managed by a 12 member Board of Directors with the following agencies represented: Weldwood of Canada Ltd. (3 seats), Jasper National Park (2 seats), the Canadian Forest Service (CFS), Provincial Department of Environmental Protection (including both the Natural Resource Service and the Land & Forest Service) (3 seats), Town of Hinton, and two members elected from among the Partners Group (one from the University of Alberta Department of Forest Science, and one from Nova Corporation of Canada).

The Foothills MF office is located at The Environmental Training Centre in the town of Hinton. The Board operates using a combination of consensus and Roberts Rule of order; issues are discussed until a decision is reached, but a vote is often used to finalize a discussion. Eleven interviews were conducted in total, which included the General Manager and ten of the twelve Board members. A representative from each of the aforementioned agencies was interviewed, with one representative from Weldwood and Jasper National Park missing.

Figure 5. Foothills Model Forest



Source: Boxall & McFarlane, Northern Forestry Centre, CFS, 1996.

4.4.2 Values Research

In response to the first question, nine respondents indicated that formal attempts had been made to identify the values of Board members. Several respondents indicated that it had been done through various strategic planning initiatives, whereas others felt it had been done through either the socio-economic or the criteria and indicators projects.

Subsequently ten of the respondents felt that they could identify the forest values held by other Board members. Table 10 outlines some of the values and views that members thought were shared by, and characteristic of the Board as a whole.

Table 10. Values Perceived to be Present or Shared Among the Foothills Model Forest Program Management Board

- All Board members share the desire to sustain wildlife species that we have on the land base and that we are working with. We also do not want to inflict any environmental damage on the landscape. We also want to maintain the flow of fiber to the plant in Hinton and continue to provide benefits to the community and the government. We all value Jasper and what it represents to Alberta and Canada.
- Collectively we share similar resource management objectives. We have all signed on that collectively we agree that we should aspire to the criteria and indicators through our research, targeting to work to the goals and objectives set by the Canadian Council of Forest Ministers.
- The Board swings more toward community development and the economic side of things (e.g., lifestyles, communities).
- Most of us are pretty traditional, most of us are foresters and biologists.
- There are an amazing variety of values. Some are concerned about cumulative effects, others value wildlife, and others jobs at the mill.
- There is a clear understanding of economic values with timber and the utilization of fiber. There are also mineral resources, coal and petroleum. There is a strong understanding of a lot of values in wildlife, recreation, hunting, fishing and guiding. There is a lot of value in birds. Clearly there is an understanding of the inter-relationships between these values and the fact that you end up with highly managed areas. You also have broad values with access and reforestation. The public values the use of the forest for many things defined and undefined.
- Value of fiber, value of a mix of age stands across the landscape, values of individual species of wildlife, natural disturbance models. There are any number of held values out there.

While it appears that there is a strong sense of shared values at the Board, some members also acknowledged and identified values that they thought were more characteristic of specific partner groups. Table 11 reveals what partner representatives identified as being

specific forest values for their own group as well as for some of the other partner groups.

Table 11. Specific Values Identified by Partner Representatives of the Foothills Model Forest Program Management Board

Canadian Forest Service:

Forest Values Identified by Partner Representative:

- The MF is a great place to take research to an applied level, and with support of partners it [research] stands a far better chance of being taken up at the other end of its life.

Forest Values Identified by Other Partner Representatives:

- No response given.

Department of Environmental Protection:

Forest Values Identified by Partner Representatives:

Land and Forest Service

- It encompasses every wishy washy value you can think of. It includes people, prosperity and preservation. There is a value around representing unique sites, and there is also a value around economics and ecological prosperity. There is both yin and yang through all the staff.

Natural Resource Service

- That we have a legacy for parks for our children and our grandchildren. We all have our motherhood goals and we should all be measured by them by the end of the day. Our mission is; "As proud stewards of Alberta's renewable natural resources, we will protect, enhance and ensure the wise use of our environment. We are a dedicated and committed team, responsible for managing these resources with Albertans. We are guided by a shared commitment to the environment and are accountable to our partners, the people of Alberta."

Forest Values Identified by Other Partner Representatives:

- The Province has certain policies and authorities that are in place and are recognized. They [policies] will remain in place until higher authorities denounce them.
- The government has an holistic approach to resource extraction and communities.
- The Province manages the land and is responsible for all people's values.

Foothills Model Forest Partnership Group:

Forest Values Identified by Partner Representatives:

- Nothing.
- Nova - how developers look at things once the trees are out of the way. We want to start enhancing and building processes to do things jointly. We want to partner relationships to look at issues timely and with knowledge of the broader landscape level. The magnitude of finding the answers is out of reach of any one partner. We have to look at the landscape level and look at the frameworks of what communities, government and industry expect. We have to dovetail what everyone expects.

Forest Values Identified by Other Partner Representatives:

- The University has an academic point of view. They have a different value system.

Jasper National Park:***Forest Values Identified by Partner Representative:***

- The values Jasper provides. Jasper has ecological, spirituality, escape, recreation and leisure values. It has value for experiencing and learning about the Park. Our values are reflected in the National Parks Act: "The Parks are hereby dedicated to the people of Canada for their benefit, education and enjoyment, and shall be maintained and made use of so as to leave them unimpaired for future generations."

Forest Values Identified by Other Partner Representatives:

- Jasper is preservation minded and natural disturbance is the chosen way of bringing change on the landscape.
- Conservation ethic, ecological integrity (mandate is to preserve the ecological integrity of the Park).
- Jasper values non-resource extraction management.

Town of Hinton:***Forest Values Identified by Partner Representative:***

- The research that is going on. For example, the work on criteria and indicators and the socio-economic side of sustainability. Those things are going to drive our ability to determine our future. Right now it is outside forces and organizations that drive our future.

Forest Values Identified by Other Partner Representatives:

- The Mayor of Hinton reflects the views of the local people who expect they should have a say in how the forest is managed and the activities that affect their lives.
- The Mayor values community values, a stable community, and a good quality of life in the community.

Weldwood of Canada Limited:***Forest Values Identified by Partner Representatives:***

- Environmental stewardship, economic values of timber and utilization of fiber, values of wildlife, recreation, hunting, fishing and guiding, biodiversity, access and reforestation.

Forest Values Identified by Other Partner Representatives:

- Profit motivated and value economics and employment.
- Weldwood types are resource extraction oriented.
- Weldwood values job creation and the economic contribution of the forestry industry.
- Weldwood would like to stay in business and be a profitable company.

All of the respondents indicated that their partner organization was attempting to translate their individual values into action (i.e., make them recognized/legitimized). The majority of respondents (10) in turn felt that the MF was a viable vehicle to assist them in doing so. Some representatives stated they were attempting to put their values into action either through the work of their individual agencies or in conjunction with research

endeavours undertaken by the MF.

In addition, all respondents believed the MF had served as a good means for bringing people together that hold diverse forest values. Some individuals gave strong affirmation to this question by sharing statements such as; “Yes, absolutely, that is the strength of the MF.” The majority of the respondents indicated that it was through meetings and discussions of the Board or various committees that most partners were able to gain an understanding of each other’s values. Some individuals mentioned that it also happened through various means such as social extravaganzas (e.g., Christmas party), workshops and tours of the MF.

While the FHMF has been effective in drawing forth a commonality and sense of shared values amongst the Board, it has also been a good forum for the expression and appreciation of individual values. As nine respondents have indicated, it has been the consideration of these values that have caused changes in both the decision making process of the MF and the operations of some of the partner groups. It appears that the relationships between several organizations (e.g., Weldwood & Jasper National Park) have grown as their individual perspectives have been heard and better understood. In turn, the operations and practices of some partner groups have changed and been adapted to accommodate new values and views (i.e., Weldwood). It also appears that the decision making process of the MF has grown due to the inclusion of partner values. As one respondent stated:

The decision making context, hearing and listening has changed. It changed when Jasper and Willmore Wilderness Park came on because they have a different approach and perspective of things. The coordination is much better now. I give credit to the MF program for bringing groups together.

Despite these changes, ten of the eleven respondents believed that the values of some partner groups were given more consideration than others for inclusion into the decision making process of the MF. Several respondents felt that the values of those groups vested with land management authority were given more consideration than others. This was due to the fact that these agencies were the ones with the responsibility to

ultimately implement changes on the ground from the outcomes and influence of the MF's research, and were thus the ones setting the direction with how the MF money was being spent. Many other respondents felt that it was Weldwood specifically who got most consideration. Some respondents indicated that this was more of a perception than an actual reality though. Conversely, others felt consideration was given to Weldwood because of the influence of their landbase in the MF area, as well as their funding of, and commitment to, certain projects. "It is based on the golden rule [he who has the gold, rules]. It is the name of the game. The squeaky wheel gets the grease. For example, if Weldwood puts in a million dollars for funding, they'll get more achievements and say."

In contrast, there have been little to no effect on forest management decision making outside of the MF organization due to the consideration of the forest values held by the Board. Eight of the respondents felt the Board has discussed how this might happen, but there has been little action done in this regard as of yet. Many respondents felt this could happen slowly and indirectly in the near future with the use of MF research, the process of technology transfer and the influence of the organization to inform other agencies (e.g., the Land Manager's Forum). Essentially, respondents believed it could happen by having the MF disseminate their information (i.e., research) to stakeholder groups and resource managers. They could then bring these groups together to find common ground in dealing with forest management issues and accelerating the implementation of SFM.

In order to accelerate SFM, however, the implementation of certain practices must be applicable on the landscape. This requires an understanding of the broader issues that persist at the local level and influence community values. As eight respondents indicated, the FHMF has considered these issues and has focused on doing research that encompasses the values of community members that are not directly involved in the MF organization. Much of this work has been done through the socio-economic program, but many of the results are still pending. Thus most respondents could not indicate whether this research had induced any changes in their perspectives of other people's values or

whether the Board could use this information to influence forest management decision making outside of the MF. A few respondents did mention though that this research process had shone some light on other issues. For example, they now realize the magnitude of forest economics, how uninformed people are about the MF, and the need to attract other groups to the FHMF program.

Even though the results of the socio-economic research are still forthcoming, half of the respondents believed that the MF, in general, has increased Board members' appreciation of the ways in which other people value the forest. This has been done by broadening their scope on the players, issues and values that are present in the region. Some respondents, however, indicated that it had only increased their appreciation of the values of the partners participating on the Board, and not those of any outside groups.

The majority of Board members (7) felt that values research and the incorporation of such research into various processes could accelerate the implementation of sustainable forest management. Most respondents believed that if there was a better understanding and awareness of diverse forest values then forest management practices could be developed to better integrate and sustain these values at the landscape level. As one respondent summarized; "It is difficult to change forest management practices and policy if you only work from your point of view...but things are like a moving goal post and you have to stay on top so your value set has to be current. You can't have knee jerk reactions. It could throw things off. You should use a crystal ball for looking at lasting values and then tinker around the edges for values that are not as long lasting."

4.4.3 Critique: Values Research in the Foothills Model Forest

Given these responses, it is evident that FHMF has begun to deal with the issue of forest values. While much work remains in this area, Foothills has made a sound effort in trying to understand the complexity of this issue. Through its efforts Foothills has been effective in bringing together people that hold diverse values. All respondents attest to this fact and it is apparent in the operation of the Board. For example, the coalescing of

different groups has enabled some partners to bridge gaps that previously existed between them (e.g., Jasper and Weldwood), and has allowed them to work together to achieve the objectives of the MF program.

Like the other three Model Forests, Foothills has not only helped bridge differences, it has also helped develop commonalities amongst its members. One of the most prevalent commonalities is the set of values that the Board shares. This is evident in the responses that were given by respondents when they were asked to identify the values held by Board members. Many of them responded using collective terms such as “we”, “all”, and “us”, indicating that there is a set of values present amongst the Board that many, if not all, of the members respect and agree to. While many of the other respondents identified values that they thought were more characteristic of specific groups, rather than the Board as a whole, they were quite adept at identifying them. This indicates that there is a strong awareness of values at all levels of the Board.

This awareness of values may, in part, be implicitly understood “in the organization’s representation” at the Board, but likely has developed from the formal planning exercises (e.g., criteria and indicators) whereby partners’ values become readily identifiable amidst discussion. However, as many respondents indicated it was both formal and informal encounters of the Board that enabled the partners to gain an understanding of each other’s values. It appears thus that an initial awareness of values occurs through formal meetings, but the subtleties and nuances of these values only become thoroughly understood once the Board interacts in a more social and informal sense.

The act of sharing values, regardless of what sense it was done in, has had an obvious impact on the organization and the functioning of the Board. As one respondent noted; “the demonstration of values is reflected in the Phase II document” and “there is a subset of values embodied in the Board.” In review of the Phase II document there are four primary issues that FHMF is attempting to deal with and each of these issues is highlighted by a statement of values held by the Board. For example, the Board believes in “well-represented, strong, mutually-beneficial and supportive partnerships” in attempting

to build a solid organization. From this information it can be construed that there is truly a strong cohesion and awareness of values amongst the FHMF Board. The projects and planning exercises (e.g., criteria & indicators) have obviously drawn out the values of the Board members enabling them to not only condense them into “living” documents that reflect their views, but to “embody” them so that they are implicitly understood and shared by the members.

Understanding and sharing values has been a fundamental part of the Foothills’ Board and organization and should remain part of it. For such an endeavour could not only continue to propel the MF forward, but it could also give members insight into the chronology of changing forest values.

It is important for FHMF to do this, since many respondents felt the MF had been a good vehicle in assisting partner groups in translating their values into action, and it was through research projects of the MF that they were attempting to do this. These research projects have the potential in turn to inform policy makers about the diversity of forest values, and can influence them in making appropriate decisions with regard to SFM. As half of the respondents have indicated, present policy is outdated and government is unable to effectively adapt policy to adequately address forest values and related management issues. The following statements highlight this point:

The legislation we are dealing with is archaic and it largely focuses on a sustained yield basis...it has not progressed to include different facets of resource management (e.g., flora and fauna).

Moving from sustained yield to SFM...there have been no guidelines, it has been a wide open playing field and there are huge issues to deal with when moving from one to the other.

If senior resource managers who preside at the MF can objectively see the shortcomings of forest management policy and realize that the research undertaken in the MF can incorporate values into legitimate actions, then it is pertinent that the MF remain as the crucible to test these actions and continue to draw forth new perspectives from the

Board. The MFs were developed to accelerate change aimed at achieving SFM, and the FHMF has effective processes to instigate this change with Board members who have enough foresight to guide it.

However, it is questionable to what extent the FHMF will affect change given the composition of the Board. The FHMF Board consists of only eight different groups with representation predominantly being from the Province and Weldwood of Canada Ltd. Three representatives from each group sit on the Board. Given the fact that several respondents felt that it was land managers, such as Weldwood, whose values were often given, or perceived to be given, greater consideration in the decision making process of the MF, it will be interesting to see how vigilant the Board will be in incorporating different values into the program.

As a subsequence of this situation, many respondents recognized the need to attract other groups to the FHMF; including such groups from the oil and gas, and mining industries, as well as from Aboriginal and environmental groups. However, several other respondents were opposed to such an occurrence. They believed that the addition of new partners might “turn over the apple cart” or “diffuse the focus of the program.” Granted there is some validity to this perspective, since the addition of new members might hinder the progress of certain developments or slow down the endeavours of the Board. However, this calls into question the integrity of the Board in dealing with diverse value issues. Especially since the Board is streamlining its focus as it moves to more of a “top down” approach in Phase II, from a previous “bottom up” approach used in Phase I.

To overcome this deficiency “the door has been left open” for other agencies to join the FHMF Board. It appears though that no new members have joined as of yet. With the representation of values from the Foothills Partnership group being, as one respondent indicated, “a sham,” it appears the mix of values at the Board will remain relatively homogeneous for the time being. The Foothills Partnership group consists of approximately seventy different organizations from within Alberta and their values and views are represented by only two members from the MF Board. The Partnership meets

once or twice a year to discuss the happenings of the MF, but it is obviously inadequate to establish proper ties and representation. Both representatives to the Partnership did not feel confident in representing the Partnerships views, and when other Board members attempted to identify the values of the group they could only identify the values of the organizations in which the representatives belonged to, not those of the entire group. Injecting diverse values into the Board and program presently seems to be somewhat problematic as access and legitimate representation are limited.

Coupled with the fact that only half of the respondents believed the FHMF had increased their appreciation of the ways in which other people value the forest, it becomes apparent that the representation and motives of the Board may make it difficult to accelerate change aimed at achieving SFM. With a slow start in their communications strategy it may be difficult for the results of the MF projects and programs to be accepted by agencies not directly involved in the organization. Exclusion from decision making processes can also breed distrust amongst outside groups. Thus limited representation and few linkages to the FHMF program may slow the implementation of some well intentioned management strategies that develop out of the program.

As many Board members indicated, they felt that values research and the incorporation of such research could accelerate the implementation of SFM. Other members also mentioned that even though values research undertaken in FHMF has not yet influenced decision making outside of the MF it could in the future. However, given the limited representation of values that reside at the Board it may be difficult for these things to come to actual fruition. Status quo forest management has already been dominated by many of the same players and their values that are present amongst the MF Board. The bottom line for FHMF, therefore, is whether it has the conviction to seriously affect decision making and change policy to adopt SFM practices. The results remain to be seen. As one respondent summarized; "We are dancing right now. It is early in the game and things are going good, but we have big issues to tackle and that is when the MF will be tested; when we have really gotten involved in these issues."

4.5 THE CANADIAN MODEL FOREST NETWORK

4.5.1 Overview

The ten Model Forests in Canada represent both an unique and diverse assemblage of forests and people. In total, the Model Forests comprise more than 6 000 000 hectares of forest land and involve the participation of more than 300 different organizations (Brand et al. 1996). They contain a wide variety of forest types ranging from coastal to montane, and the range in their sizes (108 000 to 2 700 000 hectares) reflects the scale at which the forest areas are managed (see Figure 1). For example, the forest area in the Lower St. Lawrence MF, is the smallest, but it represents a highly populated rural area where forests are intensively managed hectare by hectare (Brand et al. 1996). Since land ownership within the Model Forests can be divided amongst several different agencies and/or individuals, their boundaries may be delineated based on ecological considerations, existing administrative boundaries or industrial forest license areas (Brand et al. 1996).

While the physical dimensions of the Model Forests appear to be diverse, the social dimensions of each organization are no less complex. They embrace a variety of social groups with different expertise, mandates and interests. Most MFs tend to have a large list of interested partner groups (e.g., Eastern Ontario MF has approximately 100 partner groups) which influence the operations of the organization. Their structure as well as their decision making and communication processes are designed to reflect the local context in which they exist. All the Model Forests address core issues such as ecosystem management, public participation, and the integration of specific and nonmarket values in decision making (Brand et al. 1996).

This portion of the study was intended to get a thumbnail comparison of values research and activities in the other Canadian MFs. To ascertain this information interviews were conducted with all of the Model Forests, except for Fundy. Six General Managers and three GM alternates were interviewed using the same interview survey that was used for the case studies.

4.5.2 Values Research

Values can be identified in a variety of ways, using both formal (i.e., direct) and informal (i.e., indirect) means. Formal means are directed at explicitly identifying values using some type of research method (e.g., surveys, interviews, contingent valuation). On the other hand, values can also be identified indirectly through informal means, such as conversations and observations, in which the objective of the process is not necessarily to acquire values, but values are emitted nonetheless due to the nature of the occurrence.

Of the nine MFs that were interviewed, three respondents indicated that formal attempts had been made to identify the forest values of their Board members. In these three MFs, values were identified in different ways and for different purposes. Long Beach MF had identified values through a needs assessment. The Western Newfoundland MF collected values to integrate them into their Integrated Resource Management (IRM) working group plan, whereas a baseline survey of values was conducted at Foothills MF as part of their socio-economic research.

Of the remaining six MFs it appears that the identification of values at the Board level has happened more indirectly (i.e., informally). At the Manitoba MF, for example, values were identified through the development of their five year plan - "by virtue of developing the five year plan, the various members' values are incorporated." Conversely, at two other MFs formal attempts were made to identify the values of different groups, rather than those of the Board. Prince Albert MF documented the values of the local Aboriginal communities in areas of significance around the reserves. McGregor MF identified values of their partnership in order to derive the framework (i.e., vision) for their MF. In follow up to this question, five of the six respondents stated that their MF planned to carry out values research with their Board in the future. Table 12 outlines the different approaches used by the Model Forests to identify values as identified by the GMs or their proxies

All respondents felt that their MF has served as a good means for bringing people together that hold diverse forest values. Several respondents strongly agreed with this statement. For example, one respondent stated, "Yes, that is probably one of our major

Table 12. Formal and Informal Approaches Used by Model Forests to Identify Board and Community Values

MODEL FOREST	BOARD VALUES	COMMUNITY VALUES	FUTURE INITIATIVES
Bas St. Laurent	<p>Formal - None. Informal - None.</p>	<p>Formal - None. Informal - Meetings and discussions. In the process of developing mgmt. plans for 3 territories in the MF, people exercised their values which are reflected in the plans. Have to revise the plans to extract the values.</p>	<p>Plan to obtain Board values in Phase II.</p>
Eastern Ontario	<p>Formal - None. Informal - None.</p>	<p>Formal - None. Informal - Phase I Evaluation, tradeshow and fairs (e.g., asked people what they knew about the MF. Indirectly obtained values).</p>	<p>May be part of criteria & indicators work. May also obtain values indirectly through Community Science project which aims to find out what people know from living in the area.</p>
Foothills	<p>Formal - Baseline survey of values. - Workshop (development of Phase II Proposal). Informal - Phase II Proposal reflects Board values (i.e., it is a living document).</p>	<p>Formal - Baseline survey of values. Informal - None.</p>	
Lake Abitibi	<p>Formal - None. Informal - None.</p>	<p>Formal - Survey/Interviews as part of development for Communications Plan. Informal - Public Meetings (received input from public for Phase II Proposal).</p>	<p>Plan to obtain Board and community values through development of criteria and indicators.</p>
Long Beach	<p>Formal - Needs Assessment. Informal - Meetings and discussions at the Board. - Informal speeches.</p>	<p>Formal - None. Informal - None.</p>	

MODEL FOREST	BOARD VALUES	COMMUNITY VALUES	FUTURE INITIATIVES
Manitoba	<p>Formal - Survey/Interviews.</p> <p>Informal - Meetings and discussions at the Board (i.e., members brought values to the Board, and by virtue of developing the 5 year plan.</p>	<p>Formal - Survey/Interviews.</p> <p>Informal - None.</p>	<p>Future values research will be done in conjunction with the Province and their ecosystem based management pilot project.</p>
McGregor	<p>Formal - None.</p> <p>- Partnership</p> <ul style="list-style-type: none"> - Workshop (to identify and rank key values to derive framework for MF). - Scenario Planning (to integrate values and project future sustainability of them). <p>Informal - None.</p>	<p>Formal</p> <ul style="list-style-type: none"> - Community - Survey (carried out with local, provincial and national publics). - Interviews (to determine non-economic values in the local region). <p>Informal - None.</p>	
Prince Albert	<p>Formal - None.</p> <p>Informal - Meetings and discussions at the Board and Working Group level (Board and working groups meet on a regular basis which provides an opportunity for values to be heard).</p>	<p>Formal</p> <ul style="list-style-type: none"> - Survey (asked Aboriginal communities to identify traditional use areas, significant areas, grave sites, areas for medicinal use, etc.). - Mapped values using GPS/GIS. <p>Informal - None.</p>	
Western Newfoundland	<p>Formal - None.</p> <ul style="list-style-type: none"> - IRM Working Group - Workshops. - Projects (Value groups under the IRM group could champion a value or value project). <p>Informal - Discussion (through developing the IRM group plan, people could talk about their values).</p>	<p>Formal - None.</p> <p>Informal</p> <ul style="list-style-type: none"> - Representation (Value groups represent the following values: timber, water, tourism, species & spaces, intrinsic, mines & energy, agriculture, and ecosystem health). 	<p>Plan to have criteria and indicators group link with the IRM and value groups, to create transparency for the IRM working group and the public.</p>

success stories.” With the exception of one person, everyone could identify some of the forest values held by Board members. Most respondents identified values that were individually held by members, but it was noted by others that some values were collectively shared by their Board as well. Most notably, one respondent felt that their Board all had “values in common about what is good for the forest, not [just] the organization.”

Large group projects and activities were considered to be the best means by which the different partner groups could gain a better understanding of each other’s values. Meetings held to discuss issues such as management plans, criteria and indicators, and strategic planning were identified by some as the processes in which values could be most readily exchanged. One respondent stated that more informal discussion and socializing among their Board would help partners in learning about each other’s values. Another respondent believed that better communications could increase the exchange and appreciation of values.

Despite the sharing of values and the greater awareness that Board members have attained, four respondents felt that some groups’ values were given greater consideration than others for inclusion in the decision making processes of their MF. It appears that the values of government, industry and Aboriginal groups are often given the most consideration. For example, it was felt that “support of industry and government in projects is important for projects to proceed.” One respondent felt it was merely by virtue of the individual representative that a group’s values were considered more than others. Another respondent indicated that in theory it did not occur at their MF because the Board was working on a consensus basis. However, in practice it did occur “because of built in biases we all have. For example, timber [industries] are more proactive and values are bounced off of it.”

While four respondents disagreed with this question, their answers indicate that certain values have influenced, or have the potential to influence, the decision making process of the Board. It seems that at LAMF even though the values of some groups are not given greater consideration, people both inside and outside of the organization still

perceive that they were. At Prince Albert MF, it appeared that government and industry may have to carry the MF financially in Phase II, but the good thing is that “all the partners agree to remain equal.” In the case of Eastern Ontario MF, Aboriginal values were “brought to the forefront because they are often overlooked” in the decision making process.

This leads to the next question which asked respondents if they could identify any changes that had occurred in the decision making process of the MF due to the consideration of values. Eight respondents affirmed that changes had occurred. Lake Abitibi and Eastern Ontario MFs had specifically changed their decision making process to a consensus based approach because of the consideration of values. At the Eastern Ontario MF, the influence of the First Nations and their values changed the process; “First Nations led the MF to consensus decision making. Without their input it would have been the traditional style of decision making.” One respondent indicated that new partnerships were being developed between groups at his/her MF. At other MFs, changes seem to happen more subtly in “the way things are done” or “looked at.” Concepts have been revised with respect to achieving sustainable forest management, and projects and programs are more coordinated (e.g., criteria and indicators).

As all the MFs have different land management agencies represented in their partnership, they have the potential to influence forest management decision making processes external to their program. Given the responses, it appears that the majority of MFs have not considered this issue. Only three MFs (Foothills, McGregor and Western Newfoundland) have discussed specifically how the values held by the Board could apply in other decision making processes. The approach of the McGregor MF was designed precisely so that it was transferable to other groups and their processes. “The system reflects the values that people hold and share towards the objectives that are set.” Foothills and Western Newfoundland MFs used different approaches. Western Newfoundland was attempting to do it through the criteria and indicators process and through working with the timber company(ies) in the development of their five year plans, whereas Foothills was trying to do it just by bringing groups together to discuss issues.

Even though six of the MFs had not discussed this issue, respondents felt that if various research approaches and methodologies were tested in the Model Forests they could be integrated eventually into outside processes. For example, it was stated that, “By working with government and landowners MF projects and activities might apply outside the MF,” and “Research and discussion may eventually be integrated into policy. What has been a proposal in the Model Forest has become a plan outside.”

With regard to doing values research beyond the MFs, eight respondents indicated that their MF had engaged in research amongst the broader community not directly involved in the organization. It seems this information has had more of an influence on processes outside of the MF organizations than the values work that has been done internally. At three MFs, this information has either entered into management plans or has had direct affects on forest management. At Western Newfoundland MF, for example, “values have entered into plans as buffers around communities...[and] we are going to make a presentation to the Minister and be more active with senior decision makers.” At Prince Albert MF, “Aboriginal values have been taken into consideration. Areas have been GPSed and identified as areas of care with respect to timber harvesting.” While some MFs are presently undertaking or preparing to initiate a valuation process, their outcomes may also have implications for forest management, as Manitoba MF is working in conjunction with the Province to do this work and the McGregor MF specifically designed their framework to be put into an operational context. As stated, “We built the framework to make decisions. It includes practice, people and information. We are trying to incorporate it into an operational context now.”

In relation to the above question, respondents were also asked if their MF had assessed how different partners perceive the legitimacy of other stakeholders and their values. Of the nine respondents, only two (Manitoba and McGregor) indicated that they had. One of these respondents felt that it happened implicitly in the process of bringing people together, and stated:

...your perspective increases around a range of values that need to be reflected in forest management. It is in the linkages of how your values relate to other values.

It happens by interacting with a broad range of actors - assumptions change. The partnership allows you to test fundamental understandings and challenge oneself.

Since much of the values research has just been initiated in several of the Model Forests, partner groups have not received much feedback on this issue. Only three of the eight MFs have provided information to their partner groups. However, three other MFs plan to discuss this information with their partnership in the future once the research is completed.

As a forum for bringing people together, the MFs have helped partners' gain an appreciation of the ways in which other people value the forest. All respondents fully agreed to this fact and felt that participation in the MF program had been an educational experience for many people. Some respondents felt that trust and a certain comfort level had been established amongst partners. Misconceptions have also faded because there is a "better understanding of what some groups need." It appears that the interaction amongst groups through such means as meetings, workshops, training courses, etc. have all helped people to share information and learn about their commonalities and differences. Three respondents indicated that partners have gained a better appreciation, in particular, of Aboriginal values. The benefit of creating partnerships is aptly summarized by one respondent, who states:

People recognize the value of partnerships and inherent in that is the broadening of people's values. Most people share similar values. They have more similarities than differences. The challenge is how to sustain what people value. It's not in the why, but in the how.

As the MFs were designed to accelerate the implementation of sustainable forest management, they have the potential to influence this process by incorporating values research into present management practices. When respondents were asked if they thought that values research had the potential to do this, eight respondents agreed. One respondent on the other hand, "hoped" it would happen. Most respondents felt that if values were better known than management practices could be designed to sustain them. As one respondent noted, "There are so many perceptions and values, and if people don't know what they are you can't expect them to be responsible and protect them." It was

also mentioned that values had to be sustained at a local level, but had to be known and connected at a higher level of management. For example, “stakeholder involvement is key to SFM...people know what is sustainable and what is not.” However, “approaches have to be designed to bridge gaps - connect local and higher levels. We have to bridge the gap between people that decide what needs to be done and the people that do it.”

4.5.3 Critique: Values Research in the Canadian Model Forest Network

In summary, it is evident that the Canadian Model Forest program, in general, has been effective for bringing people together that hold diverse forest values, and has increased the various Program Management Boards’ appreciation of the ways in which other people value the forest. As the Model Forests are beginning to identify, understand and integrate a diversity of forest values into their various programs, these two aspects are a positive first step at setting the wheels in motion towards achieving SFM practices. Creating awareness about the values people attach to the forest, and developing forums to allow for an open, democratic exchange among diverse, and often competing groups, is an effective way to instigate change and develop trust in the area of forest management. This is especially true since these aspects have often been criticized as lacking in forest management practices in Canada in the past.

While this is a positive beginning, work remains to be done in the Model Forests with regard to doing values research, however. In review of the study findings it is apparent that the research that has been done in Phase I, at both the Board and community level, has been carried out with no clear methodology or set direction. The only MF perhaps exempt from this criticism would be the McGregor Model Forest. This MF identified and utilized values as the base upon which to build their vision and objectives for the program. All the other MFs, in contrast, seem to have undertaken values projects in a slightly haphazard fashion without a clear framework in which this information can feed into future and/or simultaneously related processes. Having a well developed methodology for carrying out values research is important because it can help the MFs

design and utilize methods that can succinctly capture the array of values that people in their province and region attach to the forest. It appears though that this aspect is changing and will improve as the MFs now have a mandate in Phase II to do values research in relation to developing criteria and indicators. Five Model Forests (see Table 12) plan to undertake values work in Phase II, and hopefully it will cause them to take an introspective look at their projects and programs and give them a clearer direction in which to carry out values work.

Taking an introspective look at their programs would be beneficial to the Program Management Boards in particular. Doing values research at this level is important, and should be done by the Boards to assist them in defining processes that are not only conducive to operating a well run organization, but are also suitable for implementing changes directed at achieving SFM. Formal values sharing and identification has occurred among three Model Forest Boards (Foothills, Long Beach, Manitoba). It has also occurred among the partnership group at McGregor MF and at the IRM working group at Western Newfoundland MF. Identifying and sharing values is important at this level because these groups set the direction for the development of the projects and programs. If individuals are relying on gut feelings and simple perceptions about what other groups value about the forest, they could be developing a sub-optimal approach to SFM. If the “right values” are not represented nor understood at the Board, then the “right processes” for achieving SFM may not be attainable. As only five MFs have attempted to ascertain this information, and four did it during Phase I of their program, it is important that the PMBs initiate and regularly continue to carry out a formal values sharing exercise. This is important because it helps each organization to evolve and adapt their approaches to SFM. This situation, in turn, can help strengthen the validity of their approach and increase their influence upon outside agencies concerned about, and responsible for, forest management.

In addition, identifying and sharing values could help alleviate the perceptions about some partner groups being given greater consideration than others in the decision making processes of the MFs. Eight of the nine respondents indicated that this situation was occurring at their MF. The misconceptions and distrust that can arise out of such

situations can potentially hinder the progress of the program. Regularly sharing values, therefore, could dispel any myths or ill-conceived notions that partners may have about each other.

Furthermore, an ongoing review of the Boards' values could assist in determining methods that are more conducive to elicit different people's values. No single method is applicable nor effective for acquiring every group's or community's values. A first hand experience of identifying and sharing values, thus, could open Board members' eyes to the ways in which other people value the forest as well as to the methods which most accurately and appropriately elicit their values. For example, at Western Newfoundland MF it was realized that, "We are in the part of Canada where timber has been ruling the roost. Their values were number one. Now government and companies that sit on the Management group realize other values." A process of this nature, therefore, could help integrate values work into other agencies' processes and functions (e.g., government). By having them become more aware of the information and processes that have been tried, it could help them carry out values research of their own. For example, the Manitoba MF and the Department of Natural Resources are working together to develop a framework to carry out values research in the Province's Ecosystem Based Management Pilot Project. By having a representative of the Province sit on the Board and experience different processes for identifying and sharing values could assist them in developing approaches that will be appropriate for their EBM valuation process.

This type of experience is of particular importance since eight of the MF respondents indicated that they believe the values work carried out by the MFs have the potential to influence SFM practices. While the Model Forests are just beginning to undertake and utilize values work, they are already having some impact on management practices (e.g., timber harvesting practices). The consequences of their work, therefore, could have more far reaching impacts in the future. For example, they could change the face of forest management and policy if they accurately and unquestionably demonstrated the benefits of certain undertakings (e.g., criteria and indicators, tenure reform). With committed Board members who endeavour to achieve this end, SFM practices will

hopefully come to fruition through the influence and leadership of the Model Forests.

4.6 CHAPTER SUMMARY

The findings of the study have been highlighted and presented within this chapter. The findings of the four case study Model Forests were first presented based on interviews conducted with the General Managers and members of the Program Management Boards of those MFs. The findings of the overall MF program were then presented based on the results of the interviews conducted with six MF General Managers and three GM proxies. The analysis of these findings was largely based on the following three theme areas: how the partners of the Program Management Boards have shared their values, if broader community values have been determined, and what the implications of each have on management decision making both within and outside of the MF organizations.

With respect to the first theme, the findings reveal that most of the values sharing amongst the members of the various Boards has happened on an informal basis. This has happened largely through meetings and discussions of the Board, and by virtue of the partner representatives. Values of various partner groups are also inferred through their involvement with, and sponsorship of, different projects. Formal attempts, however, have been made to identify the values of either the Board or partnership/working groups within five of the MF organizations. Surveys and workshops have been the most common method used to carry out this research. Despite the different attempts that have been made to identify values, all the Model Forests have been regarded as good forums for bringing people together that hold diverse values.

Another aspect of this study was to determine whether the values of the broader community (i.e., of those individuals and groups outside of the Model Forest organizations) had been identified. Eight Model Forests have engaged in values research amongst the broader community. Much of this research, however, has only been initiated in Phase II, in response to the changes in the program objectives and the mandate to establish criteria and indicators. In three cases (Manitoba, McGregor, Lake Abitibi, MFs)

where research had been carried out in Phase I, the work so far has been used at an operational level within the MFs themselves for such things as developing the Phase II proposals or communication plans. Values information, however, has been used to some extent at an operational level outside of MFs. For example, First Nations cultural values have been incorporated into the harvesting practices of the local industries in the region of the Lake Abitibi and Prince Albert MFs. The most notable use of values research has been carried out by the McGregor MF, which used this information as a means to design the approach and framework of their MF.

This leads into the next area of the study which focused on the implications values research would have on decision making. This included values research from both the Board and community level, and the implications they would have on decision making inside and outside of the MF organizations. At the Board level, the values sharing amongst members influenced the decision making process of the Eastern Ontario and Lake Abitibi Model Forests. In both cases the MFs changed their decision making process to a consensus based approach from the regular majority vote. With respect to community values research, the majority of the MF Board members have gained a greater awareness of ways in which other people value the forest. As such, the attitudes of many Board members have changed and members have been able to build better relationships. Values research within the MFs (both the Board and community values), up to this point has had a minimal impact, if any, on decision making outside of the MFs.

Furthermore, this research has not impacted forest management planning or policy at a higher level outside of the organizations (e.g., government departments). Since the MFs were established to accelerate the implementation of SFM it is pertinent to examine the extent to which values research in the MFs can influence and inform this process. This discussion is provided in Chapter Five, in which a comparison of the four case study Model Forests is made and a discussion on the Model Forest Network is presented.

Chapter Five

CANADIAN MODEL FORESTS: MANAGING FOREST VALUES?

5.0 INTRODUCTION

Sustaining a diversity of forest values on the landscape is a critical aspect to achieving the goal of SFM. In order to achieve this goal, forest values must first be identified and integrated into forest management and decision making processes. As the Model Forests were designed to “model” new approaches of SFM, it is important to analyze and determine to what extent they have incorporated values into their activities in order that they might influence and drive this process.

In this chapter a comparison of the values work initiated in the four case study Model Forests is provided. This discussion highlights the various ways forest values have been, or could be, integrated into SFM practices at the regional level of each of the Model Forests. This is followed by a discussion on the values work that has been done throughout the Model Forest Network and highlights some of the broader lessons that could be learned with regard to SFM at a national level.

5.1 A COMPARISON OF THE FOUR MODEL FORESTS

The comparison of the four Model Forests is based on the following themes: values research, values sharing processes, values as a means for bringing people together, partner representation, Board structure, and integration of values into decision making processes. These themes were chosen because they are the aspects of values that directly affect the MF’s approaches to SFM. They are the how, when, where, who, what and why of the MFs. As the MFs were designed to demonstrate and accelerate SFM practices, these themes are, in essence, the aspects that influence SFM. As such, they should be critically examined to determine how effective the MFs have been at accelerating SFM.

By focusing on the values research that has been undertaken in each of the MFs, the when and how aspects of their approaches to SFM can be evaluated. With regard to values research done at the Board level, formal attempts have been made to identify values at Foothills and Long Beach, and to some extent at the MBMF. In contrast, it appears that the Manitoba MF and the Lake Abitibi MFs are just beginning to initiate research directed at identifying the broader communities' forest values. Foothills has already undertaken this process, but the results of the research were still pending at the time of interviewing and analysis of this study. Long Beach, on the other hand, has not initiated this type of research themselves, but this information is available from studies carried out by other agencies.

As this is the sixth year of the program, it seems that it would have been beneficial to carry out this type of research earlier on. Granted there were many administrative and logistical hurdles to overcome in the first few years of the program, but it does not diminish the fact that the primary focus of MF research projects were based on the biophysical, instead of the socio-economic dimensions of forest management. In addition, it seems that values research has not been a priority set by the MFs themselves. Rather, it has been a priority set by CFS, which has implemented it as part of the objectives for Phase II and as part of the criteria and indicators program. It was noted in the literature (Yankelovich 1994), "that it is not until changes in values are well advanced that they begin to be measured. By then, however, the opportunity to establish a baseline has been lost." Since the MFs are now beginning to measure and identify values they have the opportunity to establish baseline data and document trends. If forest management is to shift to a sustainable basis and adapt to changes in societal values, then the temporal aspects of values must be documented on a regular basis (Robinson et al. 1997). Despite the initial lag in values research, it appears that most MFs now have the potential to better direct and assess their approach to SFM.

The research methods used to measure and identify values are also important in the process of SFM. In relation to the MFs, they are the aspect that deals with how values are being measured and used in their approaches to SFM. Based on the study responses it

appears that some type of formal process has been initiated at Long Beach, Manitoba and Foothills MFs to share values, but the more informal processes (e.g., discussions) are more often relied upon. With regard to the methods employed to elicit values at the community level, it appears that all the MFs except for Long Beach have utilized formal techniques such as workshops and surveys to carry out this work. As values arise in different contexts and people draw on them for different purposes (O'Brien 1995), it is important that new and various methods are used to identify and measure values. This is important because a combination of disciplinary approaches can provide a more complete picture of how people value the forest (Bengston 1994a). Furthermore, the shortcomings of one method could be countered by the strengths of the others (Beckley et al. 1997a). If the MFs are to truly affect change aimed at achieving SFM, then they should attempt to use new and combined methods in their valuation process. This should be done so that they can acquire information in an accurate and succinct manner. In turn, they could utilize this information to better understand the local context in which forest values arise.

With regards to the research carried out by these four MFs, it is also apparent that the values that have most often been captured in their valuation processes have largely been terminal and assigned values. In other words, the end states that people value of the forest (e.g., biodiversity, scenic values), and the relative worth people assign to forest goods and services (e.g, timber, camping). This is important information to acquire since it can inform forest managers and decision makers about what it is people value about the forest. More importantly, however, information is needed about the means by which the public wants their forests to be managed. This information largely exists within the realm of instrumental values. As there has been little to no research done in this regard within the MFs, it will be difficult for them to devise and demonstrate management strategies that sustain the forest values that people hold. As such, they are lacking another very fundamental aspect within their valuation process as well as within their approach to SFM.

With respect to the second theme, which deals with values sharing, this aspect focuses on where, or what level values have been incorporated into the MFs. Based on the study responses it appears that most of the values sharing in the MFs has largely been

carried out at the Board level. Since the majority of the values research is just beginning at the community level in the four MFs, there has been no opportunity to take this information back to the communities and share it with them.

However, it is evident that the values that have been shared at the Board level have assisted the partners in gaining a better understanding of each other's values. This is based on the fact that the majority of respondents (53) felt they could identify the values held by Board members participating in their MF. This is important because it helps create awareness about the diversity and complexity of values. It enables people to understand why and how values need to be sustained. As such, it enables the MFs to develop approaches that can be both socially acceptable and biologically sound (Brand et al. 1996). While this is a positive beginning for the development of SFM practices, a caveat should be issued; for the values that Board members think they can identify may not actually hold and be completely valid. The accuracy of how well members could truly identify each other's values has not been checked and in most cases it seems that individuals tend to rely on their perceptions and assumptions about each other. To ameliorate such potential deficiencies in their approaches to SFM, therefore, the Boards of the MFs should continue to undertake formal values sharing exercises.

With respect to the third theme area, it is apparent that all four of the MFs have served as a good means for bringing people together with diverse forest values. This is demonstrated by the fact that every Board member interviewed (55 in total) agreed with this point. Some respondents felt strongly about this factor as well. This is important because it shows that the partners value the process and feel that it has merit. Each of the Boards have had to deal with divergent values and views. Based on the findings of this study it is apparent though that each organization has been a good forum for reconciling and integrating some of these differences.

In relation to the above discussion dealing with methods, this theme area also relates to the how aspect of values (i.e., how forest values should be identified using public processes). As outlined in the literature review chapter, there are several different

mechanisms that can be used to involve the public in forest management decision making (e.g., public hearings, focus groups, etc.). However, the manner by which people are involved is important. This is important, because the public has become increasingly critical and distrustful of the way management decisions have been made in the past (Higgelke & Duinker 1993, Tanz & Howard 1991). Previously, the public has not been substantively involved in the development of management plans and policy (Beckley et al. 1997a), and, as a result, they have become frustrated with processes that exclude them or “end run” around them (Tanz & Howard 1991).

In order to earn the trust and respect of the public, managers and decision makers must be willing to learn with people, and let them participate in the decision making processes used to manage their forests (Tanz & Howard 1991). Thus, these processes should be designed in a collaborative and meaningful fashion, whereby citizens accept and have some control over the process (Brand et al. 1996, Parker 1995). As evidenced in the following quotes, it appears that the MFs are forums which can begin the process of developing trust among the public and can develop processes that work for them:

...other processes are short-term, ad hoc and confrontational, but the MF is not.

What the MF has going for it is that there is a broad membership on its Board of Directors. If LBMF gets involved with social values research it would be better respected than if another groups did it.

Through the interaction of various Board members...they are able to work out their differences so that mistrust crumbles, and they can find mutual compromises.

Given these facts it is likely that the MFs can also begin to ameliorate some of the deficient aspects of previous decision making processes, and demonstrate to managers and decision makers processes that are effective, useful and acceptable.

While these four MFs have been good for bringing people together, it should be noted that several key partner groups were not represented in each of the MFs at the time of interviewing. In the case of the Manitoba MF there were no First Nations representatives (however, recently two First Nations have taken up seats at the MBMF

Board). Long Beach MF was missing the Manufacturer's voice (i.e., MacMillan Bloedel). Lake Abitibi MF did not have an environmental representative, and Foothills MF was missing both First Nations and environmental representatives. This relates to the third theme area dealing with partner representation and the aspect of whose values are being considered in the MFs' approaches to SFM.

All the groups that are not represented on the MF Boards tend to have strong views with respect to forest management issues. Furthermore, the Canadian Forest Service has indicated that the management structure of each MF should represent a wide range of views from various organizations and interested parties. In a process of this nature, a broad representation of values is imperative to the program so that the MFs can develop and demonstrate new management strategies. It is precisely these groups' values, therefore, that need to be represented so that the management structure of the MFs can be effective for designing better forest management practices. As Maser (1996) notes:

A prerequisite for sustainable development in a local community is that it must be inclusive, relating all relevant disciplines and special professions from all walks of life...what is at the heart of sustainable development is joint ownership...there is little real chance of moving forward without communities of people and dynamic leaders who are genuinely committed to sustainable types of change. The search for quick fixes usually results in superficial changes with respect to some problematic symptom but leaves untouched the deeper cause of the symptom (Maser 1996).

As community-based, multi-stakeholder organizations, the MFs should continue their attempts at getting representation from the groups that are presently missing, so that their approaches to SFM can receive wider acceptance and they can truly demonstrate how forest management can be done in an equitable and sustainable manner.

This relates to the next point concerning the structure of the four Model Forest Boards. Manitoba, Long Beach and Lake Abitibi MFs all have a bottom-up or grassroots approach in their organization. Conversely, Foothills MF has moved to a top-down approach in their organization for Phase II. The structure of the Board is important because it also influences whose values will be incorporated into SFM practices. There

has been a growing distrust amongst the public with an hierarchical, top-down management approach because this approach has largely excluded the public's values and views (Higgelke & Duinker 1993, Beckley & Korber 1995). The public is looking to participate in open, collaborative processes in which information is free flowing. Having a Board that is largely representative of industry and government values, and which operates in a traditional fashion runs counter to what people presently value in a management decision making process.

Foothills MF has a good opportunity to influence forest management policy and initiate change with respect to SFM because of its board composition and their access to senior policy makers. However, it is questionable if any policies or changes would be socially acceptable among the larger population. Furthermore, it is questionable to what extent these policies would serve since many of the public's values and views could be omitted from the outset. Maser (1996) again aptly summarizes the importance of having broad based community involvement:

...the valuation/decision process through which sustainable development works must flow within and promote the democratic frame of reference because democracy only works when it is actually practiced. In this sense, most of the change must be directed by the people from the bottom up - the grassroots (Maser 1996).

To make an impact and to have far reaching effects on forest management all the MFs, therefore, should maintain processes that are less restrictive and more inclusive.

The last theme in this discussion focuses on the integration of values into decision making processes. This is the *why* aspect of values (i.e., why values are important for forest management). Values are important because they have the potential to drive changes in people's behavior and assumptions (O'Brien 1995). Essentially, they have the potential to influence forest management decision making and accelerate change aimed at achieving SFM.

The majority of Board members at the four Model Forests believe this is possible and feel that if decision makers are made aware of diverse forest values they could be

better sustained on the landscape. All the Model Forests have the opportunity to link with provincial decision makers in various ways: Manitoba MF can link with the province through their Ecosystem Based Management Pilot Project; Long Beach MF can link with the Scientific Panel; Lake Abitibi can work with the province through the Local Citizens Committee; and, Foothills could work with the province through the Alberta Conservation Strategy. As Maser (1996) notes, "sustainable community development creates a mechanism for information to feed through the political system and direct change towards a dynamic equilibrium between the community and its environment." The MFs have the potential to do this since they can link community values to the political system through government representatives that sit on their PMB . However, since much of their community values work is still in the making, there has been no impact on decision making outside of the Model Forest organizations as of yet.

There have been changes, however, in the decision making processes internally at each MF due to the consideration of partner's values. All the Model Forests indicated that Board members' attitudes have changed and there are better relationships between members. Partners are also working towards finding common ground and decisions have been stopped in consideration of certain values. In the case of Lake Abitibi MF their decision making process changed from a majority vote to a consensus based approach. This was done in order to accommodate differences in values and because they did not want to create "winners and losers" in the process. These are positive changes that are needed to put the public's faith back into decision making processes. The MFs, therefore, should better illustrate these processes to managers and decision makers in order that forest management might evolve to a level that is both politically and ethically valid (Parker 1995).

In the comparison of the four Model Forests it is apparent that they have approached the values aspect of SFM in different ways. This is important, because forest management must be devised within the regional context so that it can be adaptive and flexible to changes in society (Brand et al. 1996). The Manitoba Model Forest, for example, has a grassroots approach with a broad representation of partner groups except

for First Nations. It has employed both formal (e.g., workshops) and informal (e.g., member representation) mechanisms to identify and share values at the Board level (see Table 12). The identification of values has had some impact on the organization's decision making process, but has no impact outside of the organization (e.g., members of the Board trust each other and talk things out more, but values identification has not changed how forest management decisions are made in the Province). The perception exists that the values of Pine Falls Paper Company are given greater consideration in decision making of the organization.

Similarly, the Long Beach Model Forest also has a grassroots approach with a broad representation of sector groups, most notable being the youth sector. Representation is missing from the major manufacturers' sector. Both formal (e.g., needs assessment) and informal mechanisms (e.g., discussions) have been used to identify and share values amongst the Board. Workshops and presentations have been particularly useful. An awareness of values amongst the Board has helped refine their decision making process. First Nations values seem to be given greater consideration.

Lake Abitibi Model Forest is structured using a bottom-up approach and has a diverse representation of partner groups. It is lacking an environmental representative. Most of the values sharing amongst the Board has gone on informally (i.e., at Board meetings). Due to the consideration of partners' values their decision making process changed to a consensus based approach. The perception exists that the values of Abitibi-Consolidated are given greater consideration in the decision making process.

In contrast to the other Model Forests, Foothills Model Forest operates in a top-down fashion and has limited values represented on the Board. The values posed by environmental and First Nations representatives are not present on the Board. The Board has employed formal mechanisms (e.g., through strategic planning processes) to share values, but partners have been able to identify values through informal processes (e.g., social engagements) as well. Their decision making process has largely been influenced by government and industry, which have similar forest values. While accommodations have

been made to include different organizations and diversify the values present among the Board, Foothills seems to be convinced that they have a broad enough mix of values represented at their Board table . The decision making process has changed favourably due to the consideration of partners' values (e.g., better awareness and appreciation). While the values among the Board members are primarily the same to begin with (e.g., sustained yield, resource extraction, etc.), the level of accommodation has changed between some groups (e.g., Weldwood Co. and Jasper National Park). Outside decision making processes have not yet been impacted.

This reflects what the literature concludes - that no single approach to forest management is right for every region and community. As Parker (1995) states:

The classic democratic dilemma is between the "right values" and the "right processes" ...of course we want both, but in pursuing either one we may lose the other. Often, we do not trust democratic processes (the "right processes") to yield the values which we can respect, and if we pursue the "right values" we may sacrifice the majority agreement necessary to enact these values in democratic societies. For the "democrat" the "right processes" have to be processes which confer political legitimacy through the involvement of citizens (Parker 1995).

As the four MFs have been established on the basis of citizen involvement, and have gained legitimacy among the members that participate in them, they are, to a certain extent, "the right processes" for initiating SFM. However, as forest values are an essential requirement for setting the direction of SFM, and the MFs are just beginning to gather and utilize this information, their "processes" need some adjustment. New methods for values research need to be employed, partner representation and Board structures need to be improved, and values information generated at the MFs needs to be integrated into forest management decision making outside of the organizations. There are no easy answers to the questions and challenges posed by SFM. However, by identifying and utilizing forest values through different processes, such as those being developed and demonstrated at the MFs, then perhaps SFM will truly be achieved within Canada in the future.

5.2 AN OVERVIEW OF THE CANADIAN MODEL FOREST PROGRAM

In 1996 a national evaluation of the Canadian Model Forest Program was conducted (Gardner Pinfold 1996). In this evaluation, most respondents indicated that their MF had been either successful or somewhat successful in the following ways:

- The Model Forest has increased my appreciation of the values other people assign to the forest.
- The Model Forest has served as a good means for bringing people together with conflicting values.
- The Model Forest has demonstrated forest management involving a wide variety of stakeholder values.

The results of this study concur with these findings.

Furthermore, the national evaluation indicated that:

Each MF should have as a clear goal the design, development and implementation of a plan that addresses sustainable development in forestry on the ground through a range of resource values appropriate to the area (Garner Pinfold 1996).

Most MFs, at present, are attempting in different ways to gather values or develop processes appropriate for doing so. As a result, it is difficult to determine whether any such plans are forthcoming. However, given that some MFs already have had some success in influencing forest management plans and practices, and that most respondents felt that values research, collected from both the Board and community level, could influence forest management decision making processes, it seems that most Model Forests are attempting to devise some kind of strategy that will have on the ground impact.

Understanding the diversity of values that people hold with regard to forests provides managers and decision makers with relevant information about what end states forests should be managed for. Values research, however, also provides the means by which forests should be managed. It gives managers information on how to manage forests that are socially acceptable and biologically sound. By recognizing and addressing all relevant stakeholders' values and interests creative solutions can be crafted that are likely to last (Canadian Round Tables 1993). The importance of understanding and compiling the Boards' values, therefore, is so the likelihood of devising creative solutions

and processes for managing forests can be increased. Based on the findings in this study it appears that very few Model Forests have undertaken this initiative as of yet. Values research has had a slow start in the Model Forest Program overall, and only a few Model Forests have realized the importance of collecting Board values and implementing alternative strategies to challenge status quo forest management. Most of the values research is just beginning and is based on weak methodology.

While it is encouraging to note that the majority of MFs foresee the potential of using values research to influence forest management practices they should take heed of the importance of devising innovative processes and solutions. It is noted in the literature (Cramer et al. 1993) that decision makers quite often are partial to their own values and distrust the public's level of understanding with regard to specific issues like forest management (Robinson et al. 1997). Given that many of the respondents felt that the values of industry and government were given greater consideration in the decision making processes of the Model Forests, innovative processes designed to instigate change may be met with some opposition. Therefore, there should be an educational and training component that accompanies these processes so that a lack of trust and comfort will not impede the process. For example, this could be done by working with academics and researchers (e.g., CFS) that have experience doing values research in a variety of different disciplines (e.g., anthropology, economics, sociology). These individuals could work with the MFs to develop the "right processes" (i.e., those deemed to be acceptable by the Canadian public) to elicit values for devising unique approaches of SFM.

In addition, since a complete identification of all relevant forest values may require the utilization of different research methods that span several disciplines, decision makers should also be made aware of the legitimacy of each of these methods. Often times decision makers solely rely on economic valuation because they do not have the time nor the inclination to understand other methods (Gregorson et al. 1996). Researchers, therefore, are needed to help devise a framework for carrying out different types of research so that the public's values can be captured accurately and integrated into forest management practices.

Another important factor to consider about values and implementing change directed at achieving SFM is the legitimacy decision makers ascribe to various stakeholders for having input into forest management decision making processes. This issue is important because it determines who will have access to influencing the process of SFM. Only the Manitoba and the McGregor Model Forests have given consideration to this issue. However, other Model Forests should probably consider it if they want their processes and solutions to be accepted and taken seriously. For “in the absence of complete information politicians act on what they think their constituents will favour, they implicitly assign greater or lesser legitimacy to the needs, interests and concerns of stakeholders” (Beckley et al. 1997a).

Understanding the influences and changes in forest values is a task of monumental proportion. It requires new approaches and frameworks, for sustaining values, as one respondent noted, is “not in the why but in the how.” Achieving SFM, therefore, lies within the development of sound and innovative processes. As crucibles for testing these processes the Model Forests have to be forthright and vigilant in devising and adapting them. While they are just beginning this work and appear to be headed in the right direction, the proof has yet to be seen in the pudding.

5.3 CHAPTER SUMMARY

In this chapter the results of the study were discussed. A comparison of the four case study Model Forests was first presented. This discussion was based upon six themes, including: values research, values sharing processes, as forums for bringing people together, partner representation, Board structure, and the integration of values into decision making processes. This was followed by a discussion on the values work that has been done throughout the Model Forest Network.

With regard to the four case study Model Forests it is apparent that values research is in its infancy. The work that has been carried out has had some impact on forest management so far. Values have been identified and shared through both formal and

informal methods within all four of the Model Forests. However, only a few different methods, such as interviews and questionnaires have been employed. There has been no overarching methodology developed to guide this work as of yet. Based on these four Model Forests there appears to be two different camps within the program; those Model Forests with a broad representation and bottom-up approach, such as the Manitoba, Long Beach and Lake Abitibi MFs, and those with a small representation and top-down like the Foothills MF.

The discussion on the overall program highlighted similar facts. In both cases it has become apparent that the Model Forests have approached SFM in various ways that best suit the local, regional context in which they exist. Their approach to carrying out values research, in turn, has also been varied. The ability of the MFs to design their own approach to SFM is a positive aspect of the MF program, because it enables Canadian citizens to design forest management practices that will be most apt to serve their needs and respect their values in the long run. This hinges, however, upon whether the Model Forests can develop succinct frameworks to carry out, and set management objectives for, values research. If this can be done then perhaps their approaches to SFM will be better served and have more far reaching impacts.

SUSTAINING CANADIANS' FOREST VALUES

6.0 CONCLUSIONS

The overall purpose of this study was to compare how various Model Forests have attempted to ascertain and integrate information about forest values into their specific projects and activities in order that they might demonstrate sustainable forest management practices. The results and conclusions of this study reflect only a snapshot in time, however. This research was based upon interviews conducted with the General Managers and members of the Program Management Boards during July 1997 and April 1998. As such, it does not reflect the values work that has been carried out since that time. The Model Forests are dynamic and ever changing entities, and while the conclusions of this study are relevant they do not capture the full range of values work that has been in progress during the development of this study. In order to do the study though, four objectives were formulated to provide the structure of this practicum.

The first objective of this study was to determine which forest values have been identified or documented by each of the Model Forests. Overall, the values that have been defined by the Model Forests have largely been the values of the Board members and the local public located within the region of the Model Forests. Most of the values that have been identified can be classified as *held* (i.e., terminal) forest values (e.g., Cultural Heritage project at LAMF, identification of Aboriginal values at PAMF, Mapping Values project at WNMF). These are the end states or attributes of the forest that people value. There has been very little research done on the *assigned* or *instrumental* values of the forest. In other words, there have been no priorities or preferable means identified to establish how forests should be managed. McGregor is the only MF that has specifically used their partnerships' values to devise the framework and vision for their MF as well as for their approach to SFM. While values at the Board level have only been formally

identified in three MFs, all the Board members, however, feel that their MF has served as a good means for bringing people together who hold different values and have helped people to gain a better understanding of the different values that other people attach to the forest.

With the change in MF objectives for Phase II to include both the establishment of criteria and indicators, and the encouragement of a broad range of forest values into each of the MFs, it appears that this has been an impetus for many MFs to start incorporating values research into their program. Previously, in Phase I, there was little research done specifically on forest values. Many of the projects that were done reflected partners' values, but there were very few projects that actually solicited the values of Board members or the public at large. In other cases, values research was done, but focused on one partner group in particular (e.g., First Nations); there were very few, if any, attempts made to classify or collect values within each of the MF organizations or regions as a whole.

The McGregor Model Forest, however, did carry out a survey in order to identify the forest values of Canadians at a national level which should be considered and used by all the Model Forests in their valuation process. In fact, all the MFs should draw on each others' values work so as to gain a broader understanding of the methods and processes used to identify values as well as the issues that surround forest values and SFM. For example, the work done by the Canadian Forest Service in the Manitoba MF could provide some insight into the reasons why people claim to have a legitimate "stake" in, or value of, the forest as well as some of the social, political and cultural determinants that influence people's values in forest-dependent and rural communities.

The second objective of this study was to document the process(es) used to ascertain the forest values of various partner groups involved in each of the Model Forests. At the board level values were quite often inferred through representation of the partner groups themselves. Values perspectives were also recognized in board discussions and meetings, as each partner vocalized their perspectives and views. For example, in the MBMF the representative from TREE had clearly articulated the organization's values

that many Board members did not have a problem recognizing them. Projects proposed and championed by different partner groups were another a means by which board members could identify values (e.g., Traditional Ecological Knowledge project carried out at LBMF). In other words, they were a viable vehicle for groups to put their values into action. While most of the boards' values were identified through such informal processes as those mentioned above, formal means (i.e., actual research), such as workshops and presentations, were utilized in only five Model Forests.

It was mentioned quite often that a certain level of trust and respect had been established among the partner groups sitting at the Board table. Given this level of trust, it could be possible that members trusted each others judgement enough to allow them to decipher for themselves the values that people held. People seem to trust the board process as well, as a means to adequately distill out partners' values. Therefore, many groups may not have seen the need to partake in a formal values sharing exercise. However, the process of getting people to work together is a sound start for sharing and identifying values. Furthermore, an exercise of this nature are needed to provide a reality check to see if people's perceptions are correct and if board processes are working effectively.

At the community level values were identified using more formal means. For example, mechanisms like public meetings and workshops were employed in six Model Forests. Many different social science methods were also used throughout all of the MFs and included the following: travel cost model, questionnaires, surveys, case studies, participant observation, GIS and GPS mapping, scenario planning and discourse analysis. In most cases only one type of method or mechanism was used; there were no real attempts made to measure a full spectrum of values. This may in part be due to the fact that the Boards and/or working groups have only recently realized the importance of doing values research. It likely reflects the reality as well that biophysical research was given a greater priority in Phase I and there were limited funds to support socio-economic research like values. In such a case, deciding which research gets funded becomes a matter of triage among decision makers and only those issues and methods that are more commonly known and "accepted" will likely be chosen. To get a full grasp on the nature of values,

and to use this information to truly inform and accelerate SFM, a combination of methods across different disciplines should be employed in the Model Forests.

The third objective was to document the use of forest values in the management, decision making and activities of each of the Model Forests. In three MFs (Lake Abitibi, Bas St. Laurent, Western Newfoundland) the values of the Board were identified and incorporated into various documents like communication or working group plans. In many Model Forests these values were also used in the development of their Phase II proposals. At the Eastern Ontario and Lake Abitibi MFs the Board's values greatly influenced their decision making process and were used to shift the process to a consensus based approach.

Community values were also used in the Model Forests (Bas St. Laurent, Lake Abitibi, McGregor, Prince Albert and Western Newfoundland), and were implemented into the development of various plans and proposals as well. Community values, however, were largely translated into action through different projects, which often influenced the activities of certain groups participating in the Model Forests. For example, in the Western Newfoundland and Prince Albert Model Forests First Nations cultural values were mapped and special care was taken by timber companies to avoid these sites when harvesting occurred in the nearby area. However, it appears that the integration of values has only happened at the operational level and has not gone beyond. Values have not yet impacted the policies or decision making and management processes at higher levels (e.g., senior policy level, legislation, etc).

The most notable use of values occurred at the McGregor Model Forest where they were used to design the entire approach and concept of the MF itself. The valuation process was the beginning stage in the design of the MF, and values were used as the framework in which to model their approach to SFM. This is significant because achieving SFM lies within utilizing and integrating values as both a means (i.e., instrumental values) and an ends (i.e., terminal forest values). SFM cannot be met just by identifying held forest values and incorporating them into the traditional management paradigm. SFM

must come from the utilization of instrumental values to guide action and develop priorities for sustaining terminal values. By testing this model as a Model Forest, and having the decision makers and managers on side throughout all stages of the process, the shift to SFM has already begun and the evolution of it will come with the monitoring and adaptation of this model.

It seems that most other Model Forests have not yet made this connection and fail to see the link of using values to drive change - fundamental change. In this sense, values and values research have not been used as optimally in the Model Forests as they could have been. Values research has been making a slow impact in some areas though. For example, the Manitoba MF held a values workshop, and some of the information derived from this workshop was used by the Pine Falls Paper Company to help develop criteria and indicators for their ten year management plan. However, in most cases values research is still an afterthought in many people's minds, and are seen as simple entities to be catalogued. It is as if values are seen as a species and once the total population is accounted for, the herd can be culled and managed for within a given area. It is not that simple. Values are the base upon which everything else is built, and they must set the stage for SFM, not just be the product for management. The failure to see the importance of values research is noteworthy especially since the Model Forests have entered into the second phase of the program.

Furthermore, values have not been used to correct the shortcomings in some of the organizations. The fact that many respondents felt that certain groups' values were given greater consideration in the decision making process of the MF is a hindrance to the program. Many people may feel alienated or disenfranchised because of this, even though it may just be a misconception in many cases and not a reality. As a result, people may stay away from the process or harbor ill feelings towards it. It has been noted in the literature (Higgelke & Duinker 1993, Tanz & Howard 1991) that the public has become increasingly critical and distrustful of the way management decisions have been made in the past. Decisions have largely been made by government and industry and the public has been given token, if any, consideration in the process. These two agencies were the ones

most often perceived to get the most consideration in the decision making of the MFs. This values information, therefore, should be used as a negative feedback loop in which the MF organizations use it to ameliorate misconceptions. By doing so more people may respect the process and feel less apprehension to come onside. As community-based, multi-stakeholder organizations the MFs must drive change aimed at achieving SFM and the increase in public participation is one way to achieve this goal.

The fourth objective of this study was to illustrate ways in which forest values have been, or could be, incorporated into sustainable forest management practices as learned from the activities attempted by each of the Model Forests. Several cases already have been noted above. The mapping values project and the use of values to devise a model of SFM are two of these examples. Other examples include the working with organizations who have land management authority to assist in the development of specific plans and strategies. The Western Newfoundland Model Forest has worked with timber companies in developing their five year plan. The Eastern Ontario Model Forest helped create a Woodlot Association that could act as advisory group to the government on certain forest issues. Working directly on projects with land managers such as government and industry are the main ways in which in many of the Model Forests are incorporating values into SFM practices.

However, with the emergence of different forest values (e.g., biodiversity, sustainability, etc.) under the new environmental paradigm, it is evident that these values cannot be sustained by institutions, or in systems, characteristic of the dominant social paradigm which actually undermine and diminish them. As seen in the examples given previously, the identification of values have largely been used at the operational level as constraints to forestry practices. The problem with this situation is that it does not drive change toward sustainable forest management, it only incorporates values into a system that is still largely directed at sustaining timber yields (Griss 1993). These values must be part of management objectives (Griss 1993) which should be directed at sustaining forest ecosystems not just timber production. If the shift in forest management is to sustain the long-term viability of the ecological and social conditions of forests (Bengston 1994a,

Beckley & Korber 1995, Brand et al. 1996), then the MFs should be catalysts in this process driving change beyond the operational level and into the realm of policy, planning and decision making.

While there have been good advances in this area many of the links are only now beginning to be made. Therefore, it is too early to illustrate the success or failure of such endeavours. The fact that the Model Forests are starting to make links is a step in the right direction, however. Values do not arise in a vacuum and neither can their implementation into SFM practices. Definite links and changes have to be made with those agencies that have forest management and decision making authority. The values research and conviction of the Model Forests, thus, can go along way in assisting these agencies in their transition to SFM.

6.1 RECOMMENDATIONS

The findings of this study have implications for sustainable forest management, specifically with regards to the functioning and development of the Canadian Model Forests. The following recommendations are provided to assist in the evolution of the Model Forest Program.

1. Values research must be conducted in each of the Model Forests in order to determine *what* values people hold with regard to the forest. This will be useful for establishing a baseline of values as well as helpful in determining what end states, if any, forests are to be managed for.
2. Values research must be conducted in each of the Model Forests in order to determine *how* forest values should be sustained. This includes *assigned* and *instrumental* values research, which will assist in prioritizing, if need be, the management of forest values. It will also assist in determining the most preferable means for managing forests.
3. A plurality of research methods and processes need to be employed in the valuation process of the Model Forests, so that the full spectrum of values can be accounted for and considered in the design of SFM practices. This includes research that can capture the intrinsic, spiritual, aesthetic and cultural values.
4. There is a need for values training and education amongst decision makers, researchers and all other Model Forest partners.
5. Better communication links need to be established between Model Forests, and within the Model Forest regions, so that values research is not duplicated and time and effort is not wasted. These linkages will assist in devising research strategies and incorporating values into management practices.
6. Values research needs to continue on an on-going basis so that temporal and spatial changes can be accounted for in forest management. The Model Forests, therefore, must develop processes that can assist in this endeavour and assist in the adaptive process of forest management.

7. **The Model Forests must develop creative solutions to the challenges posed by SFM. Therefore, they should not restrict themselves to operating within the traditional management paradigm. Their values must be considered tools for operationalizing SFM practices and used as such. The Model Forests must truly “model” new practices.**

8. **The Model Forests must continue to establish and enhance partnerships with other organizations (e.g., provincial government departments) so that future values research can be cost-shared and appropriately funded.**

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APPENDIX 1

Survey of Views Aimed at Achieving Sustainable Forest Management - Social Values Section -

Social Values

One of the main objectives of the MF program is to accelerate the implementation of sustainable forest management. In aspiring to this goal, the various social, economic and environmental aspects of forest use must be integrated into forest management and decision making. The following questions are meant to evaluate the success your MF has had in determining Board/partner/stakeholder values, the effectiveness of incorporating identified values into MF decision making processes and in establishing mechanisms for incorporating such values in forest management decision making outside of the MF.

The following definition may assist you in answering the questions. Social values are values that people hold about what is desirable or worthwhile. These values sometimes guide our actions and behaviour. In relation to forests and forest management, forest values may therefore be regarded as an enduring concept of good relating to forests and forest ecosystems.

- 43a. Has your MF formally attempted to identify the forest values of Board members/participating partners?
Yes No
- 43b. If Yes. Briefly explain attempts (get copy of any project).
- 43c. If No. Does your MF plan to carry out such research in the future?
Yes No
- 43d. If Yes. How do you think this information should be collected?
- 44a. Can you identify any of the forest values held by Board members or participating partners in your MF?
Yes No
- 44b. If Yes. Please identify.
- 45a. What does your stakeholder organization value about the forest? (if they have a mission statement in this regard collect)
- 45b. What mechanisms is your stakeholder organization currently using to translate these values into action?
- 45c. Do you see the MF as a viable vehicle to assist you in doing this?
Yes No

- 46a. Do you think your MF has served as a good means for bringing people, that hold diverse forest values, together?
 Yes No
- 46b. If Yes. What processes are in place/or should be in place, for stakeholders/partners to gain a better understanding of each other's values?
 If No. Why not?
- 47a. Can you identify any changes that have occurred in the decision making process of the MF organization, or partners, due to the consideration of stakeholder values?
 Yes No
- 47b. If Yes. Please describe and probe as to how these changes occurred.
- 48a. Are stakeholder/partner values weighted (e.g. one given more consideration than another) for inclusion in the decision making processes of the MF?
 Yes No
- 48b. If Yes. What criteria were used? (level of education, proximity to forest area in question, ethnic/cultural ties to area, leadership in community, affiliation with community organizations, level of forest use - subsistence vs. dependence, historical ties to the area, level of income, gender, etc.)
 If No, informally are any values given more consideration than another?
49. Has your MF considered how the Board members/partners forest values research might apply in forest management decision making outside of the MF?
 Yes No
- 49b. If Yes. What approaches have been proposed?
 If No. How do you think it might apply?

***Note. Following questions are directed at broader community and their forest values.**

- 50a. Has your MF considered engaging in stakeholder values research amongst the broader community not directly involved in the MF organization - **Prompt**, e.g. aboriginal groups, non- aboriginal groups, active users, passive users, local users, non-local users - identify one or more groups?
 Yes No
- 50b. If Yes. How did the results of this work modify your understanding of other group's values? (If more than one group specify for each mentioned)
51. Has the Board considered ways of incorporating the lessons learned from this work in order to influence forest management decision making?
 Yes No

- 51b. **If Yes.** What approaches have been considered?
If No. What approaches do you think should be considered?
- 52a. Do you think your MF has increased stakeholders'/partners' appreciation of the ways in which other people value the forest?
Yes No
- 52b. **If Yes.** Could you please explain how?
If No. Why not?
53. Has your MF assessed how different stakeholders/partners perceive the legitimacy of other stakeholders and their forest values?
Yes No
- 54a. Are the findings of all social values research discussed with stakeholder/partner groups?
Yes No
- 54b. **If Yes.** When and how?
If No. Are there plans for this type of sharing?
55. How do you see stakeholder values research, and the incorporation of such values, accelerating the implementation of sustainable forest management practices?

APPENDIX 2

Revised Survey Questions

45b. Is your stakeholder organization currently making any attempts to translate these values into action? (Y/N)

If Yes. Explain how.

47a. Can you identify any changes in the decision making process of the MF organization, or partners, that have occurred due to the consideration of stakeholder values? (Y/N)

48a. Are the values of any stakeholder/partner given more consideration than another for inclusion in the decision making processes of the MF? (Y/N)

48b. **If Yes.** How so?

49a. Has your MF discussed how the values held by Board members/partners might apply in forest management decision making outside of the MF? (Y/N)

50a. Has your MF engaged in stakeholder values research amongst the broader community not directly involved in the MF organization (e.g. aboriginal groups, active users, passive users, non-local users) (Y/N)?

51a. Has the Board discussed ways of incorporating the lessons learned from this work in order to influence forest management decision making? (Y/N)

51b. **If Yes.** What approaches have been discussed?

If No. What approaches do you think should be discussed?

55a. Do you think that stakeholder values research, and the incorporation of such values can accelerate the implementation of sustainable forest management practices? (Y/N)

55b. Explain Why or Why not?

APPENDIX 3

A Synopsis of Canadian Social Values - Adams' Twelve Social Values "Tribes" -

Canadians 50 years of age or older:

Rational Traditionalists (15% of Canadian population)	Extroverted Traditionalists (7% of Canadian population)	Cosmopolitan Modernists (6% of Canadian population)
Religiosity	Religiosity	Global worldview
Primacy of Reason	Family	Respect for Education
Respect for Historical Tradition	Respect for Historical Tradition	Desire for Innovation
Respect for Authority	Respect for Institutions	
Duty	Duty	
Guilt	Fear	
Deferred Gratification	Deferred Gratification	

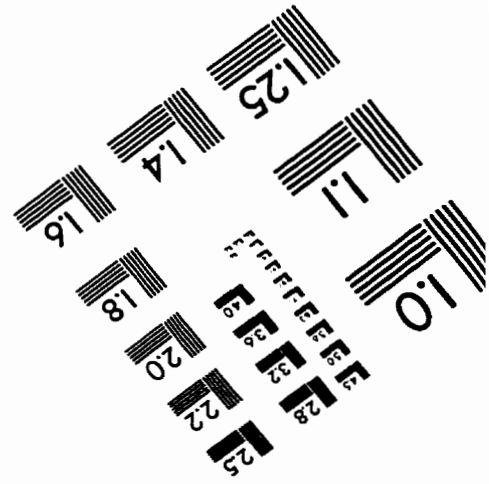
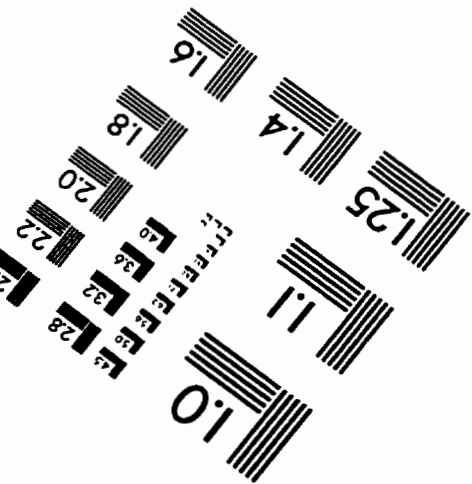
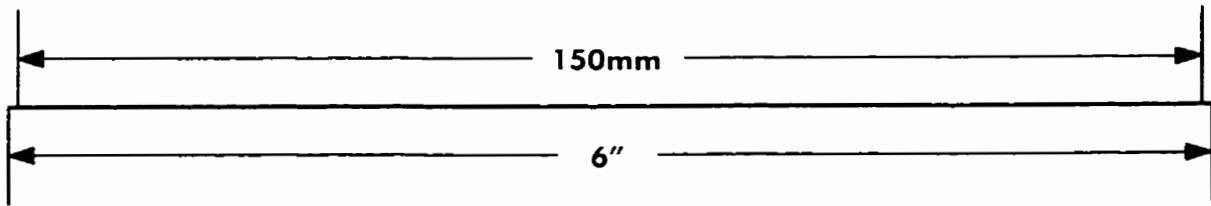
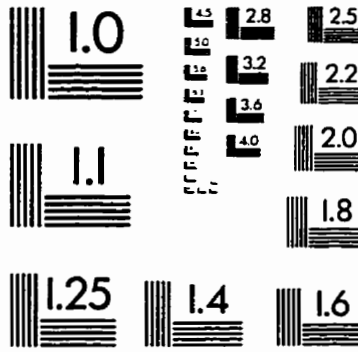
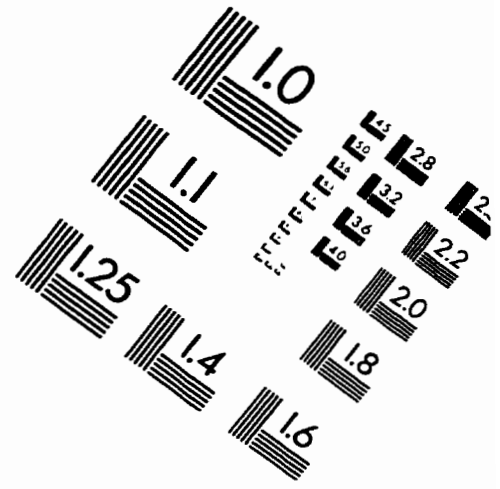
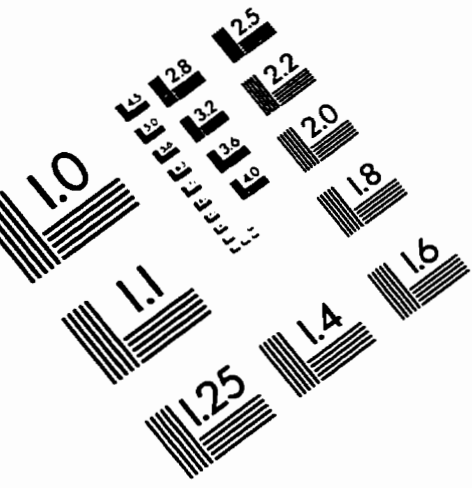
The Boomers - Canadians 30 to 49 years of age:

Autonomous Rebels (10% of Canadian pop.)	Anxious Communitarians (9% of Canadian pop.)	Connected Enthusiasts (6% of Canadian pop.)	Disengaged Darwinists (18% of Canadian pop.)
Strong belief in human rights	Family	Family	Fear
Scepticism toward traditional institutions	Community	Community	Nostalgia for the Past
Suspicion of authority	Fear	Hedonism	
Freedom	Duty	Immediate Gratification	
Individuality	Need for Respect		
Respect for Education			

The Gen Xers - Canadians 15 to 29 years of age:

Aimless Dependents (8 % of Canadian pop.)	Thrill-Seeking Materialists (7% of Canadian pop.)	New Aquarians (4% of Canadian pop.)
Fear	Desire for money and material possessions	Egalitarianism
Desire for Independence	Desire for recognition, respect and admiration	Ecologism
		Hedonism
Autonomous Post-Materialists (6% of Canadian pop.)		Social Hedonists (4% of Canadian pop.)
Freedom		Aesthetics
Respect for Human Rights		Hedonism
		Sexual Permissiveness
		Immediate Gratification

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