# 2002/2003 ANNUAL REPORT

Phase III Vision: The Foothills Model Forest, as a member of the Canadian Model Forest Network, will play a key role in establishing Alberta and Canada's reputation as a world leader in sustainable forest management.

*our focus... Research growing into practice.*

foothills
MODEL FOREST
*research growing into practice.*

MODEL FOREST NETWORK
RÉSEAU DE FORÊTS MODÈLES

Brian Carnell

The eleven model forests in the Canadian Model Forest Network represent Canada's diverse forest ecology and landscape.


Equally important and significant, each model forest represents unique social and economic values of Canada's forests and forest-based communities.

MODEL FOREST NETWORK
RÉSEAU DE FORÊTS MODÈLES

## Canada's Model Forest Program PHASE III: 2002 – 2007

Phase III of Canada's Model Forest Program is underway. Natural Resources Canada, through the Canadian Forest Service, initiated and continues to support Canada's Model Forest Program.

The program demonstrates the Government of Canada's commitment to the science and practice of sustainable forest management. The first ten years of the program successfully focused on building partnerships and conducting research into all aspects of sustainable forest management including ecological, wildlife and socio-economic research. During Phase I and Phase II, the program contributed to building Canada's position as a responsible and sustainable land and resource manager. Phase III of the program will see the research and partnership building continue. Across Canada emphasis will be increased on the application of research and tools from the model forests into improved and enhanced management of Canada's forests now and into the future.

Stan Navratil

# PHASE III: RESEARCH GROWING INTO PRACTICE

## Foothills Model Forest Mission Statement:

We are a unique community of partners dedicated to providing practical solutions for stewardship and sustainability of our forest lands.

## Foothills Model Forest Phase III: 2002-2007

The Foothills Model Forest is an original member of the Canadian Model Forest Network. The Foothills Model Forest is privileged to represent Alberta in the network and is committed to supporting provincial and federal sustainable forest management strategies. In fact, the Foothills Model Forest's Phase III organizational direction and activities are guided by the Canadian Council of Forest Ministers' six criteria of sustainable forest management. Individual programs must support one or more of the six criteria of sustainable forest management. By doing so, it is better assured that the organization's efforts can be applied to sustainable forest management policies and practices, within and beyond the Foothills Model Forest land base.

## Foothills Model Forest Phase III Objectives:

The Foothills Model Forest Board of Directors set the following Phase III objectives:

- Demonstrate sustainable forest management.
- Develop and implement mechanisms that result in a wider understanding and application of accrued knowledge and technology for sustainable forest management.
- Deliver communications and outreach programs that improve understanding of, and support for, sustainable forest management.
- Support and influence policy that improves the practice of sustainable forest management.

# PRESIDENT'S MESSAGE

The Foothills Model Forest has a proud history and is known for delivering on its promises. Strong leadership at all organizational levels, responsiveness to our stakeholders and a solution-oriented approach have contributed to our reputation as a leader in the area of research in sustainable forest management. As we enter Phase III, we focus on our vision, "to play a key role in establishing Alberta and Canada's reputation as a world leader in sustainable forest management." To achieve this vision, our programs and day-to-day activities incorporate the following elements:

- Demonstration of sustainable forest management;
- Developing and implementing practical tools and technologies;
- Communications and extension;
- Supporting and influencing policy and practices.

By doing so we will further contribute to the practice of sustainable forest management in Alberta and Canada.

In Phase III, Foothills Model Forest programs will link to international, national and provincial sustainable development strategies. Specifically, programs will support the Canadian Council of Forest Ministers' Six Criteria of Sustainable Forest Management, which are internationally and nationally recognized as a standard by which to measure the practice of sustainable forest management. By having research and development support these criteria, the Foothills Model Forest ensures its efforts are advancing sustainable forest management in Alberta and Canada.

In Phase III, the organization will continue to conduct applied research but has expanded its focus to extension and the demonstration of sustainable forest management, within and beyond the model forest boundaries. In Phase I and Phase II, our research programs were designed to answer current and real sustainable development questions. In so doing, we have developed a comprehensive collection of scientific data and research from which to develop management tools. Much of this research is now being reflected in improved forest practice in Alberta and elsewhere.

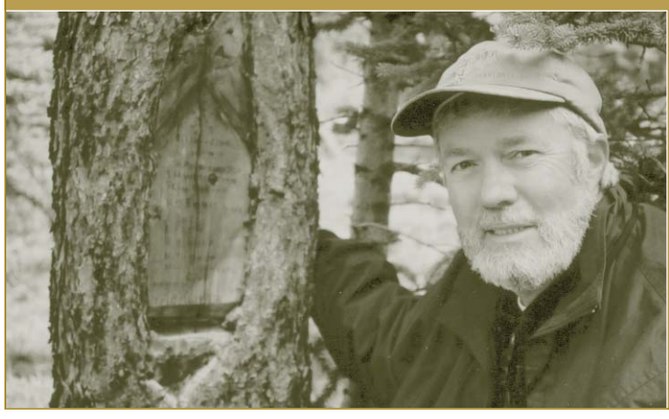


We believe in our practical, solution-oriented approach to advancing sustainable forest management, as do others. In 2002/2003, our partners, including interests such as the forest industry, government agencies, other resource industries and non-government organizations helped support a program of over $3 million in research and outreach.

I am pleased with my association with the Foothills Model Forest, proud of the Board and partnership who play such a critical role in keeping the program focused and on track, and of the dedicated hard-working staff, program leaders and researchers who deliver the results throughout the year. We look forward to our continued association with the rest of the Canadian Model Forest Network and to the successful achievement of the Foothills Model Forest's vision and goals in this third phase of the model forest program.

Sincerely,

Robert Udell



# GENERAL MANAGER'S MESSAGE

The Foothills Model Forest is a leader in sustainable forest management research. In Phase III our mandate is to grow research into practice. This is a realistic expectation because the partners and individuals involved in the organization have a strong desire to advance sustainable forest management policies and practices. Our organization is solution-oriented, therefore accomplishments are frequent and many. Additionally, we are developing systematic evaluation and reporting mechanisms to ensure we are accountable to our partnership and the general public.

The Foothills Model Forest is well poised for Phase III. During 2002/2003, the first year of Phase III, the Foothills Model Forest continued to be an innovator and leader in sustainable forest management research and development. This past year, the Foothills Model Forest, through projects such as the Highway 40 North Demonstration Project, made strides in the direction of knowledge transfer and the application of research on and beyond our land base. This demonstration project applies seven years of natural disturbance research to the management of a 70,000-hectare multiple-use landscape. Within the demonstration area, natural disturbance patterns will guide forest management decisions and activities. The project will examine the effectiveness of this forest management approach based on its ability to manage for ecological, economic and social values. The project is one-of-a-kind and represents the Foothills Model Forest's raison d'être - partnerships, research, demonstration and adaptive management.

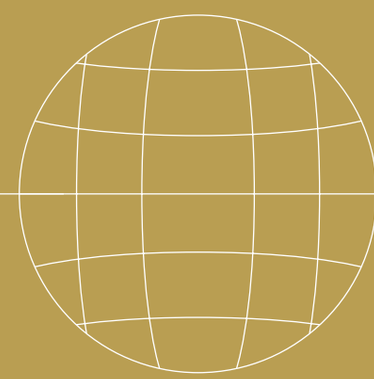
The year 2002/2003 marked increased collaboration and knowledge exchange between members of the Canadian Model Forest Network. By capitalizing on the collective, accrued knowledge of eleven model forests, sustainable forest management is advanced across the country. Sharing knowledge and tools contributes to the realization of the vision of Canada's Model Forest Program: Sustainable Forests.

In conclusion, the Foothills Model Forest had a successful year. We continued to conduct and apply research on our land base and beyond. Our research programs (natural disturbance, fish and watershed, grizzly bears, social sciences, technical forestry and integrated resource management) are of importance to our partnership, and to many who apply our work to their practices and policies. We anticipate a successful Phase III characterized by the demonstration of our world-class research in the forest.



Regards,

Don Podlubny



# Value in Research: The Partners' Perspective



## Sponsoring Partners

The sponsoring partners of the Foothills Model Forest make a five-year commitment of financial and human resources to the organization. Equally important, the lands that Alberta Sustainable Resource Development, Jasper National Park and Weldwood of Canada Limited, Hinton Division manage, comprise most of the Foothills Model Forest land base. Subsequent to the establishment of the model forest, Alberta Community Development was assigned responsibility for parks and protected areas including Willmore Wilderness Park, William A. Switzer Provincial Park and other areas which remain as part of the model forest land base. Research and demonstration are conducted on these lands in an effort to advance sustainable forest management in Alberta and Canada. Their continued support in Phase III is testament to the value of Foothills Model Forest research and development.

Natural Resources Canada / Ressources naturelles Canada

Parks Canada / Parcs Canada

Alberta SUSTAINABLE RESOURCE DEVELOPMENT

Weldwood
Weldwood of Canada Limited
Hinton Division

Brian Carnell

Foothills Model Forest



## Alberta Sustainable Resource Development

The Government of Alberta is committed to sustainable development. Over the last decade the provincial government has developed strategies and policies to achieve this vision. These include the Alberta Forest Legacy Strategy and Alberta's Commitment to Sustainable Resource and Environmental Management policy statement of Premier Klein. The work of the Foothills Model Forest supports the province's sustainable development vision. The Foothills Model Forest Grizzly Bear Research Program and the Northern East Slopes Sustainable Resource and Environmental Management Program are examples of collaboration between Alberta Environment, Alberta Sustainable Resource Development and the Foothills Model Forest. Alberta Sustainable Resource Development was involved in directing research at its onset and is now actively applying findings to its policies and practices. Albertans can be assured that accurate and current information is being used to manage Alberta's wildlife and natural resources with consideration given to forest-based communities and economies.

*"Research findings from the Foothills Model Forest Grizzly Bear Research Program provide a wealth of knowledge for land and resource managers and practitioners. We continually strive to implement policy that will enhance management practices on the landscape and guide future conservation of grizzly bears. Opportunities to apply this knowledge in a meaningful way are currently being explored by the Provincial Grizzly Bear Recovery Team and wildlife managers."*

*Patrick Guidera, Regional Executive Director, Southwest Region, Integrated Regional Services, Alberta Sustainable Resource Development*

John Bell

*"The Foothills Model Forest played a significant support role in the development of the Recommendations to the Minister of Environment for the Northern East Slopes Sustainable Resource and Environmental Management Strategy. The support resulted in an economic model for the region, a cumulative effects model and work on natural disturbance regimes. These models contributed to a better understanding of regional issues and assisted the regional steering group in development of recommendations for sustainability of the region."*

*Al Sanderson, Director, Integrated Resource Management Branch, Alberta Environment*

Brian Carnell

# VALUE IN RESEARCH: THE PARTNERS' PERSPECTIVE

## Canadian Forest Service

The Canadian Forest Service, Natural Resources Canada, initiator of the national model forest program, is a founding partner of the Foothills Model Forest. Since 1992, the two organizations, in concert with a broad group of partners, have collaborated to conduct world-class research on various aspects of sustainable forest management. Over the same period, and supported by this association, the Foothills Model Forest has established itself as a leader in the areas such as:

- Wildlife
- Natural disturbance
- Watershed and fisheries
- Climate change - understanding how managed forests contribute to carbon sequestration
- Social sciences research - including the sustainability of forest-based communities

During the next five years, the Canadian Forest Service and the Foothills Model Forest will work together to expand and enhance knowledge transfer initiatives. A shared objective of each organization is for its research to inform and support sustainable forest management policy and practices, such as forest certification efforts, climate change strategies and criteria and indicators of sustainable forest management. Both organizations anticipate successful implementation of the Phase III objectives.

*Social sciences research*

*"As in past years, it is apparent that the Foothills Model Forest has put together an extensive array of programs that will ultimately address the key program goals and objectives. I am particularly encouraged with the proposed activities related to increasing the level of Aboriginal participation, and ongoing socio-economic and climate change activity. It is also satisfying to note the continuing collaborative relationship develop between various Foothills Model Forest researchers and Canadian Forest Service scientists working out of the Northern Forestry Centre. We recognize that the continuing role of Natural Resources Canada and the Canadian Forest Service, not only as a major funding contributor, but also as a sponsoring partner in the Foothills Model Forest, is critical to the long-term success of the Model Forest Program and the Canadian Model Forest Network in general, and look forward to the enhancement of opportunities for increased research, communications and outreach activities through the Foothills Model Forest. These actions will undoubtedly have positive impacts at a local, regional and national level."*

*Mr. Boyd Case, Director General, Northern Forestry Centre, Canadian Forest Service*



## Jasper National Park

In 1995, Jasper National Park joined the Foothills Model Forest as a sponsoring partner. Their joining was monumental. It marked for the first time, in the Northeast slopes of Alberta, a formal commitment by a National Park, the Government of Alberta and Weldwood of Canada Limited, Hinton Division, to cooperate in the management of a shared landscape. This approach has proven to be effective and successful. Today, research guides the policy and practices of each organization to better ensure the sustainability of forests, while respecting the mandate of each partner. Specifically, Jasper National Park is using natural disturbance research to guide its management of the wildland/urban interface and to monitor and control mountain pine beetle activity. The implementation of this research is reflected in the increasing use of prescribed fire to restore Jasper National Park's forests to a more natural age distribution. Furthermore, the burns are planned to reduce the risks to neighbouring landscapes from large-scale, catastrophic fire and infestation by the mountain pine beetle.

*Prescribed burn*

*"The Natural Disturbance Program research has given us insights into disturbance generated stand structure and landscape patterns. That has helped Parks Canada plan fuel thinning projects around the town of Jasper and outlying facilities in ways that restore ecosystem functions too. This FireSmart/ForestWise project will take our management of the wildland/urban interface from a single focus -- fuel reduction -- to an integrated approach that has greater public acceptance because it takes into account more public values. Because the program was designed and is being put on-the-ground in Phase III of Canada's Model Forest Program, its benefits will be delivered not just around the town of Jasper, but in forest communities throughout the Foothills Model Forest and beyond. This is the kind of project that wouldn't have been possible ten years ago before the Foothills Model Forest started exploring, through research and collaboration, what sustainable forest management really means."*

*Kevin Van Tighem, Manager, Ecosystem Secretariat,*
*Jasper National Park, Parks Canada*

## Jasper National Park

*"The Foothills Model Forest has created the kind of relationships among land management agencies and forest industry partners that enable us to manage the risk of mountain pine beetle on a landscape scale, rather than as a set of disconnected jurisdictions and interests. It turns the threat of insect infestation into an opportunity, by providing a productive venue for joint problem solving and mutual support. Parks Canada can count on its Foothills Model Forest partners for support as we accelerate our prescribed fire program -- a priority in our park management plan – and we are drawing on Foothills Model Forest research to help us target the forest stands most vulnerable to beetle attack. At the same time, our partners can count on our support as they use the same kinds of information to accelerate or re-profile forest harvest activities. Before Canada's Model Forest Program, issues like the mountain pine beetle would have divided us and created conflict; today they unite us and generate proactive, timely cooperation to protect forest health across the landscape."*

*Ron Hooper, Superintendent, Jasper National Park*


*Mountain pine beetle*

## Weldwood of Canada Limited, Hinton Division

Weldwood of Canada Limited, Hinton Division is a founding member of the Foothills Model Forest. Weldwood was committed to bringing a model forest to the community of Hinton in an effort to build upon its legacy of sustainable forest management. Eleven years later, the Foothills Model Forest remains true to its roots by researching areas that improve technical forestry and sustainable forest management, in general.

Weldwood uses indicators to objectively measure the company's performance at achieving sustainable forest management. The indicators that the company measures are consistent with the Canadian Council of Forest Ministers' Criteria and those used by third-party forest certification programs such as that of the Canadian Standards Association, which certified Weldwood's forest in 2000. Together, Weldwood of Canada and the Foothills Model Forest maintain accurate accounts on a wide range of regionally specific sustainable forest management indicators, an ongoing commitment by the company, and the model forest's local level indicators program. This is a science-based, systematic approach to advancing sustainable forest management policy, planning and practices.

*"If you don't measure it, it can't be managed. So local level indicators measure the bottom line in sustainable forest management - how are we doing? The Foothills Model Forest local level indicators are a great example of a partnership. Some were developed by Weldwood and used for the Foothills Model Forest report, and others were developed by the model forest and used in the Weldwood Sustainable Forest Management Stewardship Report. The Foothills Model Forest added value by contributing information that otherwise wouldn't be available."*

*Rick Bonar, Chief Biologist and Planning Coordinator*

In 1957, soon after Weldwood was awarded the province's first forest management agreement area, 3,000 permanent sample plots were established to monitor the growth performance of the forest. The company's interest in forest growth and yield continues and it is one of nine members in the Foothills Growth and Yield Association. The model forest and Alberta Sustainable Resource Development are non-voting members of the Association and the model forest acts as the co-ordinating agency. The mission of the Foothills Growth and Yield Association is to continually improve the assessment of lodgepole pine growth and yield in managed stands. By collaborating, members can conduct research to increase their understanding of lodgepole pine performance more effectively. These findings are used to develop sophisticated computer models that, with increased accuracy and precision, predict future stand performance and timber supplies.

*"The research of the Foothills Growth and Yield Association provides member companies with new growth and yield information, improving management of our respective forest management areas. The research findings and decision-making tools will allow us to more accurately predict site-specific response to management practices, and determine the appropriate practices to meet sustainability objectives. This is a significant contribution to ensuring sustainability of the timber resource, and by extension the communities dependent on the success of member forest companies."*

*Hugh Lougheed, Forestry Manager, Weldwood of Canada Limited, Hinton Division*


*Lodgepole pine growth*

# FUNDING PARTNERS

## Management Partners

During Phase II, many new partners provided funding to the Foothills Model Forest, which enabled scientists to conduct world-class research. In Phase III, a focus of the Foothills Model Forest is the application of research beyond its boundaries. Management partners are those who are directly responsible for the management of forestlands or the development of natural resources and who support the model forest research with the intent of applying the knowledge gained to improve their own practices. Through their participation and application of results, the benefits of model forest research are being seen in improvements to sustainable forest management practices far beyond the Foothills Model Forest boundaries.

Ainsworth Lumber Company Ltd.
Alberta Community Development, Parks and Protected Areas
Alberta Environment
Alberta Newsprint Company
Blue Ridge Lumber (1981) Ltd.
BP Canada Energy Company
British Columbia Ministry of Forests
Burlington Resources
Canadian Hunter Exploration
Canfor Corporation
Cardinal River Coals Ltd.
ConocoPhillips
Daishowa-Marubeni International Ltd.
Government of Northwest Territories, Forest Management Division
Komex International Ltd.
Lehigh Inland Cement Limited
Luscar Limited
Government of Manitoba, Department of Conservation
Manning Diversified Forest Products Ltd.
Millar Western Forest Products Ltd.
Northrock Resources
Obed Mountain Coal Ltd.
Ontario Ministry of Natural Resources, Aviation and Forest Fire Management
Petro-Canada
Saskatchewan Environment and Resource Management, Fire Management and Forest Protection
Slave Lake Pulp
Societe de protection des forets contre le feu (SOPFEU)
Spray Lake Sawmills
Suncor Energy Inc.
Sundance Forest Industries Ltd.
Sunpine Forest Products Ltd.
Talisman Energy Inc.
TransCanada Pipelines Limited
Veritas DGC Inc.
Weyerhaeuser Company Limited

## Program and Project Partners

The Foothills Model Forest has the financial and in-kind support of many other organizations and associations. These organizations may contribute to specific research areas, for example the World Wildlife Fund contribution to grizzly bear research. Alternately, an organization may contribute to the Foothills Model Forest organization in support of sustainable forest management research in general. A noteworthy development, 2002/2003 marks the beginnings of official participation of Aboriginal communities in the Foothills Model Forest partnership.

Alberta Conservation Association
Alberta Forest Products Association
Aseniwuche Winewak Nation
ATCO Electric
Bandaloop Landscape-Ecosystem Services
Big Horn First Nation
Canadian Association of Petroleum Producers
Canadian Wildlife Service
Foothills Ojibway Society
Forem Technologies Ltd.
Forest Resource Improvement Association of Alberta (FRIAA)
G&A Petroleum Services
Geoanalytic Inc. – Calgary
Hinton Fish and Game Association
Hinton Training Centre
Indian and Northern Affairs, Yukon Region
O'Chiese First Nation
Peregrine Helicopters
Petroleum Technology Alliance Canada
Rocky Mountain Elk Foundation Canada
Sunchild First Nation
The Forestry Corp
TJG Consulting
Town of Hinton
University of Alberta, Faculty of Agriculture, Forestry & Human Ecology
University of Calgary
University of Lethbridge, Department of Geography
University of Saskatchewan, Western College of Veterinary Medicine
University of Washington, Centre for Wildlife Conservation
World Wildlife Fund Canada

## Other Partners

The following associations, businesses and communities support the vision and goals of the Foothills Model Forest organization.

Alberta Chamber of Resources
Alberta Research Council
Canadian Institute of Forestry
Cariboo Lumber Manufacturers' Association
College of Alberta Professional Foresters
Ember Research Services Ltd.
FEESA
Forest Engineering Research Institute of Canada (FERIC)
Forest History Society, Durham, NC
Forest Renewal B.C.
Golder Associates
Interior Lumber Manufacturers Association
Jasper Yellowhead Museum and Archives
Municipality of Jasper
Northern Forest Products Association
Sustainable Forest Management Network
Telemetry Solutions
The fishin' hole
UBC Press

# BOARD OF DIRECTORS

Members of the Foothills Model Forest Board of Directors are senior land and resource managers. There is also representation from associations and communities that are actively involved in, and affected by, sustainable resource management decisions. The Board of Directors set research priorities to ensure Foothills Model Forest research and technologies address resource management decisions. Their senior positions within government, industry and academia, facilitates the application of Foothills Model Forest research to policy and practices. The following have served as members of the Board during the 2002-2003 year – some listed replacing others listed.

Dr. Jim Beck
Professor, Department of Renewable Resources, University of Alberta

Bob Demulder
Director, Forestry and Transportation, Alberta Forest Products Association

Alex Galbraith
Mayor, Town of Hinton*

Pat Guidera
Regional Executive Director, Southwest Region, Integrated Regional Services, Alberta Sustainable Resource Development*

Dennis Hawksworth
Vice President, Hinton Forest and Wood Products, Weldwood of Canada Limited, Hinton Division

Cliff Henderson
Assistant Deputy Minister, Forest Protection Division, Alberta Sustainable Resource Development

Ron Hooper
Superintendent, Jasper National Park, Parks Canada

John Kerkhoven
Manager, Resources Access, Western Canada Exploration and Operations, Petro-Canada Ltd.

John Kristensen
Assistant Deputy Minister, Parks and Protected Areas, Alberta Community Development

Rick Ksiezopolski
Forest Resources Manager, Weldwood of Canada Limited, Hinton Division✚

David Luff
Vice President, Environment & Operations, Canadian Association of Petroleum Producers

Lloyd Metz
General Manager, Cardinal River Coals Ltd.

Robert Newstead
Regional Coordinator, Model Forest Program, Canadian Forest Service, Edmonton, Alberta*

Don Podlubny
Director, Environmental Training Centre★

Mike Poscente
Regional Director, Northern East Slopes Region, Land and Forest Service, Alberta Sustainable Resource Development*

Dan Rollert
Forest Resources Manager, Weldwood of Canada Limited, Hinton Division♦

Al Sanderson
Executive Director, Integrated Resource Management Division, Strategic Directions, Alberta Environment

Russ Stashko
Regional Director, Northern East Slopes Region, Fish and Wildlife Division, Alberta Sustainable Resource Development*

Jerry Sunderland
Executive Director, Alberta Sustainable Resource Development

Kevin Van Tighem
Chairman of the Board, Foothills Model Forest and Manager, Ecosystem Secretariat, Jasper National Park, Parks Canada

Brian Wallace
Manager, Warden Service, Jasper National Park, Parks Canada

Lorne West
Forestry Liaison Manager, Canadian Forest Service*

## Foothills Model Forest Officers

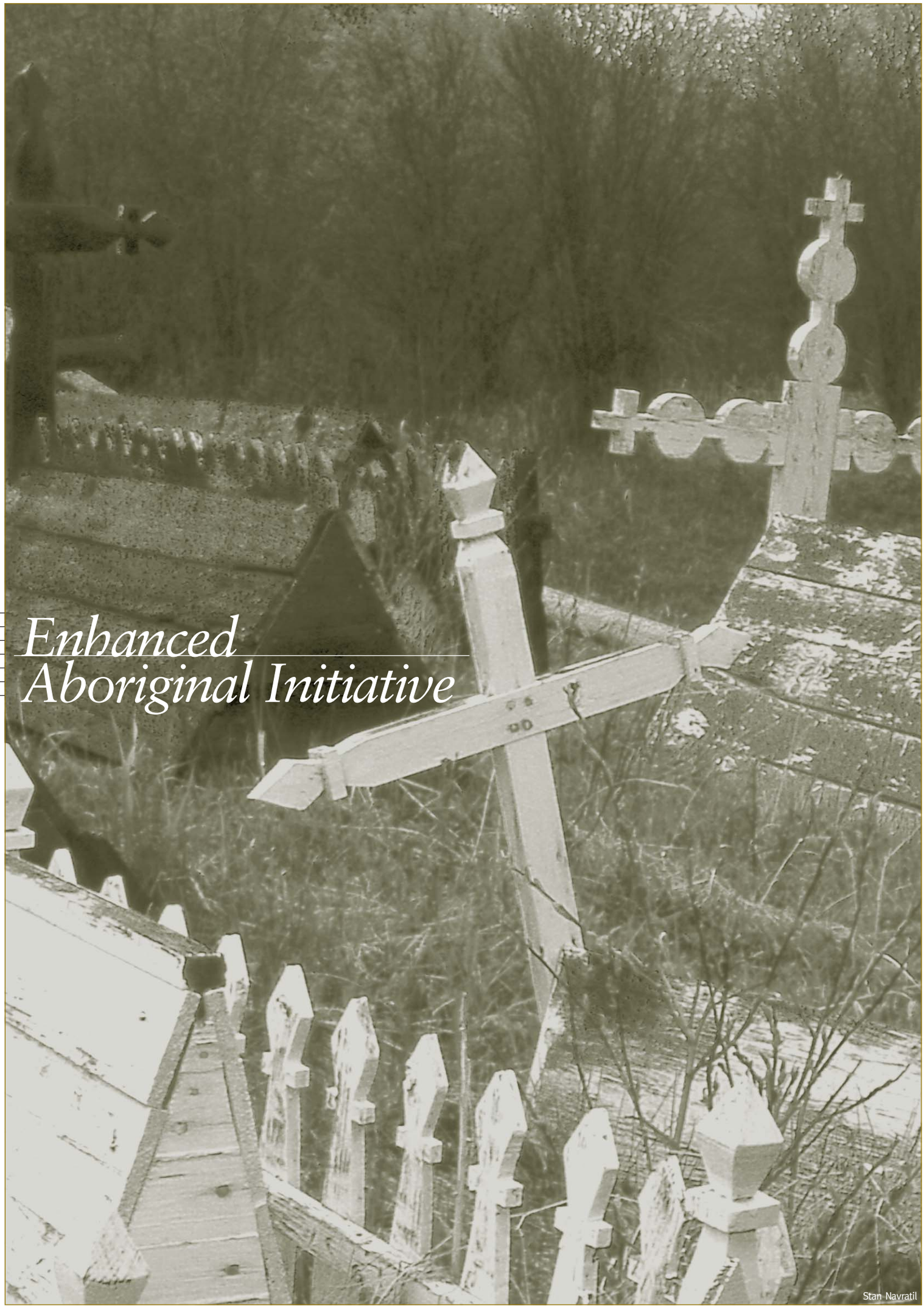
**Mr. Jim Bouthillier**
Legal Counsel, Foothills Model Forest and Lawyer, Shtabsky and Tussman Barristers and Solicitors

**Rob Cook**
Treasurer, Foothills Model Forest and Controller, Forest Resources Department, Weldwood of Canada Limited, Hinton Division

**Robert Udell**
President, Foothills Model Forest and Manager, Forest Policy and Government Affairs, Weldwood of Canada Limited, Hinton Division

* Term started April 2002 ✚ Resigned June 2002 * Resigned April 2002 ♦ Term started June 2002
★ Resigned as Chairman of the Board in July 2002 to begin position of General Manager, Foothills Model Forest

# *Enhanced Aboriginal Initiative*



Stan Navratil

# RESEARCH GROWING INTO PRACTICE

The Foothills Model Forest is proud of its reputation as a leader in sustainable forest management research. In 2002/2003 all programs and projects were successful in furthering sustainable forest management practices. However, the Highway 40 North Demonstration Project and the Enhanced Aboriginal Initiative are notable. Both are innovative and have the potential to significantly advance sustainable resource management in Alberta.

## Enhanced Aboriginal Initiative

Throughout history, over 17 different Aboriginal communities used the Foothills Model Forest land base for travel or habitation. Today, many Aboriginal communities continue to use the forest for a place of gathering and celebration, a food source as well as many other traditional uses. The Foothills Model Forest land base is of importance to Aboriginal communities. In an effort to understand the significance of the land base to these communities, the Foothills Model Forest hired an experienced Aboriginal relations professional to design and lead the Traditional Cultural Knowledge Study. The purpose of the study is to document sites, located within the Foothills Model Forest, that are of social, cultural and spiritual importance to local Aboriginal communities. The Traditional Cultural Knowledge Study makes an effort to better understand how Aboriginal communities used or use the forest.

The project will also provide an opportunity by which other users of the land can open a dialogue with the appropriate communities about their proposals and how to respect and mitigate impacts on significant sites. In this way, the Traditional Cultural Knowledge Study will aid in facilitation of collaboration between Aboriginal communities, industry and government in managing the forest and its resources. In 2002/2003 so far, five Aboriginal communities have participated in developing the project proposal, with other communities extremely interested in its developments. The involvement of Aboriginal communities, industry and government in this study, better ensures that the information collected and management tools created are meaningful and practical. This study is another example of how the Foothills Model Forest organization advances sustainable forest management in the province of Alberta.

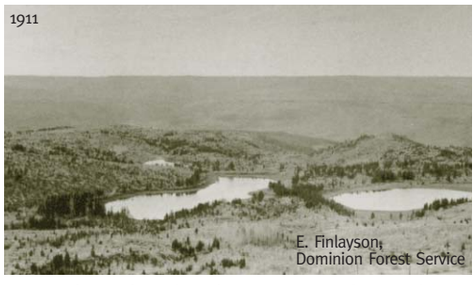


The Canadian Council of Forest Ministers Criteria and Indicators of Sustainable Forest Management includes Aboriginal involvement. The Traditional Cultural Knowledge Study, being conducted by the Foothills Model Forest, helps support Criterion Six - “Accepting Society’s Involvement in Sustainable Forest Management”, specifically Element 6.2.2. which is the “Extent to which forest planning takes into account the protection of unique or significant Aboriginal social, cultural or spiritual sites”. Inventorying sites that are important to local Aboriginal communities better enables their inclusion in resource management decisions and activities.

# Natural Disturbance



Weldwood of Canada Limited





As evidenced in the above images, forests have dramatically changed over the last eighty years. Recently, there have been increased efforts by Foothills Model Forest partners to restore forests to their natural range of variation. Natural range of variation can be defined as the patterns and processes of vegetation over time that would naturally occur within a given forest area. The Highway 40 North Demonstration Project is testing the ability of a natural range of variation based management plan at achieving sustainable forest management.


The application of natural disturbance research may result in scattered trees left in cutblocks to more closely emulate fire.

## Theory in Action: Highway 40 North Demonstration Project

During Phase II, the Foothills Model Forest quoted Frederich Engels, "An ounce of action is worth a ton of theory". As the organization matures and evolves, this quote is more representative of the Foothills Model Forest's vision, goals and actions. The Highway 40 North Demonstration Project, spearheaded by the Natural Disturbance Program, exemplifies theory in action. This unique and innovative demonstration is applying Foothills Model Forest natural disturbance research to a large landscape (70,000 hectares) that is of great economic, ecological and social importance. This project is an example of the Foothills Model Forest's commitment to promote and participate in demonstration projects that use information and tools gathered through research to advance sustainable forest management.

The Highway 40 North Demonstration Project is using the concept of natural range of variation as the model to guide forest management planning and activities. Natural range of variation can be defined as the patterns of vegetation over time that would naturally occur within a given forest area. The rationale behind modelling a landscape's natural range of variation is that by emulating the processes and patterns of nature, a forest is more likely to maintain its biodiversity. The Foothills Model Forest and its partners are in an enviable position because they have world-class information, both in quantity and quality, to support the implementation of this model. The demonstration area will test the effectiveness of natural range of variation as both the basis of a planning approach and as an operational guide.

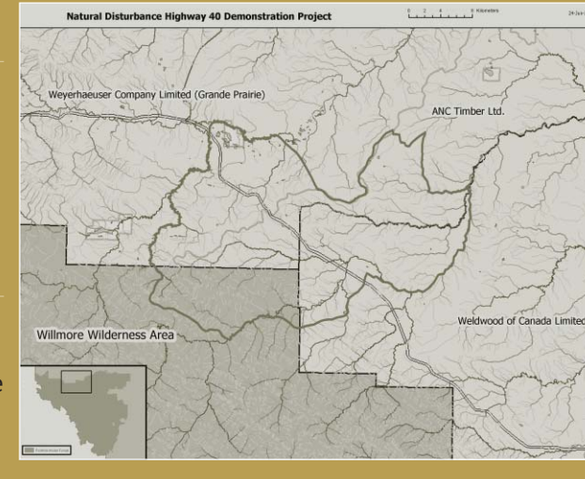
This one-of-a-kind demonstration will apply natural disturbance research at the landscape level and at the forest stand level. Throughout the planning and operational processes, involvement will be sought from other scientists in an effort to link other sustainable forest management research, thus forest values, to the natural disturbance model of planning. The project also intends to involve a wide range of stakeholders such as oil and gas companies, and will include prescribed burns designed to enhance habitat as well as reduce the risk of both wildfire and mountain pine beetle. Ultimately, the goal is to develop a system that will best achieve sustainable forest management.

Arguably, the most important component of this demonstration project is determining if a natural range of variation inspired plan is effective at achieving sustainable forest management. Does this management model conserve other ecological values? Is it economically feasible and socially acceptable? If so, can it be transferred to other forests throughout Alberta and Canada? The Foothills Model Forest and its partners look forward to the answers to these and other questions.



### Quick Facts About the Highway 40 North Demonstration Project

- The objective of the study is to demonstrate the application of the full array of natural range of variation concepts to support and integrate with other values, and to inform policy and resource management planning.
- The demonstration area is 70,000 hectares. It includes parts of Alberta Newsprint Company, Weldwood of Canada Limited, Hinton Division, and Weyerhaeuser Company Limited forest management areas; active oil and gas well sites and exploration; and a portion of the Willmore Wilderness Park, a provincial protected area.
- The area has important caribou, grizzly bear and bull trout habitat.
- The area is at risk to both wildfire threat and mountain pine beetle infestation.
- The area has a high social value. Highway 40, which bisects the area, is a well-travelled, highly visible public corridor. Its natural beauty and accessibility means that it is used for many outdoor recreational activities such as horseback riding, hunting and fishing. There are also trap lines, as well as known Aboriginal sensitive sites.
- A wide range of sustainable forest management research is being incorporated into the management plan. Scientists and experts will advise the project team on the effects of the proposed management plan on the forest ecosystem and wildlife; economic and recreational opportunities; public forest management preferences; communications and extension opportunities.
- A final plan and the final report on the process are scheduled for delivery by June 30, 2004. A computer program that simulates and forecasts how fires would have shaped this landscape will initiate the planning process.



# Program Initiatives



R.E. Stevenson, Alberta Forest Collection


Industry and government are using the Foothills Model Forest's "Resource Selection Function Probability of Grizzly Bear Occurrence" map to guide resource development. This is an example of extension occurring at the Foothills Model Forest.

Ember Research Services

The Chisholm fire is a precedent wildfire event in Canada and post fire documentation is comprehensive. The Foothills Model Forest and partners are conducting behaviour and effects research on the fire site, including comparison of differences between immature and mature aspen stands. Understanding fire behaviour and effects enables forest and land management policy, planning and practice to incorporate natural disturbance.

# PROGRAM INITIATIVES

Program initiatives must support the Foothills Model Forest Phase III strategic direction. More explicitly, there must be links between program initiatives and the Canadian Council of Forest Ministers' Six Criteria for Sustainable Forest Management. The organization's overall success is dependent upon the success of individual projects. There were many project achievements in the year 2002/2003, which contributed to sustainable forest management at a local, provincial and national level.

## Adaptive Forest Management

Final reports (five volumes) on the history of adaptive forest management in the Foothills Model Forest were completed in 2002/2003. Two of these reports are being adapted for publication in book form. One, **Learning from the Forest - a Fifty-Year Journey towards Sustainable Forest Management** will be published by Fifth House in 2003, a joint project with the Foothills Model Forest. The other, **A Hard Road to Travel**, follows the early history of forest development in west-central Alberta up to the mid-1950s. It is slated for publication in 2003/2004.

## Chisholm/DogRib Fire Research

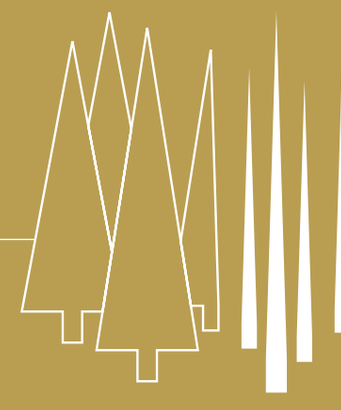
In the year 2001, Alberta experienced two intense and large forest fires - the Chisholm fire in May and the DogRib fire in October. Both fires were high intensity wind-driven events that had significant community and ecological impacts. In an effort to understand forest fires and their immediate aftermath, Alberta Sustainable Resource Development designated both fires as research areas. Research focused on fuel characteristics, wildlife impact, coarse woody debris, moss succession, saproxylic beetle populations and fire behaviour modelling. Interestingly, data from earlier CFS fire research plots re-burned by the Chisholm fire are providing valuable information to the program. One year of research has produced significant results, which will be of great interest to community leaders, as well as land managers responsible for fire prevention throughout North America. Among the results:

- Fire behaviour in aspen stands is very dependent on age and coarse woody debris.
- Coarse woody debris, moss succession and nutrient pools are significantly different in the burns and adjacent forest harvest areas.
- Elk migration is influenced by vegetation response to fire.
- Calibration of Prometheus, a fire spread model, has improved fire behaviour forecasting.

## Communications and Extension

In Phase III, the Foothills Model Forest continues to place great importance on its communications program, with increased emphasis on extension. In 2002/2003, the communications program continued to deliver products and programs that have proven effective at educating the general public about sustainable forest management. Thought and attention were given to the development of an effective extension program.

- The Local Level Indicators report was published. This comprehensive and detailed document reports on ecological, economic and social indicators in the Foothills Model Forest land base. It provides a benchmark for future monitoring and reporting. It is also a valuable tool for informing the public about sustainable forest management.
- The message of sustainable forest management was delivered to a wide and varied audience. Notable communications activities included the grizzly bear museum exhibit, summer interpretive programs, the forest certification forum and ongoing work with the media.



# Program Initiatives



Weldwood of Canada Limited

Jim Gates

The Foothills Model Forest is one of six partners in the **Hardisty Creek Restoration Project**. Fish biologists provide technical support to the project in an effort to restore the creek, located within the Town of Hinton, by addressing fish migration barriers at stream crossings and impacts from previous streamside developments.

## Enhanced Aboriginal Initiative

In January 2003, a program leader was hired to facilitate the Traditional Cultural Knowledge Study. To date, the five Aboriginal communities of Aseniwuche Winewak Nation, Big Horn First Nation, Foothills Ojibway Society, O'Chiese First Nation and Sunchild First Nation are partners in the study. Together with industry and government, these Aboriginal communities are developing a process to compile Aboriginal sensitive sites within the Foothills Model Forest land base. Ultimately, these sites will be considered in natural resource management plans and activities.

## Fish and Watershed

In 2002/2003 the Fish and Watershed Program continued to develop knowledge and tools for use in forest management planning. Data collected during Phase II provide a strong foundation for continuing the development and testing of tools. There were four new projects initiated during the year.

Watershed and stream classification. This Geographic Information System (GIS) based product extends beyond the model forest boundaries. This detailed product provides information (100+ stream reach descriptors, riparian area and watershed) for the 100,000 kilometres of stream within the Northeast Slopes region. Biologists are using this information to develop computer models that predict fish presence/absence. These results will be mapped and used by industry and government for designing and building roads to ensure appropriate stream crossings are used; determining the time of year that industrial activities occur; and for stream crossing remediation.

Forest Land – Fish II Conference: Ecosystem Stewardship Through Collaboration. The conference, scheduled for April 2004, is a follow-up to the successful 1996 Forest – Fish conference. The conference will provide an opportunity for researchers, regulators, industry and other stakeholders to showcase examples of successful collaboration on projects involving access, riparian and cumulative effects management.

Riparian area management. Recent findings from natural disturbance research suggest disturbance within riparian areas needs to be better understood. Specifically, an understanding of the relationship between disturbance and fish populations and their habitat, large woody debris recruitment and stream channel processes is required. The Foothills Model Forest is addressing these questions within its boundary and at the Chisholm/DogRib fire areas.



## Foothills Growth and Yield Association

Technical forestry continues to be an area of interest at the Foothills Model Forest. Understanding and applying silvicultural treatments that realize the full potential of timber supplies improves the competitiveness of forest companies thus the sustainability of forest-based communities. The Foothills Growth and Yield Association's mission is to continually improve the understanding and forecasting of lodgepole pine growth and yield in managed forests. The Association is comprised of nine industry partners. The Alberta government and the Foothills Model Forest are non-voting members. Highlights from the Association's 2002/2003 activities are as follows:

The Lodgepole Pine Regeneration Project is proceeding on schedule, and a comparison of pre-harvest and post-harvest growth rates has been completed. Reports on both studies are available.

The Association has partnered with the Canadian Forest Service and Alberta Sustainable Resource Development on a project for the maintenance and analysis of historic research trials. The Association is partnering with the Province of Alberta on the development of innovative growth and yield estimation techniques.

Communications and knowledge transfer activities include posting of the report, Evaluating the Opportunities for Nutrition and Density Management of Fire Origin Lodgepole Pine in Alberta on the Foothills Model Forest web site. A technical forum entitled, Progress and Priorities in the Assessment of Lodgepole Pine Growth and Yield was held.

# *Program Initiatives*

Joey Podlubny, Oilweek

## Foothills Model Forest Grizzly Bear Research

The Foothills Model Forest Grizzly Bear Research Program was initiated in response to land and resource management questions. The program is closely tied to sustainable forest management, specifically, the Canadian Council of Forest Ministers' Criterion One: The conservation of biological diversity. This research initiative has proven to be an overwhelming success. After four years of research, over 48 partners provide funding to the program. In turn, the Foothills Model Forest develops information and management tools that will help resource managers improve their practice to sustain a healthy environment for grizzly bear survival. These tools illustrate the habits and habitat needs of grizzly bears on a large-scale, multiple use landscape. However, the true beneficiaries of this world-class research and its application are grizzly bears. Highlights of the program include:

In the year 2002/2003, the oil and gas industry, enthusiastic supporters of the program, applied research findings to improve their operations. Both ConocoPhillips and Petro-Canada Ltd. use habitat maps in road and pipeline planning within the research study area, allowing for new industrial activities to avoid key grizzly bear use areas.

Weldwood of Canada, a driving force behind the research, uses habitat maps and models to assist them with road planning within their forest management area. The company has requested that the program complete mapping and modelling of grizzly bear habitat for the entire Hinton forest management area as well as that of Sunpine Forest Products, another Weldwood owned company. In Alberta, Weldwood will be actively managing for grizzly bears throughout the Northeast and Southeast slopes of the province.

Alberta Sustainable Resource Development, an initiator of the research program, is using habitat maps to manage for grizzly bear conservation at the landscape level.

## Geographic Information Systems

Geographic Information Systems (GIS) were introduced at the Foothills Model Forest at a time when, in the rest of the forestry community, the technology was only beginning to be appreciated and used. Since that time, industry and government partners have expanded the use of GIS on a daily basis, enabling them to manage natural resources using many layers of information, including Foothills Model Forest research findings. In the year 2002/2003, GIS focused on extension and knowledge transfer, as well as supported the efforts of the many research programs within the model forest itself. Its achievements include:

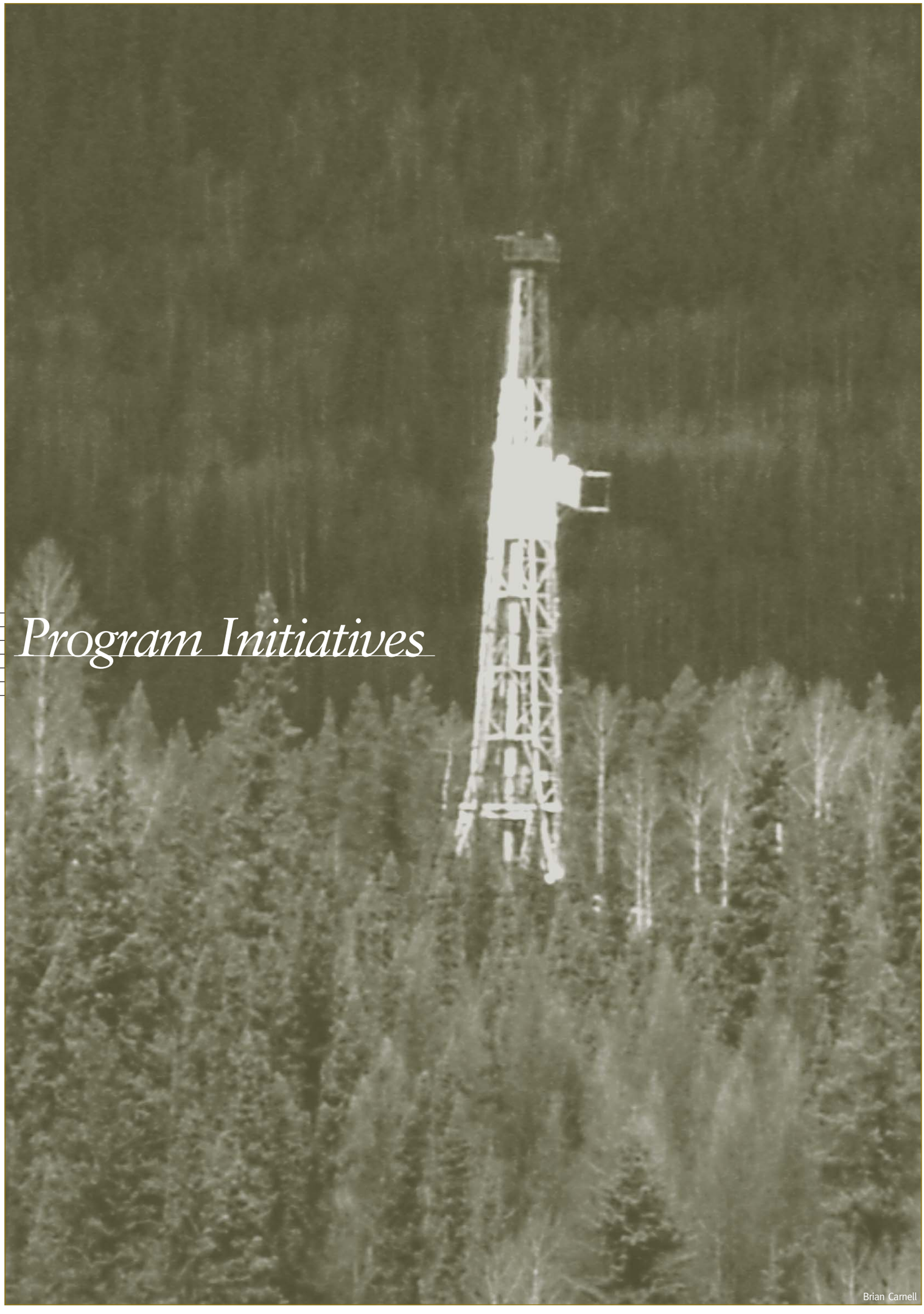
Delivering a workshop on natural resource information management that was attended by partners from industry and government. An objective of the workshop was to demonstrate that proper data management saves money and leads to more effective implementation of research findings. It included user training.

Delivering a workshop for members, and their affiliates, of the Foothills Growth and Yield Association. Participants received training on how to use the regenerated lodgepole pine database. A follow-up workshop is scheduled for the fall of 2003.

The development and application of GIS technology to support the grizzly bear research program, including visualization products that enable researchers and managers to better understand grizzly bear movements and habitat use.

## Local Level Indicators

The Foothills Model Forest and its partners have developed region-specific, or local-level indicators to measure performance against the six criteria of sustainable forest management set out by the Canadian Council of Forest Ministers. In 2002/2003, the reporting on the state of the Foothills Model Forest land base was completed and published in the report Local Level Indicators of Sustainable Forest Management for the Foothills Model Forest. When viewed in conjunction with a local set of goals and national criteria, the information in the report will enable Albertans to make informed decisions about forestlands. The document provides initial benchmark reporting on a "starter" set of 39 indicators, including data collected up to and during the year 2000. More indicators will likely be reported upon in the future.



# Program Initiatives



Brian Carnell

## Natural Disturbance Program

The Natural Disturbance Program has one of the world's most comprehensive data set of its kind. The program is focused on demonstration of knowledge. However, applied research is being conducted to answer outstanding management questions. Communications and knowledge transfer continues to be a program priority. Highlights include:

In 2002/2003, the Natural Disturbance Program expanded its understanding of natural disturbance processes to riparian zones. Collaborating with the Chisholm/DogRib research initiative and the Foothills Model Forest Fish and Watershed Program, a multi-disciplinary team explored the challenges and opportunities of riparian zone management on post-fire sites. Ultimately, the team will develop trials and experiments allowing the incorporation of riparian areas into a natural disturbance inspired forest management plan.

The year 2003 marked the third anniversary of the Natural Disturbance Program "Quicknotes". Now numbering 18, the popularity of these one-page, bimonthly summaries of research topics grow. The distribution of the "Quicknotes" extends across Canada and into the United States. They are used as teaching material, and as reference documents for policy and guideline development in several provinces.

## Northern East Slopes Resource and Environmental (NES) Strategy

In April 2000, the Alberta Government announced the Northern East Slopes Resources and Environmental Strategy (NES Strategy). This pilot project was initiated in the Northeast slopes of Alberta that includes the Foothills Model Forest landbase, and partly because of the wealth of information, tools and services available from the model forest. The mandate of the initiative was to develop a process that effectively integrates economic, environmental and community values in resource development. Because the Foothills Model Forest conducts research and development on many of the environmental and natural resource values within the region, it has helped complement and contribute to the integrated resource management approach, in general, and to the NES Strategy project, specifically. During 2002/2003, the Foothills Model Forest made a number of contributions to the NES Strategy, including:

The cumulative effects model, "A Landscape Cumulative Effects Simulator" was reviewed for its suitability and accuracy for the NES Strategy area.

A computable general equilibrium model was developed to examine the regional economy of the Northern East Slopes Strategy area.

Indicators for natural disturbance regime analysis were developed and an overview of natural disturbance history was completed for the region.



The Foothills Model Forest land base is included in the NES Strategy area. In 2002/2003 cumulative effects and economic models were developed for the strategy area. These tools enable managers to integrate economic, ecological and social values in resource management policy and practice.

Brian Carnell

# *Program Initiatives*

Foothills Model Forest

## Social Sciences: The Social and Economic Values of Sustainable Forest Management

The Foothills Model Forest places great importance on understanding the "triple bottom line – the ecological, economic and social values of its land base". Research in Phase III continues to look at the linkages between these values.

Since 1999, the Foothills Model Forest has been studying fish and grizzly bear ecology and biology. These studies have created a better understanding of how human activities affect fish and grizzly bear populations. However, will society curtail industrial and recreational uses of the forest if it means maintaining the ecological conditions required for healthy fish and grizzly bear populations? In 2002/2003 research began to answer that question by examining the social values associated with fish and grizzly bear conservation.

The forest is a source of multiple values. In 2002/2003 the Foothills Model Forest accounted for the non-commercial values of the forest, which include activities such as camping, hiking and hunting, as well as ecosystem functions such as maintaining biodiversity and water quality. This is defined as natural resource accounting. The natural resource account developed for the Foothills Model Forest may potentially be incorporated into forest management plans, thereby quantifying multiple forest values.

## Woodland Caribou

The Foothills Model Forest has been involved in woodland caribou research since 1993. Program partners are applying research findings to their daily activities. Highlights of the program from 2002/2003 include:

Four forest management agreement holders (Alberta Newsprint Company, CANFOR, Weldwood of Canada Limited, Hinton Division and Weyerhaeuser Company Limited) support and participate in the woodland caribou research. These companies all harvest on caribou range in west-central Alberta. The provincial and federal governments are also partners in this program. Together, industry and government develop and implement land use strategies that will help conserve this wildlife species.

During 2002/2003, biologists studied the effects of land use on woodland caribou mortality due to predation, primarily from wolves. A woodland caribou habitat supply map will be developed based on information collected to date. This map will be used to direct the type and location of industrial activities to complement conservation of this species.




Brian Carnell

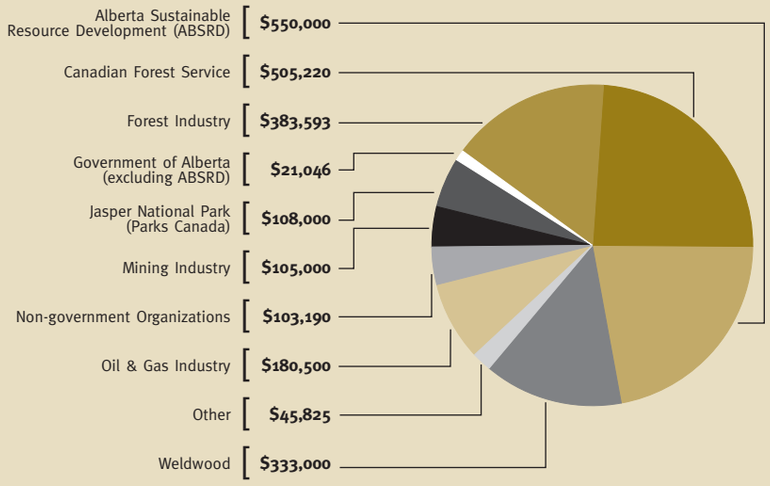

Weldwood of Canada Limited


Brian Carnell

In 2002/2003 the Social Sciences program began to answer the question: "Will society curtail industrial and recreational uses of the forest if it means maintaining the ecological conditions required for healthy fish and grizzly bear populations?"

# FINANCIAL STATEMENTS

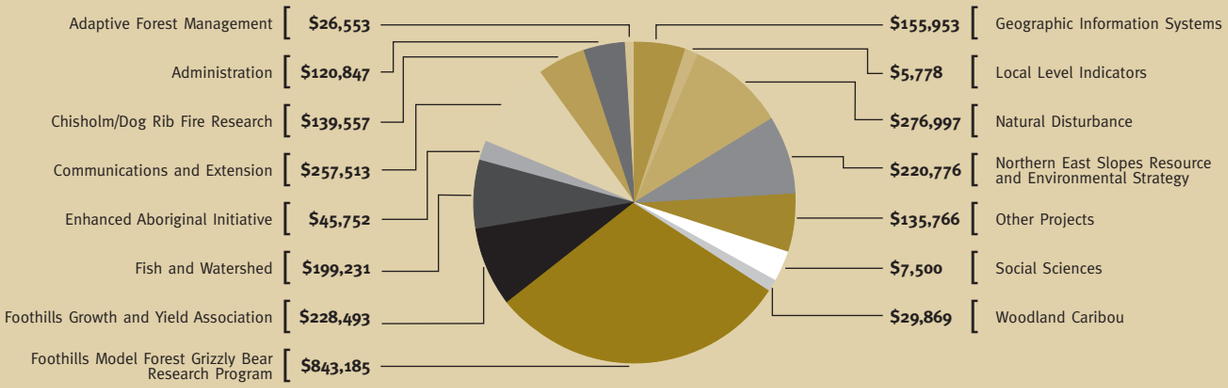
## Foothills Model Forest / Revenue [Year ending March 31, 2003]




In 2002/2003, the Foothills Model Forest received $2,335,374 in funding to support its research, extension and communications programs. A breakdown of its funding sources is as follows:

- Alberta Sustainable Resource Development contributes 24% of total funds.
- Canadian Forest Services contributes 22% of total funds.
- Jasper National Park, Parks Canada contributes 5% of total funds.
- Weldwood of Canada Limited, Hinton Division contributes 14% of total funds.
- The forest industry contributes 16% of total funds.
- The oil and gas industry contributes 8% of total funds.
- The mining industry contributes 4% of total funds.
- Nongovernment organizations contribute 4% of total funds.
- Additional sources of funding include items such as interest.

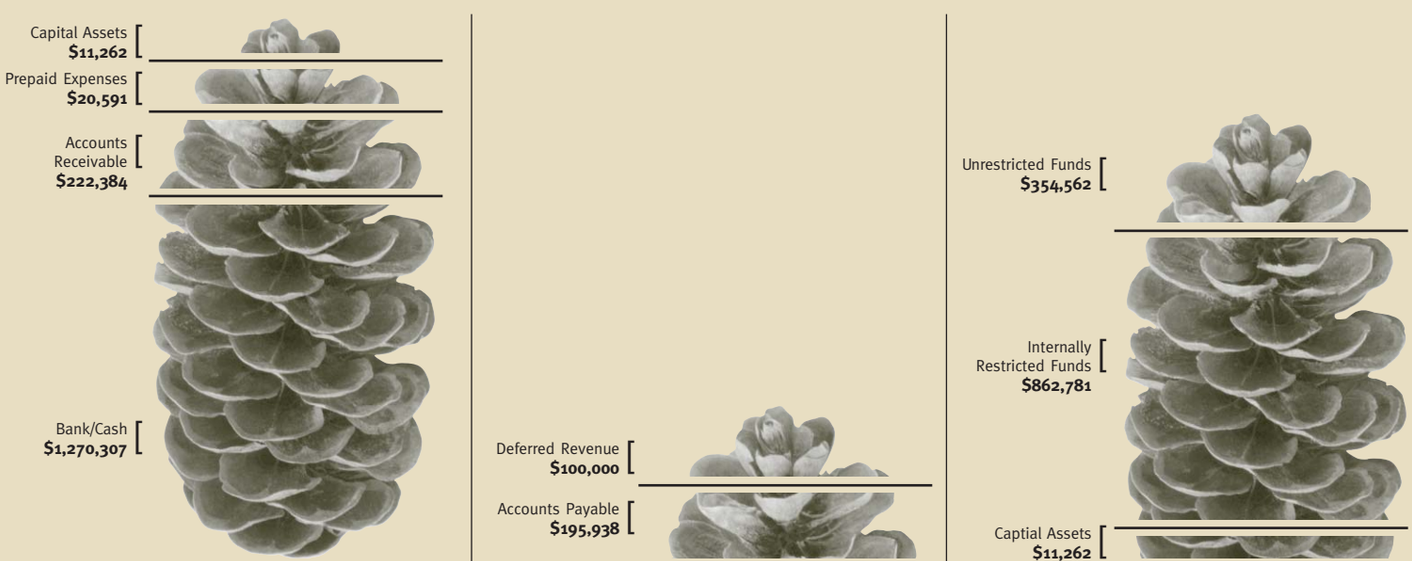
## Foothills Model Forest / Expenses [Year ending March 31, 2003]




In 2002/2003, the Foothills Model Forest's expenses totaled $2,761,271. Upon approval from the Foothills Model Forest Board of Directors, each project area is responsible for its own budget and expenditures. $425,897 in 2002/2003 expenses were paid using funds from the prior year's fund balances.

- The Natural Disturbance project expenses include those of the Landscape Disturbance, Riparian, Mountain Pine Beetle and Fire Smart Programs.
- Other Projects include Burnt Wood Utilization, Ecological Chronosequence Study, Carbon Budget, Cache Percotte Management Plan, Ecosystem Monitoring Program, Trapline Management and Goats.

## Foothills Model Forest / Statement of Financial Position [As of March 31, 2003]




**Foothills Model Forest / Assets** | **Foothills Model Forest / Liabilities** | **Foothills Model Forest / Fund Balances**

The Foothills Model Forest is committed to securing funding for the sustainability of its research, extension and communications programs. As of March 31, 2003, Foothills Model Forest's assets totalled $1,524,544. The majority of these funds (57% or $862,782) have been allocated for future research.

*For the Foothills Model Forest Audited Financial Statements please contact Foothills Model Forest at 780-865-8330 or visit www.fmf.ab.ca*

Box 6330, Hinton, Alberta Canada T7V 1X6 780-865-8330 www.fmf.ab.ca

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