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foothills
model *forest*
a growing understanding

1996/1997 ANNUAL REPORT

MODEL FOREST NETWORK
RÉSEAU DE FORÊTS MODÈLES

foothills
model *forest*
a growing understanding

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Honourable Ralph Goodale
Minister of Natural Resources
Room 322, West Block
House of Commons
Wellington Street
Ottawa, Ontario
K1A 0A6

May it please your Honour:

On behalf of the shareholders and partners of the Foothills Model Forest, I respectfully submit the Annual Report for the fiscal year ended March 31, 1997.

Robert W. Udell. R.P.F.
President
Foothills Model Forest

MODEL FOREST NETWORK
RÉSEAU DE FORÊTS MODÈLES

Contents:

Foothills Model Forest

(boreal, subalpine, alpine and montane forest regions)

Weldwood of Canada Limited	
Forest Management Agreement Area	1,012,119 ha
Jasper National Park	1,087,800 ha
Crown Forest Management Units	202,962 ha
Cache Percotte School Forest	2,933 ha
Total Land Base	2,305,814 ha

Sponsors:

Weldwood of Canada Limited
Hinton Division

Canadian Heritage
Parks Canada

Patrimoine canadien
Parcs Canada

Natural Resources Canada
Canadian Forest Service

Ressources naturelles Canada
Service canadien des forets

Alberta
ENVIRONMENTAL PROTECTION

President's Message

In 1996 - 1997 the Foothills Model Forest completed its first phase of the Model Forest Program. The fifth and final year was successful, and one that will lead us into the second phase smoothly.

In October of 1996, The Honourable Anne McLellan, then Federal Minister of Natural Resources, visited the Foothills Model Forest, after announcing the extension of the Model Forest Program during a speech at the Alberta Forest Products Association (AFPA) conference in Jasper. "The Government of Canada is renewing its commitment to Phase Two of the Model Forest Program with a contribution of more than $40 million dollars over the next five years," said McLellan.

"This major commitment is recognition by the federal government that this is an outstanding program. We recognize that Model Forests are not only a valuable research tool, but a living laboratory that can help us demonstrate to the world how we continue to lead and innovate with new and unique sustainable forestry practices," said McLellan.

The Foothills Model Forest is proud to be a member of this network that is contributing to the goal of sustainable forest management in Canada. We have completed many of our projects, and reports will be finished by the fall of 1997.

The Watershed Assessment Model was presented in the early part of 1997, and we anticipate its adoption in many aquatic programs around Alberta.

The Field Guide to Ecosites of West-Central Alberta was also finished in 1996 - 1997. It is now being used operationally on Weldwood of Canada's Forest Management Agreement Area in Alberta.

The landscape disturbance project really progressed this year and it will be one of our leading projects in the second phase of research at the Foothills Model Forest.

The Foothills Model Forest is encouraged by its progress over the first phase of the program, and is excited about continuing the work for another five years. We have created a strong partnership, and together all participants are anxious to begin applying the tools we created in Phase I, and begin development of new tools to be implemented in the coming years.

Sincerely,

Robert W . Udell. R.P.F.
President

Foothills Model Forest Officers

Name	*Title*	*Principal Occupation*
Ross Risvold	Chairman of the Board	Mayor of Hinton, Director Alberta Environmental Training Centre
Robert Udell	President	Manager, Forest Policy & Governmental Affairs Weldwood of Canada Limited (Hinton Division)
Marsha Spearin	Secretary	Administrative Coordinator Weldwood of Canada Limited (Hinton Division)
William Craig	Treasurer	Divisional Controller Weldwood of Canada Limited (Hinton Division)

Foothills Model Forest Board of Directors

Name	*Title*	*Principal Occupation*
Jeff Anderson	Board Member	Manager, Ecosystem Management Secretariat
Michel Audy	Board Member	Superintendent, Jasper National Park
Jim Beck	Board Member*	Professor, Forest Management, University of Alberta
Colin Edey	Board Member*	Senior Environmental Planner, NOVA Corporation
Dennis Hawksworth	Board Member	General Manager, Forest Resources & Lumber Weldwood of Canada Limited (Hinton Division)
Don Laishley	Board Member	Director, Forest Strategy, Weldwood of Canada Limited
Keith McDonald	Board Member	Regional Director, Water, Fish/Wildlife and Parks Northern East Slopes Region Natural Resource Services, Alberta Environmental Protection
Robert Newstead	Ex-officio Member	Model Forest Coordinator, Northwest Region Canadian Forest Service
Dennis Quintilio	Board Member	Director, Forest Management Division Land and Forest Services, Alberta Environmental Protection
Jerry Sunderland	Board Member	Director, Northern East Slopes Region Land and Forest Services, Alberta Environmental Protection

* *Members elected by the Partners Advisory Committee*

Activity Areas

Information Research and Knowledge

Ecologically-Based Preharvest Planning

A classification manual entitled "Field Guide to Ecosites of West Central Alberta", was published in 1996-1997. It is one in a series of three for the Province of Alberta. A document titled "Overview and Application of the Field Guide to Ecosites of West Central Alberta" was also published in 1997. It describes the development of the classification system and associated soil type classification system. It also provides a quantitative depiction of the classification system at the ecosite level, and contains a discussion about the application and interpretation of the system. These two documents represent the culmination of this project. It should also be mentioned that to date Weldwood has classified approximately 200,000 hectares using this field guide.

Integrated Resource Management and Sustainability

A. Forest Wildlife and Ecology Program

The forest wildlife and ecology program applies the mission of the Foothills Model Forest to wildlife and other ecological values of the forest ecosystem. The program supports research in two project areas: determining the habitat requirements of forest dependent wildlife species in the Foothills Model Forest (e.g. elk, caribou, squirrels, owls, hawks, woodpeckers, songbirds, salamanders); and, under-standing the role of disturbance in local forest ecosystems through comparison of biodiversity in forests recently disturbed by forest fire to those disturbed by clearcut logging and reforestation activities.

The following current projects are being undertaken by graduate students at the Universities of Alberta, Saskatchewan and Guelph.

1. Red Squirrel Habitat Use

Fieldwork for the red squirrel study was completed this year. Matt Wheatley, a graduate student in the Department of Biological Sciences, University of Alberta, has completed a final report summarizing the results of this two-year study, and is currently working on his Masters Thesis. Matt has used the data he collected on squirrel population density, reproduction and survival in several locations near Hinton to test components of a Habitat Suitability Index model designed to predict habitat quality for squirrels. He found that in mature forest, squirrel density was unrelated to the height of the trees, although a strong preference for stands dominated by spruce was observed.

Red Squirrel

2. Northern Goshawk Habitat Characterisation in the Foothills Model Forest

Fieldwork for the northern goshawk study was completed this year. Warren Schaffer, a graduate student in the Department of Renewable Resources, University of Alberta, has completed a final report summarizing the results of this two-year study, and is currently working on his Masters Thesis. This project investigated habitat selection by northern goshawks (Accipiter gentilis) in the boreal forest of Alberta. Warren sampled the vegetation characteristics at goshawk nests and contrasted these conditions with the surrounding forest area, and found that these birds prefer to build their nests in tall aspen trees within deciduous or mixedwood forest. Goshawk prey use was sampled by observing goshawks feeding their young, and by collecting goshawk pellets and prey remains. Primary foods included red squirrel, snowshoe hare, and several species of birds. The information obtained during this study is available to assist in the revision of a Habitat Suitability Index Model developed for the goshawk in the Foothills Model Forest. Resource managers attempting to modify forest management practices to better accommodate timber and wildlife objectives can use this model.

3. Barred Owl Habitat Use and Distribution in the Foothills Model Forest

The barred owl is of interest to forest managers because of its apparent dependence on mature and old forests. Lisa Takats, a graduate student in the Department of Renewable Resources, University of Alberta, completed the second of two field seasons this year. Her final report has been completed, and a Masters Thesis is currently in preparation. Lisa found through systematic transect surveys in the Foothills Model Forest east of Jasper National Park, that barred owls occurred at densities of around 4-5 owls per hundred square kilometers. Barred owl nests were invariably located in balsam poplar trees with cavities large enough for this large bird to fit inside. Foods consumed by barred owls, determined by observing deliveries to nestlings and by locating prey remains beneath nest and roost sites, included a variety of birds, small mammals, and amphibians.

Barred Owl

4. Habitat Use by Woodpeckers in the Boreal Forest Region of Alberta

Jody Watson, a graduate student in the Department of Renewable Resources, University of Alberta, completed fieldwork for the woodpecker project this year. Jody's work focused on the habitat use of the following woodpecker species: three-toed woodpecker, hairy woodpeckers, northern flicker and yellow-bellied sapsucker. Her objectives were to determine the relative abundance, habitat use, and nesting requirements of three-toed and hairy woodpeckers in forest stands of different ages and tree species composition, and to develop and test Habitat Suitability Index (HSI) models for all four species. Active woodpecker nests were located throughout Foothills Model Forest bothopportunistically and through active nest searches. At each nest location, a number of habitat and site characteristics were measured as an estimate of the habitat used by the woodpeckers. To estimate the habitat available to the woodpeckers, a randomly located plot was placed within the nest stand and the same habitat and site characteristics measured. A comparison of the used to the available plots will reveal any habitat preferences displayed by the woodpeckers and aid in the determining which habitat variables are important to woodpeckers. A comparison between the habitat used by each woodpecker species will reveal differences in habitat selection between different species. Breeding season HSI models are being developed and tested for the yellow-bellied sapsucker and the northern flicker, and year-round HSI models are being developed and tested for the three-toed and hairy woodpeckers. These models will be available for use in forest planning to ensure that the habitat required by each woodpecker is always available. This study will also make it possible to recommend forest management practices that enhance habitat for woodpeckers.

5. Songbird abundance, distribution, and reproductive success in two age classes of mixedwood stands

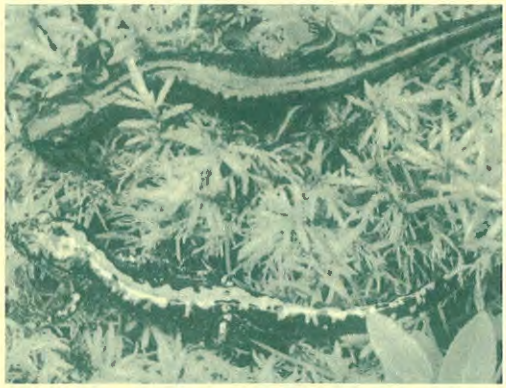
A second season of fieldwork for the songbird project was completed this year. Sheila Rangen, a graduate student in the Department of Biology, University of Saskatchewan, has completed a report summarizing the results to date, and is currently working on her Doctoral Thesis. Using early morning field censuses to count birds in each habitat, Sheila found no evidence that the abundance of songbirds and the number of songbird species differed between young and old forest stands dominated by white spruce and trembling aspen. However, the large amount of natural variability makes it difficult to draw firm conclusions. Sheila also tested the ability of a Habitat Suitability Index model for one bird species, the hermit thrush, and concluded that revisions to the model are necessary before it can be a reliable tool for predicting habitat quality for this species. In a separate study of nest predation, Sheila found that mice, squirrels and birds were key predators of songbird eggs, but bird parents can probably reduce predation on their nests by concealing them in dense vegetation. The intent of this work is to provide managers with information that can help conserve breeding habitat of migratory songbirds, some of which are in decline over much of their range in North America.

6. Habitat Use of the Long-toed Salamander

The Foothills Model Forest Salamander Project was officially completed this year. Karen Graham, a graduate student in the Department of Zoology, University of Guelph, successfully defended her Masters Thesis. Karen's work has extended our knowledge of this little-known animal, documenting through the capture of over 1000 individuals that long-toed salamanders are much more common than previously believed. In the Hinton area this species occurs in a variety of ponds surrounded by vegetation ranging from mature forest to regenerating clearcuts. Interestingly, Karen was also able to confirm that salamanders in this region are more closely related to salamanders in central BC than they are to salamanders in the southern foothills of Alberta. Such information is helpful for conservation planning, and ensuring a wide range of genetic strains of a species persist through time.

7. Habitat Characteristics of Elk Bedding and Feeding Sites in the Rocky Mountain Foothills

Paul Jones is nearing completion of his Masters Thesis in the Department of Renewable Resources, University of Alberta. Ten radio collared elk (Cervus elaphus) were located at bed sites and feeding sites during the winter of 1994-1995. In addition, any noncollared elk observed feeding or bedding, and any fresh beds or feeding sites discovered while in the field, were incorporated into the data set. Nine vegetative variables were measured at each bedding and feeding location. To determine availability of habitat, the attributes of elk beds and feeding sites were compared to vegetation attributes measured at sites nearby. Since elk may prefer a particular spatial arrangement of food to cover, Paul also measured the distance from used and available sites to features such as roads, hiding cover, thermal cover, and food. The feeding sites utilized by elk had less canopy closure, less spruce, pine and fir in the canopy, a lower mean tree height and stem density, less herb cover, greater grass cover, and were found further from hiding cover but closer to seismic lines than plots located near by. The bedding sites utilized by elk had a higher percent grass cover, less spruce, pine and fir in the canopy, and fewer stems per hectare than nearby plots. The data obtained during this study will allow for the testing of an elk winter Habitat Suitability Index model.



Long-Toed Salamander

8. Woodland Caribou Winter Range Habitat Selection in West-Central Alberta

Across Canada, wildlife and forest managers have faced conflict with trying to integrate woodland caribou habitat needs with timber harvesting activities. In west-central Alberta costly timber harvest plans for caribou range have been negotiated, but they are experimental in nature and need to be monitored.

This study is being used to develop habitat suitability indices for woodland caribou winter range in west-central Alberta. Woodland caribou distribution and habitat selection prior to timber harvest had been studied for eight years. A portion of the northern half of the range was harvested and, from 1993 - 1996, the Foothills Model Forest implemented a standard radio-telemetry helicopter relocation study to monitor caribou response to timber harvest, using 20-25 radio-collared animals. In addition, a graduate student back-tracked caribou trails from the ground to provide habitat use information at a finer scale.

Woodland Caribou

A total of 852 relocations of 20 - 25 caribou were obtained from November 16, 1993 to May 13,1996. These data were compared to the 341 locations of 20 animals gathered from 1980-1989, which included sampling from a period prior to and during harvest activity. The results to date suggest an avoidance of cut over areas that does not appear to be influenced by snow depth, as suggested in the 1994 progress report. Mean winter range size has declined since logging. Females that occupied the disturbed winter range for the entire winter had slightly lower productivity (64%) than those that wintered on the undisturbed portion for part or all of the winter (74%).

However, adult mortality has been confined to winter range and has been equitably distributed between samples from both the disturbed and undisturbed range. There was no difference in calf survival to 3.5 months between either group (50%) and this was consistent with results of previous studies. Likewise, there wasn't a difference in distance moved per day between the two groups.

Habitat attributes are currently being analyzed through logistic regression models. The resulting equations will be used to predict probability of occurrence. The ground-tracking resulted in documentation of 73 caribou paths on the ground and 738 GPS locations being marked from 1993 - 1995.

The first draft of a thesis was completed by March, 1997. Both products will be used to assess the implications of future logging plans.

9. Pileated Woodpecker Study

The Foothills Model Forest initiated a pileated woodpecker habitat ecology study in 1993. Most of the field work ended in 1996, with data analysis ongoing. The following is a summary of information and data analysis completed as of March 31, 1997.

There were 8000 locations obtained from 33 radio-tagged pileated woodpeckers in 14 pair territories. Individuals were monitored from five to 754 days, and 11 of 14 birds that died during the study were probably killed by northern goshawks. Pair territory size was 1000-4050 ha and averaged 2310 ha. Approximately 140 nests and 250 roosts and 550 cavity trees were found. Many cavity trees were used both for nesting and roosting, and 98% of cavity trees were in trembling aspen, and 92% were in living trees infected with heart-rot fungus. Cavity tree diameter at breast height was 29-76 cm and averaged 45 cm. The pileated woodpeckers used all available landscapes and foraged in all available stand types. They do not appear to be sensitive to forest fragmentation. Foraging substrates used in summer differed from those used in winter, and 54% of foraging substrates were dead wood. The data were used to test the preliminary pileated woodpecker HSI model and revise it.

A progress report produced in April 1997 covers the entire study period. The final report will be completed in 1998.

10. Horse Grazing: Impacts and Strategies

Data collection is complete on a three year field study examining the effect of horse grazing on conifer seedling survival and growth. The study was carried out in the Foothills Model Forest south of Hinton, Alberta in the upper boreal foothills. The original reason for the study was the perceived conflict between forestry companies and horse owners.

Horse grazing behaviour was studied under three levels of confinement: confined, semi-confined, and free ranging. The three levels of confinement were used to simulate horse management strategies used in the Hinton area.

In the confined study horses were fenced onto cutblocks that had conifer regeneration less than 2 meters tall. Grazing behaviour and subsequent seedling damage was studied on six distinct communities that occurred within the cutblocks: Mineral wetland, Pine-Elymus sites, Pine-Alnus sites, transition sites between pine and black spruce, cutlines and trails, and black spruce forest.

In the semi-confined study horses were confined to a eight square km area that contained 180 ha of cutblocks. Horse grazing behaviour and seedling damage were studied within the cutblock area on Pine-Eymus sites, Pine-Alnus sites, transition sites, and trails and cutlines.

In the free ranging study feral horses were tracked to determine winter habitat preferences. Seedling damage was not studied in the free ranging study because of the unpredictable nature of free ranging horse habitat use.

Study findings to date are:

1. In the summer horses prefer cutlines and trails, mineral wetlands, and Pine-Elymus sites (in that order) and avoid Pine-Alnus sites and transition zones.
2. Horses damage conifer seedlings by two mechanisms, basal scarring and vertical displacement (bending over). Browsing by horses was negligible. Seedling damage was greater in July than in August, probably due to greater soil and seedling strength in August.
3. Horses managed under semi-confined conditions exhibited similar habitat selection to confined horses.
4. Free ranging horses avoided cutblocks under winter grazing, their preferred winter habitat is best described as an uplanned black spruce meadow, usually found in water discharge areas.

   Field work was completed during 1996/1997 with final seedling survivorship and growth measurements. Thesis completion and scientific paper preparation is ongoing and will be completed in 1997/1998.

11. Effects of timber harvesting methods on terrestrial lichens and understory plants in west-central Alberta

This study, completed this year by Ken Kranrod of the Department of Biological Sciences of the University of Alberta, examined the effects of forestry practices on woodland caribou habitat in three subalpine lodgepole pine stands in the Foothills Model Forest. Forestry practices consisted of combinations of summer and winter logging; stump-side and roadside delimbing; and the presence or absence of drag-scarification. Terrestrial lichens, shrubs, herbaceous plants and bryophytes were sampled prior to and immediately following timber harvest. All species decreased in abundance and in species richness following all treatment combinations. Summer logging and drag-scarification were primarily responsible for observed decreases while methods of delimbing had only minor influences.

The greatest reductions in lichen and plant communities were observed following summer logging and stump-side delimbing with drag-scarification which resulted in increased heavy machinery traffic and disturbance at the ground surface. The smallest reductions in lichen and plant communities were observed following winter logging and stump-side delimbing without drag-scarification. This treatment combination reduced heavy machinery traffic and disturbance at the ground surface while providing suitable microhabitats for terrestrial lichens and understory plants.

These results suggest that a forestry practice combination of winter timber harvest and on-site processing of trees without drag-scarification will retain the greatest abundance and diversity of terrestrial forage for woodland caribou immediately following timber harvest.

12. Ranges of variability in the structure of forest stands disturbed by wildfire and logging in the Rocky Mountain foothills

Many differences between wildfire and logging are well known, but variability in the structure of burned stands and logged stands has rarely been estimated. Through collaborative research with Weldwood of Canada and Jasper National Park, the Foothills Model Forest estimated the variation in deadwood structures within four burns and three clearcut areas in the Rocky Mountain Foothills of Alberta. This project is considered a step towards developing management guidelines to maintain stands that more closely approximate those disturbed by natural processes such as wildfire. Results to date suggest that the volume of down woody material in 35-40 year old burned stands was highly variable, and frequently very high, with trees killed by the last wildfire accounting for most of this volume. In most stands, less than 50 such trees ha-1 were still standing 35-40 years later. Logged stands, in contrast, contained far less down woody material and very few standing dead trees 25 years after logging.

These results point to the need for careful consideration of the effects of forest management on species and ecological processes that rely on a continued supply of dead wood.

13. Landscape Patterns of Disturbance by Wildfire in the Foothills Model Forest

Because of the large influence of disturbance processes on biodiversity and ecological processes, management within forest ecosystems to maintain a continued flow of social and economic benefits requires a better understanding of naturally occurring disturbances such as wildfire relative to human-caused disturbances (such as clearcutting and prescribed fire). The Landscape Disturbance project is a collaborative effort of Weldwood of Canada, Jasper National Park, and Alberta Environmental Protection.

The project is intended to contribute to the development of management strategies that are in concert with the concept of ecological management, which is "an evolving approach that focuses on ecological processes and ecosystem structures and functions, while sustaining the types of benefits that people derive from the forest" (Alberta Forest Conservation Strategy, draft July 8, 1996). Two reports were completed, one that documents the stand origin map prepared and the other provides detailing the analysis of fire disturbance patterns across the Foothills Model Forest, including Jasper National Park. The work, which will continue into 1997 and beyond, is intended to contribute to the development of regional goals and management objectives. Specifically this work will contribute to the establishment of landscape-level objectives for forest harvesting in Weldwood's forest management area (e.g. seral stage representation and distribution by natural subregion) and for vegetation management initiatives in Jasper National Park including prescribed fire and modified fire suppression.

B. Fish and Aquatic Research Program

Hydrology and planning projects of the aquatic research program drew to a close in the 1996-97 year, however, the Fish and Stream Inventory project continues into Phase II.

The goal of this program was to increase the understanding of fish and water in the forest ecosystem. The program maintained a multidisciplinary approach using hydrology, fish ecology, forestry and Geographic Information System (GIS) knowledge to explore the links between terrestrial and aquatic components of the forest ecosystem. The focus of the program was native fish species in the Foothills Model Forest streams, including fish habitat requirements, species distribution and the influence of land use activities on aquatic habitats.

Projects were completed relating to fish and aquatic habitat requirements; sediment intrusion; regional hydrology; water yield and peak flows. The Watershed Assessment Model (WAM) framework was developed to provide a means to access and evaluate spatial, database and expert system information in a coordinated manner.

1. Fish and Stream Inventory Project

The fish and stream inventory project completed a second year of inventory in 1996. Two crews collected fish and aquatic habitat data from June to October, with an increase in the number of sites surveyed; 33 sites in 1995 to 193 sites in 1996. These data have been distributed to the major funding partners of this program: Weldwood of Canada (Hinton Division) through the Forest Resource Improvement Program and Alberta Natural Resources Service through the Fisheries Habitat Development Program. A preliminary analyses of our fish and aquatic habitat data was completed during the winter. The results of this component of the fish and stream project will be available by July 1997.

Other planned analyses will examine some of the relationships between GIS variables generated by the Watershed Assessment Model developed at the Foothills Model Forest, and our fish and aquatic habitat data. Some of the GIS variables of interest are: stream gradient, stream order, road and seismic line densities, road-crossing densities, drainage area, etc.

The fish and stream inventory project is ongoing through 1997, and there is a strong desire of the partners to continue the program through 1998. Feedback from partners to date regarding the progress of the fish and stream inventory project has been positive.

2. Culvert Project

A new project of the Fish and Aquatic Research Program in 1997/98 is the evaluation of culverts as fish barriers. The culvert project will be done in cooperation with Weldwood of Canada (Hinton Division) and Alberta Natural Resources Service. We will be examining different techniques that may be used to evaluate fish-passage through hanging culverts as well as the potential effects that these barriers have had on fish populations. This will involve monitoring movements of rainbow trout and brook trout during their respective spawning migrations and the collection of biological and population data above and below the barrier.

Another component of this project in 1997 will be to assess existing remedial work on identified streams.Results of this project will be implemented during the evaluation of techniques used to mitigate the effects of hanging culverts. There is a desire of the partners to continue this project in 1998.

Measuring a Bull Trout

3. Habitat Manual Project

Another new project for the Fish and Aquatic Research Program is the development of a fish habitat manual. This project was recommended by both the Alberta Lotic Systems Steering Committee and the Foothills Model Forest because of inconsistent data collection techniques that have been used in the past. The purpose of this project is to develop a simple manual that uses photographs to describe different habitat types. This type of manual should ensure that workers are collecting fish habitat data in a similar manner, and making these data comparable. A prototype of this manual for the upper and lower foothills region of Alberta will be complete by December 1997. This project is jointly funded by the Alberta Conservation Association and the Foothills Model Forest.

4. Freeze Core Sampling for Sediment Intrusion from Road Crossings in Small Alberta Foothill Streams.

The purpose of this study is to evaluate the impact of sediment intrusion at road-crossings on the aquatic habitat of bull trout and Athabasca rainbow trout.

Sediment intrusion may have contributed the deterioration of aquatic habitats and fish stocks of foothill streams. Research indicates that stream substrates with high fine sediment levels can dramatically decrease the rate of emergence for various species. However, local information on the topic is needed to support this contention. Of particular concern are road-stream crossings which can be a source for fine sediment into streams until vegetation is established. It is hypothesized that the amount of fine sediment in the substrate will be greater downstream of crossings than upstream.

A reconnaissance of Hinton-Edson area streams was completed. Twelve stream crossings were selected for the study on the basis of size, presence of suitable spawning substrate upstream and downstream of the crossing, and absence of complicating factors such as beaver dams.

Streams were sampled using freeze core sampling techniques. Steel pipes, approximately 1.5 m long with case hardened conical tips were pounded into the substrate. Dry ice pellets were inserted into the hollow portion of the probe. After cooling, the substrate surrounding the probe was frozen to the probe and could be severed from the streambed and removed. Once extracted, the samples were bagged and transported to Edmonton for storage until laboratory analysis commenced.

Approximately 650 kg and 2500 kg of streambed substrate was collected in 1995 and 1996 respectively. Analysis of 1996 samples shows a greater degree of fine sediment upstream rather than downstream of crossings at three sites. This may indicate that the crossings at these locations have not contributed to sediment intrusion beyond the amount naturally present. One of these three sites shows a massive natural sediment source upstream of the crossing with percent difference being over 200 for the silt and clay categories.

Seven other samples showed more fine sediment in the downstream samples. Three of these streams showed 45% greater fine sediment downstream of the crossing. This may indicate those crossings have contributed a high degree of sediment to the streambed beyond the amount naturally present.

Further analysis will determine the significance of these findings, and synthesize stream and crossing attribute findings which may contribute to higher or lower sediment intrusion rates.

5. Aquatic Habitat Requirements of Native Sportfish Species

A literature search of both published and unpublished sources provided the information base for this report, completed by consultants. The report documents habitat requirements for rainbow trout (Athabasca River strain), Arctic grayling, bull trout and mountain whitefish and their sensitivity to the effects of land use activities. The report provides both a regional (within the geographic range or Alberta specific) overview of habitat requirements of the various life stages (spawning and egg development, rearing, adult feeding/holding and overwintering) of the four target species. The results of this project identify that local information specific to habitat needs of species in the Foothills Model Forest, in particular requirements for egg development, juvenile rearing and winter ecology are lacking.

The report also reviewed and summarized existing habitat suitability models for rainbow trout, mountain whitefish and Arctic grayling. The considerable data requirements and lack of baseline habitat information indicate the high costs associated with use of these models. A discussion of risk assessment modeling applied on a watershed scale was presented as a possible alternative to habitat suitability modeling however data requirements remain considerable. A review of the effects of major land use activities on fish and fish habitat identify three areas of potential impact. These are increased sediment loading, alteration in flow regime associated with forest removal and alteration in availability of large-woody-debris.

6. Regional Hydrology Study

Streams and associated resources such as fish habitat may be affected by a change in peak flows, low flows, duration of high flows and the timing of discharge. Streamflow is an important link between terrestrial and aquatic ecosystems. It is highly variable and difficult to characterize without multi-year monitoring. The Water Survey of Canada has established a hydrometric network of flow monitoring stations on some streams within the Foothills Model Forest (FMF) however, most streams are not measured. The FMF asked a consultant to complete a regional hydrologic analysis for the region outside of Jasper National Park. This is a standard type of hydrologic analysis based on the concept that hydrologically homogeneous regions exist where similar meteorological inputs (e.g. rain and snow) result in similar outputs (e.g. streamflow). Using direct regression analyses on the available flow monitoring data, equations to estimate high, low, monthly and annual flows were developed to be used where no long-term streamflow data are available. These equations provide a simple means to estimate hydrologic parameters for all areas of the FMF and provide information for assessing environmental impacts, hydrologic design data for stream crossings and general planning information.

The Hydrologic Operational Manual has a handbook format presenting general streamflow information for the FMF, a discussion of the variability of flows between stations within the FMF and simple equations

Electro-fishing

to calculate peak flows, flood peak characteristics, long-term flow patterns within and between years and low flows. These equations require only information on upstream drainage area, elevation and site location within a watershed. The WAM framework uses these equations to provide streamflow estimates for all sites in a project area. The data available to calculate streamflows are generally rated good to excellent. Limitations include data available for stations with drainage areas less than 10 km^2 and streamflow measurements during the winter months.

7. WRNSFMF - Annual Yield and Peak Flow Analysis

WRNSFMF is a computer program to simulate the differential effect on annual water yield (the volume of water available for streamflow over the year) and peak water yields with forest harvesting. WRNSFMF builds upon the hydrologic portion of Water Resources Evaluation for Non-point Silvicultural Sources (WRENSS) procedure developed by the United States Environmental Protection Agency with the addition of Alberta watershed research results. The WRENSS procedure simulates annual yield change using seasonal precipitation and forest cutting information. WRNSFMF incorporates growth curves for basal area and height, precipitation and wind speed to allow adjustment of precipitation values and simulating time-trends and/or the cumulative effects of multiple harvested units. Other parameters such as block elevation, width, and wind direction can also be used as input data to refine the precipitation data and snow distribution parameters.

A scenario or WRNSFMF run consists of a watershed, one or more hydrological or harvested units, the appropriate climate and water yield data and the run duration (time period of interest). The watershed is the container for the harvested units and its area must be the total area of all the harvested, inoperable and unlogged blocks. A scenario should answer some question, such as "what will be the effect of harvesting 100 ha of forest in each of the next 10 years on water yield from a 100 km^2 watershed over the next 50 years?". The results are displayed in tabular and graphical form.

WRNSFMF is particularly useful in estimating the cumulative effects of sequential harvest through time. The shape of the growth function, and the number of years to reach an anticipated basal area or tree height can be entered for each harvested unit. This feature allows a great deal of flexibility and realism to be incorporated in any simulation.

Annual yield changes are the easiest to evaluate, but only help to answer questions relating to the need for more water or the damaging effect of too much water in a year. From a fisheries perspective a more significant issue is the level of peak flows. In the FMF streamflow during the spring freshet dominates the hydrograph and is known to be influenced by snow distribution which is influenced by the size and pattern of cutblocks. Using local research results the relationship between annual yield and peaks resulting from snowmelt is used to estimate the peak flow (m3/sec) and peak yield (mm) for the 2, 10, 20, 50 and 100 year recurrence intervals. A number of factors will affect the accuracy of the simulated water yield changes. The two most important of these are climate data availability, (especially precipitation) and realistic growth data for all vegetation on site, especially for the first few years after

8. Watershed Assessment Model (WAM) Development

The Watershed Assessment Model (WAM) is an approach to assess land management alternatives for hydrologic and fish resource values. The framework utilizes a Geographic Information System (GIS) to characterize the landbase. Coupled with GIS, specific models, expert systems and information databases are used to identify objective resource values. The WAM framework incorporates the results of the FMF hydrology and fish projects with information about a particular watershed into a format easily used by planners and managers. The WAM application operates within the native ArcInfo environment. Mapping, presentation of results and queries are performed using ArcView.

A WAM run begins with the user identifying the area of interest. This may include a harvest plan, the location of a road-stream crossing, or a stream reach. Analyses are run on a project area. The project area boundary is the height of land enclosing the drainage basin of interest. An elevation grid is generated from digital elevation model (DEM) data to provide a representation of the basin defined as the project area. A linked, hydrologically correct streams network is required and can be generated from DEM data. GIS analyses (ArcInfo TIN and GRID functions) provides information on: streams (gradient, order, length, profile, sinuosity); basins (upstream drainage area, road density, stream density, number of stream crossings); and sites (elevation, distance from source and mouth, gradient at site).

Fish and stream inventory databases including both current and historical data can be accessed on a site or area basis. Regional hydrologic equations provide streamflow information for any point on the stream (instantaneous peak flows, flood volumes, monthly flows and low flows). WAM outputs a dataset for direct input to WRNSFMF to evaluate potential changes to annual and peak streamflow.

Once the analyses are complete all information can be viewed and accessed through ArcView. The user can browse on-screen to access individual site and area information. Results can be output to digital files or presented and printed as maps, tables or graphs. Standard output formats are available however a user with a basic knowledge of ArcView can easily access and use the results and generate custom reports.

C. Forestry Program

Improved Forest Practices

1. Validation of Basal Diameter Ratio Competition Index for Lodgepole Pine-Aspen

In 1993, a four year Foothills Model Forest study was initiated to verify the use of the recently-developed Basal Diameter Ratio Competition Index in stand tending decisions for juvenile lodgepole pine-aspen competition in west-central Alberta. A mixed-nested experiment with three blocks and four levels of aspen removal (treatments) was designed. In 1993, initial vegetation and conifer measurements and aspen removal within 1.8 m of the conifer was completed. These were followed by growth response measurements in 1994, 1995 and 1996.

Three years after treatment, there were significant and accelerating differences in radial growth response between treatments. The control plots consistently had the smallest radial growth; best growth was achieved under low levels of aspen competition with the BDR>0.75 removal, followed closely by full removal. Height increment was smallest in the plots with no aspen removal, although the difference between treatments was not significant. In the first two years following treatment, there had been no noticeable differences in height increment between treatments.

Two years after treatment there was a trend toward higher mortality and mechanical and pest damage in plots where all the aspen have been removed, although the differences were not significant. In the final year of measurement, these differences had disappeared.

Under the Model Forest Agreement, 1996 was the last year of data collection. Analysis of the final year of post-treatment data has been completed, and a final report is being produced.

2. Silvicultural Impacts of Chipper Residue Disposal

The purpose of this study was to assess the short-term establishment and growth of lodgepole pine and the effects of varying chipper residue depths on nutrient availability in soils, foliage nutrient levels and growth performance and vigor of the crop tree. Foliage and soil measurements in 1996 were carried out similar to previous years. The effect of organic residue on soil nutrient availability was minimal three years after application. The biggest changes in soil nutrient availability occurred in the year following harvesting and after fertilization. In 1996 (three years after harvesting and residue application and two years after fertilization), there were few differences in available soil nutrients among treatments.

The nitrogen (N) content of the foliage was in the adequate range for all treatments during 1996. There was no difference in root collar diameter among the residue application treatments; however, there was a decrease in the height increment of pine grown in any depth of residue (about 15 %). Nitrogen fertilization increased root collar diameter by about 10% but had no effect on increment growth or foliar N concentrations in the second year following fertilization.

The results indicated that residue depths of < 10 cm would have minimal negative impacts in the short-term. Residue depths > 10-15 cm may have potential negative impacts on soil nutrient dynamics and tree growth. These results are only for two years following planting. Monitoring of tree growth and nutrient availability should be maintained to assess potential long-term impacts of chipper residue applications.

3. Aspen Regrowth and Competition After Release From Conifers

Manual and manual-mechanical release of lodgepole pine (Pinus contorta) from aspen (populus tremuloides) competition is increasingly used in the implementation of Free-to-Grow standards. Aspen regrowth after release often necessitates repeated treatments and may negate tending investments.

The purpose of this study is to determine the best timing and cutting technique that would reduce aspen regrowth and competition after release and to quantify responses in terms of aspen density and growth, height and radial growth of released pine, ingress of other competition and overall competition levels affecting conifer growth. Three separate study trials were established.

In 1996, all three trials were re-measured. Fourth-year post-release data was collected from Trial A, third-year from Trial B, and first-year from Trial C. The data was summarized by Canadian Forestry Service personnel. Statistical analysis and report writing has been delayed as the lead research scientist took a one-year leave of absence.

4. Adopting Shelterwood Practices to Enhance and Protect Natural White Spruce Regeneration in Dedicuous - Coniferous Mixedwoods

Since 1994, a study was set up to investigate the operational feasibility of promoting white spruce regeneration in mature Aspen/White spruce (mixedwood) covertypes. Two sites, each composed of 60% or more deciduous species, were selected and harvested, one in 1995, the other in 1996 .

In 1996, both shelterwood trials were monitored. In the first trial, air temperature and humidity, soil temperature, soil humidity, light transmission and soil moisture differences among the various canopy and site preparation treatments were evaluated. The results showed an increase in maximum temperatures, decreased minimum temperatures (frosts), greater soil moisture, and lower minimum relative humidities in the clearcut compared to the shelterwood cuts. Planted white spruce seedlings flushed earliest in the shelterwood cuts. There was little difference in soil temperature among the clearcut, shelterwood and control canopy. The site preparation resulted in a small increase in soil temperatures. In the clearcut, we noted a reduction in photosynthesis in early spring and fall compared to the shelterwood sites. We speculate that is related to greater frosts in the clearcuts. Direct seeding was significantly more successful in the shelterwood cuts than in the clearcut or control treatment. Site preparation more than doubled the success rate of seeding. There never was a significant seed crop produced on these sites since the cutting.

In the second trial, the light transmission before and after cutting was measured. White spruce seedlings were planted (both spring and summer stock) in the various site preparation and canopy treatments. The photosynthesis and water relations of these seedlings were measured shortly after planting and approximately every two weeks over the summer. As a general rule these seedlings performed very well. There was little evidence of planting shock in any of the treatments. There was a trend for greater photosynthetic capacity for seedlings in the shelterwood cuts. There was no difference in photosynthesis among the various site preparation treatments.

Aspen suckering was also evaluated in the second trial. Thermo-couples were established in the various microsites of the different overstory treatments. Soil temperature was also monitored.

Rongzhou Man's Ph.D. thesis has been submitted to the Foothills Model Forest. This thesis encapsulates much of the work that has been done to date.

A Mixed Wood Stand

5. Soil Compaction Study

The soil compaction project measures soil compaction and natural decompaction following forest harvesting, and possible effects on conifer performance at 14 sites in western Alberta. The project is in the third year.

Field work focussed on remeasuring soil density, seedling growth, and maintenance of weather stations to document weather effects on soil. Soil samples were also collected for determining the effects of compaction on decomposition. Soil wetness was the dominant factor determining whether soil was significantly compacted by skidders, and has been accurately linked to soil water potential. Following harvesting, soils are poorly aerated, whether they were significantly compacted or not; this result has major implications for reforestation practices across the region. Decomposition increases in compacted soil which is attributed to a soil biota well adapted to wet soil. All data were analyzed and reports are being prepared for scientific journals; the data are also being used in discussion and development of national and international guidelines for developing soil indicators of sustainable forest management.

On another note, we are heavily into this year's field work. We will be reducing the number of sites from 14 back to the original nine. We picked the best sites (significantly compacted, good access, located across the region, sites planted with seedlings, etc.) with the longest records of measurements.

6. Carbon Budget Project

Considerable progress has been made in completing a carbon budget analysis of the forest ecosystems occupying the foothills FMA area. A total area of 820,657 ha, representing the forested area of the FMA included in Weldwood's 1988 inventory has been divided into 14 spatial units, corresponding to the intersections of four ecoregions (Montane, Sub-alpine, and Upper and Lower Boreal - Cordilleran) and the five management working circles. The 1988 age-class distribution, together with some ancillary information on the history of harvesting and recent fires, was used to reconstruct the age-class distribution in 1953, to represent the state of the FMA before harvesting commenced.

An initial test of the object-oriented CBM-CFS2 model was to initialize it with the reconstructed 1953 age-class distribution and then simulate the known history of harvesting and fires since 1953 as a means of predicting the age-class structure in 1988. This predicted age-class structure has been found very similar to the actual age-class distribution in 1988 derived from the inventory data.

Eighteen production runs of the model have now been completed, each of which generated a large volume of data for each of the 14 spatial units in five-year time steps. The data contained in three key output files have then been combined to generate carbon budget summaries for each ecoregion, each working circle and for the total FMA area. (eg. 10 summaries per file, with three files per run and 18 runs give 540 separate summaries in total.)

The initial results obtained for the FMA area are not completely consistent with the results of the first approximation reported earlier. The most probable explanation for this is that the distribution of stand productivities across the FMA is not consistent with the distribution estimated from the complete inventory used previously, although this requires further investigation.

Management with harvesting clearly contributes to increased carbon storage when compared to the "unmanaged" forest, assuming a fire return interval of 50 years. Although, in the absence of silviculture, the overall gain becomes a loss. The effects of including productivity increases due to silvicultural treatments have not yet been assessed using the present model and database, but clearly they will be important.

Owing to other commitments and reduction in CFS staff, we were unable to perform field comparisons of biomass production between stands regenerated following harvesting, and those regenerated following fire. This remains an important question to pursue.

Analysis of the model output is continuing, with a view to completing a paper intended for publication in Canadian Journal of Forest Research in the near future. This paper will report on the trends in carbon pools and fluxes for the FMA and its component ecoregions. Our final report will be based on this paper, but will be expanded to provide comprehensive coverage of carbon pools and fluxes for each working circle. Another paper on earlier work has also been completed and is in internal review prior to submission for publication in the peer-reviewed proceedings of a recent international workshop of forest carbon dynamics.

D. Foothills Model Forest Social Science Group

1. Foothills Household Expenditure Survey

In order to quantify the level of dependency on the resource sectors in the Foothills Model Forest (FMF), a household expenditure survey of 1008 respondents was conducted in July, 1996. The survey's purpose was to measure leakages of discretionary expenditures from 17 bundles of goods and services available in the FMF. The results found that 23% of all income earned within the FMF is spent outside of the FMF. Leakages of major purchases such as automobiles, vacations, and appliances were high. A final report will be available in July 1997.

2. Socio-economic Impacts of Changes in Resource Sectors of the Foothills Model Forest Region: An Input-output Analysis

This study examines the direct, indirect, and induced economic impacts of changes in the forestry, mining, and oil and gas sector of the FMF. Two hypothetical impacts were measured using data from the 1990 Alberta Input-Output Table: a $5 million dollar expansion in the forestry sector and a $60 million dollar expansion in the mining and oil and gas sector. The report is complete and a journal article in the Forestry Chronicle is pending.

3. Effect of Land Use Restrictions on the Economy of Alberta: A Computable General Equilibrium Analysis.

A province-wide policy simulation of a 1% reduction in land-use for forestry, oil and gas, and all other resources was conducted using a five sector Computable General Equilibrium (CGE) economic model with data derived from the province of Alberta's Input/Output tables. Both rigid and flexible wage rate scenarios were examined for their impact on the economy. The report is complete and a journal article in the Canadian Journal of Regional Economic Research is pending. The CGE model will be applied at a regional level in the FMF during Phase II.

4. Modelling the Economy of a Tourism-oriented Forest Dependent Region

This paper attempts to model the effects of environmental policies on a small, tourism-oriented, forest dependent region. Tourist activity is treated as an endogenous activity that is responsive to the interactions between economic and environmental activities. Four simulations examine the impact of a 1% increase in a hypothetical environmental tax on the resource and tourism sectors. The report is complete and a journal article is pending. The analysis will be empirically applied in the FMF during Phase II.

5. Socio-demographic Profile of Foothills Communities

This report consists of a collection of various types of secondary data that describe the socio-demographic composition of the Foothills communities, especially Hinton. Most of the new work done in 1996/97 was on cleaning up the draft and organizing the data into tables, charts and graphs. The final draft is on hold, pending collection of new data in the summer of 1997.

6. Attitudes Toward Sustainable Development

Final transcriptions of interviews were completed in 1996/97. The data base now includes seventy fully transcribed interviews. The subjects of the interviews vary depending upon the respondents, and which stakeholder group they represent. However, all were asked their perception regarding the sustainability of resource uses in the Foothills Model Forest. A summary of these views will be completed in 1997.

7. Public Involvement in Natural Resource-decision-making

There are two primary outputs from this project in 1996/97. The first is a completed report by John Lilley on the statutory and policy requirements for public involvement in the Green Area of Alberta. The second is raw data [minutes, meeting notes, appendixes and supplementary material] from non-participant observation of public involvement processes that occurred in the Foothills Model Forest. Most notably the data include Forest Resource Advisory Group (for Weldwood of Canada Limited, Hinton Division) notes and information from the public hearings on the Cheviot Mine application. A summary of existing mechanisms for public involvement in natural resource decision-making will be written up in 1997.

8. Nontimber Values Projects

Phase I of the camper mail survey is completed and preliminary data analysis has occurred. Phase II of the mail survey, which includes choice experiments and attitudinal information, is currently in progress with a 47% response rate after two weeks. Two mail surveys of hunters will be sent out in June. Once the information from the camper and hunter surveys are complete then decision support systems will be developed. Two manuscripts from the camping study are under review.

E. Environmentally Significant Areas Study

Development and implementation of a process for inventory and designation of area(s) of potential environmental significance within the Foothills Model Forest

An integrated resource management philosophy must include conservation and sustainable development as a basic philosophy. A complimentary and equally essential element of sustainable development is the establishment of a network of protected areas that conserve forest biodiversity, including genetic, species, ecosystem, spatial, and temporal aspects

The Foothills Model Forest Environmentally Significant Areas program was devised based on three basic objectives including:

- to develop an inventory of undisturbed or relatively undisturbed ecosystems, including currently protected areas and other lands
- to identify ecosystems and areas that may be suitable and desirable for protection and to make such recommendations to the Department of Environmental Protection
- to incorporate undisturbed/protected ecosystem objectives into integrated resource management strategies

The phased approach taken by the Foothills Model Forest program was intended, at the time, to compliment not only the federal government's ecological reserves sub-program but Alberta's fledgling Special Places 2000 initiative. Phase I of the study involved the development of a broad preliminary inventory of areas that may be of some environmental significance. Phase 2 involved the development of a complete slope class delineation for the entire Foothills Model Forest land base. It was based on slope class delineation's used by Corns and Annas to evaluate areas identified in the Phase I inventory that fell outside of current timber harvest operating guidelines (ie. > 45%). Part of a netdown process to also help in better delineation of boundaries for areas of particular importance by running the ELDAR ecological classification software on potential candidate sites. The third and final phase included the development and implementation of a process for detailed ground truthing of candidate areas identified in Phase I.

The Foothills Model Forest completed a detailed inventory of two sites identified as part of the Preliminary Inventory of Potentially Environmentally Significant Areas study completed as phase I of this project. These sites, including the Sundance Creek valley and Brule Lake, were both nominated for consideration by the Provincial Coordinating Committee of Special Places. The information collected as a part of these detailed inventories has been assembled and will be submitted to Land and Forest Services and Weldwood for consideration and submission to Special Places as supporting information to the nominations by July of 1997.

F. Communications Program

The Foothills Model Forest made significant progress in communications in 1996-1997.

In early 1997 the Board of Directors approved a new corporate logo.The new image is simple, yet all-encompassing of the variety of concepts occurring at the Foothills Model Forest. The colours are not typical for forestry, but tied to the natural colours of the earth. The focus is on Foothills, because that is what sets us apart from other Model Forests. The symbols are meant to show progression, forward movement, and a future focus.

foothills model *forest*
a growing understanding

Attached to this new image is a new "tag line." The tag line, "A growing understanding..." is intended to help explain what the Foothills Model Forest is accomplishing. Growing our understanding of sustainable forest management and growing the understanding of others is the general premise behind the Foothills Model Forest.

Following the communications plan, a new introductory brochure was completed and distributed in the spring of 1997. This new brochure is linked to the new corporate image and provides a basic explanation of the Model Forest Program and the role of the Foothills Model Forest in the overall program. A new display was also created. It is part of the new corporate image and is intended to draw viewers in, to ask more questions about the Foothills Model Forest.

Plans are being made to host tours for two groups of Alberta teachers in the summer of 1997, as well as the production of another kiosk in Jasper National Park and further communication tools to help reach partners and community residents in Hinton, Jasper, Grande Cache, Cadomin, Robb and Edson.

Auditor's Report

To the Board of Directors of Foothills Model Forest

I have audited the balance sheets of the Canadian Forest Service Fund, the Contribution Fund and the Chihuahua Model Forest Fund of Foothills Model Forest as at March 31, 1997 and the statements of receipts and expenditures for the year then ended. These financial statements are the responsibility of the management of Foothills Model Forest. My responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with generally accepted auditing standards. These standards require that I plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management as well as evaluating the overall financial statement presentation.

In my opinion, these financial statements present fairly, in all material aspects, the financial position of the funds as at March 31, 1997 and receipts and expenditures for the year then ended in accordance with the accounting policies described in Note 1 to these financial statements.

Hinton, Alberta

June 4, 1997

C. L. Brown

Chartered Accountant

FOOTHILLS MODEL FOREST
CANADIAN FOREST SERVICE FUND
BALANCE SHEET
AS AT MARCH 31, 1997

ASSETS

	1997 $	1996 $
CURRENT		
Accounts receivable	293,690	-
Prepaid expense	2,934	73,738
	296,624	73,738
OTHER		
Deposit	1,775	625
	298,399	74,363

LIABILITIES

CURRENT		
Bank indebtedness	3,206	(30,981)
Accounts payable and accrued liabilities	121,516	5,228
Wages payable	6,733	6,047
Due to (from) Contribution Fund	1,427	(22,920)
	132,882	(42,626)
FUND BALANCE	165,517	116,989
	298,399	74,363

FOOTHILLS MODEL FOREST
CANADIAN FOREST SERVICE FUND
STATEMENT OF RECEIPTS, EXPENDITURES, AND FUND BALANCE
FOR THE YEAR ENDED MARCH 31, 1997

	1997 $	1996 $
RECEIPTS		
Government of Canada	1,101,000	918,200
EXPENDITURES		
Information, research and knowledge	456,154	445,715
Integrated resource management	263,645	261,839
Communications	122,848	90,118
Project management and administration (Note 2c)	209,825	162,849
	1,052,472	960,521
EXCESS (DEFICIENCY) OF RECEIPTS OVER EXPENDITURES	48,528	(42,321)
FUND BALANCE BEGINNING OF YEAR	116,989	159,310
FUND BALANCE, END OF YEAR	165,517	116,989

FOOTHILLS MODEL FOREST
CONTRIBUTION FUND
BALANCE SHEET
AS AT MARCH 31, 1997

ASSETS

	1997 $	1996 $
CURRENT		
Cash	216,006	254,541
Accounts receivable	71,206	78,024
G.S.T. receivable	9,542	5,175
Due from (to) Canadian Forest Service Fund	1,427	(22,920)
	298,181	314,820

LIABILITIES

CURRENT		
Accounts payable	13,682	10,938
Wages payable	3,276	4,282
Due to Chihuahua Model Forest Fund	545	2,414
-	17,503	17,634
FUND BALANCE	280,678	297,186
	298,181	314,820

FOOTHILLS MODEL FOREST
CONTRIBUTION FUND
STATEMENT OF RECEIPTS, EXPENDITURES, AND FUND BALANCE
FOR THE YEAR ENDED MARCH 31, 1997

	APRIL 1/96 FUND BALANCE $	TRANSFERS TO OTHER FUNDS $	TRANSFERS FROM OTHER FUNDS $	CURRENT YEAR RECEIPTS $	CURRENT YEAR EXPENDITURES $	MARCH 31/97 FUND BALANCE $
INFORMATION, RESEARCH AND KNOWLEDGE						
Landscape Disturbance	-	-	-	40,000	38	39,962
Fish Inventory	-	-	-	36,000	35,562	438
Road Stream Crossings	479	-	-	-	-	479
Basal Girdling by Small Mammals	89	-	-	-	-	89
Ecologically Classify Forest	1,299	-	-	-	-	1,299
GIS Technology Transfer	8,808	-	-	7,417	10,815	5,410
Fishery & Aquatic Habitat	13,081	-	-	-	11,837	1,244
Red Squirrel	-	-	-	9,000	9,000	-
Neo-tropical Migrant Birds	-	-	-	4,500	4,500	-
Watershed Assessment Model Development	20,240	-	-	12,000	17,340	14,900
Watershed Assessment Model Regional Hydrology Study	12,150	-	-	5,000	11,203	5,947
Watershed Co-ordination	6,761	-	-	-	6,250	511
Barred Owl	-	-	-	16,500	16,500	-
Pileated Woodpecker Study	-	-	-	16,437	17,188	(751)
	62,907	-	-	146,854	140,233	69,528
INTEGRATED RESOURCE MANAGEMENT						
Mammal Inventory	4,426	-	-	-	4,184	242
Environmentally Sensitive Areas Study	27,142	-	-	-	25,609	1,533
Elk Study	3,320	-	-	-	3,320	-
Soil Compaction, Decompaction and Tree Growth	11,011	-	-	-	11,011	-
Carnivore Conservation	-			7,127	6,444	683
Forest Carbon Budget Study	20,000	-	-	-	14,509	5,491
Woodland Caribou Study	1,090	-	-	1,500	-	2,590
Administration	4,800	-	-	169	4,799	170
Socio-economic Study	(3,525)	-	-	3,525	-	-
Ecological Land Classification	18,000	-	-	38,700	5,882	50,818
	86,264	-	-	51,021	75,758	61,527

FOOTHILLS MODEL FOREST
CONTRIBUTION FUND
STATEMENT OF RECEIPTS, EXPENDITURES, AND FUND BALANCE
FOR THE YEAR ENDED MARCH 31, 1997

	APRIL 1/96 FUND BALANCE $	TRANSFERS TO OTHER FUNDS $	TRANSFERS FROM OTHER FUNDS $	CURRENT YEAR RECEIPTS $	CURRENT YEAR EXPENDITURES $	MARCH 31/97 FUND BALANCE $
PROJECT MANAGEMENT AND ADMINISTRATION						
General (Note 2c)	153,932	-	-	31,482	37,484	147,930
FOREST RESOURCE IMPROVEMENT PROJECT						
Landscape Disturbance	-	-	-	101,000	100,907	93
Recreation Study	-	(2,000)	-	44,200	41,784	416
Ecosystem Response	-	-	-	15,000	15,000	-
Administrative	(5,068)	-	12,425	4,498	11,800	55
Bird Inventory	268	-	-	55,565	55,214	619
Pileated Woodpecker	196	-	-	-	-	196
Fish and Stream Inventory	(17,307)	(6,550)	-	168,039	150,295	(6,113)
Habitat Inventory	7,823	(3,875)	-	48,750	53,440	(742)
Historical cutblock analysis	2,406	-	-	-	2,190	216
Lichen study	4,765	-	-	-	-	4,765
	(6,917)	(12,425)	12,425	437,052	430,630	(495)
COMMUNICATION						
Co-ordination	-	-	-	1,134	104	1,030
Tour Development	1,000	-	-	2,091	1,933	1,158
	1,000	-	-	3,225	2,037	2,188
	297,186	(12,425)	12,425	669,634	686,142	280,678

FOOTHILLS MODEL FOREST
CHIHUAHUA MODEL FOREST FUND
BALANCE SHEET
AS AT MARCH 31, 1997

ASSETS

	1997 $	1996 $
CURRENT		
Bank	2,291	102
Due from Contribution Fund	545	2,414
	2,836	2,516

LIABILITIES

CURRENT		
Accounts payable	1,000	1,000
FUND BALANCE	1,836	1,516
	2,836	2,516

FOOTHILLS MODEL FOREST
CHIHUAHUA MODEL FOREST FUND
STATEMENT OF RECEIPTS, EXPENDITURES, AND FUND BALANCE
FOR THE YEAR ENDED MARCH 31, 1997

	1997 $	1996 $
RECEIPTS		
Government of Canada	364,000	504,600
Interest	685	1,300
G.S.T. recovery	884	3,294
	365,569	509,194
EXPENDITURES		
Canadian Agent Co-ordination:		
Administration services	71,546	48,364
Audit fee	1,000	1,000
Banking costs	18	400
Consultant travel	-	4,789
Interest costs	-	1,088
Office operation	3,685	1,437
Translation services	-	4,467
Travel to Chihuahua	-	14,115
Travel in Canada	-	6,712
Workshop		3,340
	76,249	85,712
Bosque Modelo Chihuahua:		
Transfers to Bosque Modelo Chihuahua	289,000	409,500
Project costs - silviculture course	-	11,859
	289,000	421,359
	365,249	507,071
EXCESS OF RECEIPTS OVER EXPENDITURES	320	2,123
FUND BALANCE (DEFICIT) BEGINNING OF YEAR	1,516	(607)
FUND BALANCE END OF YEAR	1,836	1,516

FOOTHILLS MODEL FOREST
NOTES TO FINANCIAL STATEMENTS
For The Year Ended March 31, 1997

1. INCORPORATION AND OBJECTIVES

Foothills Model Forest was incorporated in Alberta on November 2, 1992 as a non-profit company under Part 9 of the Companies Act of Alberta. The company is owned equally by Weldwood of Canada Limited (Hinton Division) and the Government of Alberta.

a) The objects for which the company was established are:
   i) to accelerate and expand new and existing initiatives in sustainable forest operations innovation, integrated resource management, decision support systems research, technology transfer and public involvement in the Foothills Model Forest;
   ii) to support the development of multi-jurisdictional resource management strategies and programs, particularly regarding transboundary resources;
   iii) to test and demonstrate on the Foothills Model Forest advanced technology and integrated resource management practices consistent with the principles of sustainable development;
   iv) to use the expertise and facilities of the Environmental Training Centre to assist in the knowledge base development and transfer the knowledge gained in the Foothills Model Forest program to local, national and international resource managers and various publics;
   v) to develop an integrated resource management strategy for the Foothills Model Forest, representing a balance of integrated resource management objectives, using consensus development techniques, with the participation of representative stakeholders; and
   vi) to support the Foothills Model Forest in the delivery of the 5-year Model Forest Plan and the Annual Work Plan.

b) Foothills Model Forest is comprised of three funds:
   i) The Canadian Forest Service Fund
   The Canadian Forest Service Fund is funded by the Government of Canada through the Department of Natural Resources. The funding is expended on the projects approved within the annual work plan.
   ii) The Contribution Fund
   The Contribution Fund receives cash contributions from government, industry and various partners which fund specific projects.
   iii) The Chihuahua Model Forest Fund
   The Chihuahua Model Forest Fund is funded by the Government of Canada through annual Contribution Agreements with the Department of Foreign Affairs and International Trade. The objective for creation of the fund was to administer Canadian government funding of the Chihuahua Model Forest Work Plan.

2. ACCOUNTING POLICIES

a) Receipts and disbursements are recorded on the accrual basis.
b) Non-cash contributions have not been recorded in these accounts.
c) Goods and Services Tax:
   Goods and services input tax credits recovered through expenditures of the Canadian Forest Service Fund are recorded as a donation to the Contribution Fund. In the current year, these input tax credits totalled $15,643 which is included as project management and administration.
d) Capital Assets:
   Assets are recorded as expenditures in year of purchase.

3. PRIOR YEAR COMPARABLE FIGURES

Prior year figures have been presented except for the receipts and expenditures of the Contribution Fund. Such receipts and expenditures have little significance as the fund represents specific funding for specific projects.

4. ECONOMIC DEPENDENCE

The agreements for funding with the Canadian Forest Service and Chihuahua Model Forest fund are scheduled for renewal on March 31, 1997. Negotiations for the extension of the funding agreements were in process at financial statement date.

FOOTHILLS MODEL FOREST
RECORD OF IN-KIND CONTRIBUTIONS
FOR THE YEAR ENDING MARCH 31, 1997

Project Account #	Project Title	# of HOURS CONT.	TOTAL $ VALUE of HOURS	TOTAL OTHER CONTRIB.	TOTAL CASH CONTRIB.	TOTAL CONTRIB. BY PROJECT
100	**GIS Project Management & Implementation**					
	Sub- total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
101	**GIS System Administration (Operational)**					
	Sub- total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
102	**GIS System Administration (Tech Trans.)**					
	Sub- total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
103	**Blocking/Landscape Forecasting Model**					
	Sub- total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
104	**Ecologically Classify Foothills Forest (NAIA)**					
	Sub- total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
106	**Regional Ecological Land Classification**					
	Province of Alberta - Environmental Protection	0.0	$0.00	$0.00	$10000.00	$10000.00
	Province of British Columbia	0.0	$0.00	$0.00	$28700.00	$28700.00
	Sub- total	**0.0**	**$0.00**	**$0.00**	**$38700.00**	**$38700.00**
120	**Wildlife Project Management & Implementation**					
	Sub- total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
121	**Genetic Diversity of Lodgepole Pine**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
122	**Northern Goshawk**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
123	**Barred Owl**					
	Fish and Wildlife Trust Fund	0.0	$0.00	$0.00	$16500.00	$16500.00
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$16500.00**	**$16500.00**
124	**Neotropical Migrant Birds**					
	Fish and Wildlife Trust Fund	0.0	$0.00	$0.00	$4500.00	$4500.00
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$4500.00**	**$4500.00**
125	**Summer Woodpecker**					
	Ed Telfer - Canadian Wildlife Service	10.0	$420.00	$0.00	$0.00	$420.00
	Sub - total	**10.0**	**$420.00**	**$0.00**	**$0.00**	**$420.00**
126	**Red Squirrel**					
	Fish and Wildlife Trust Fund	0.0	$0.00	$0.00	$9000.00	$9000.00
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$9000.00**	**$9000.00**
127	**Pileated Woodpecker Study**					
	Rick Bonar - Weldwood	640.0	$24000.00	$1490.00	$0.00	$25490.00
	Volunteer Labour	120.0	$4800.00	$0.00	$0.00	$4800.00
	Manning Diversified Trust Fund	0.0	$0.00	$0.00	$12800.00	$12800.00
	Sub - total	**760.0**	**$28800.00**	**$1490.00**	**$12800.00**	**$43090.00**
128	**Landscape Disturbance**					
	Don Harrison - Land and Forest Service	80.0	$2054.00	$0.00	$0.00	$2054.00
	Sub - total	**80.0**	**$2054.00**	**$0.00**	**$0.00**	**$2054.00**
140	**Watershed Project Management**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
141	**Watershed Assessment Model Development**					
	Manning Diversified Trust Fund	0.0	$0.00	$0.00	$10000.00	$10000.00
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$10000.00**	**$10000.00**
142	**Regional Hydrology Study**					
	Province of Alberta - Environmental Protection	0.0	$0.00	$0.00	$5000.00	$5000.00
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$5000.00**	**$5000.00**
143	**Sediment Intrustion**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**

FOOTHILLS MODEL FOREST
RECORD OF IN-KIND CONTRIBUTIONS
FOR THE YEAR ENDING MARCH 31, 1997

Project Account #	Project Title	# of HOURS CONT.	TOTAL $ VALUE of HOURS	TOTAL OTHER CONTRIB.	TOTAL CASH CONTRIB.	TOTAL CONTRIB. BY PROJECT
144	**Fisheries and Aquatic Database**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
145	**Sedimentation Impacts**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
146	**F.H.D.P. Fish Inventory**					
	Fish and Wildlife Trust Fund	0.0	$0.00	$0.00	$35000.00	$35000.00
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$35000.00**	**$35000.00**
147	**Design and Maintenance Road Stream Crossings**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
148	**Fish Project Contributions**					
	Hinton Fish and Game Association	0.0	$0.00	$0.00	$1000.00	$1000.00
	Sub - total					
160	**Validation of Basal Diameter Ratio Cl for Pine-Aspen**					
	Canadian Forest Service Staff	160.0	$4000.00	$2000.00	$0.00	$6000.00
	Sub - total	**160.0**	**$4000.00**	**$2000.00**	**$0.00**	**$6000.00**
161	**Silvicultural Impacts of Chipper Residue Disposal**					
	Canadian Forest Service Staff	1440.0	$45000.00	$37500.00	$0.00	$82500.00
	Sub - total	**1440.0**	**$45000.00**	**$37500.00**	**$0.00**	**$82500.00**
162	**Aspen Regrowth & Competition after Release Conifer**					
	Canadian Forest Service Staff	160.0	$4000.00	$0.00	$0.00	$4000.00
	Sub - total	**160.0**	**$4000.00**	**$0.00**	**$0.00**	**$4000.00**
163	**Basal Girdling by Small Mammals**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
164	**Shelterwood Practices Project**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
200	**Elk and Timber Management Study**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
201	**Ecosystem Response to Disturbance**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
202	**Woodland Caribou Study**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
203	**Ecosystem Monitoring**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
204	**Carnivore Conservation**					
	Weldwood of Canada	0.0	$0.00	$0.00	$2000.00	$2000.00
	Slocan Group 0.0	$0.00	$0.00	$2000.00	$2000.00	
	Jasper National Park	0.0	$0.00	$0.00	$2000.00	$2000.00
	Cardinal River Coals	0.0	$0.00	$0.00	$1126.90	$1126.90
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$7126.90**	**$7126.90**
220	**Forestry Project Management & Implementation**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
221	**Soil Compaction, Decompaction, &Tree Growth**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
222	**ESA Environmentally Sensitive**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
223	**Effects of Horse Grazing Study**					
	Barry Irving - University of Alberta	175.0	$7000.00	$0.00	$0.00	$7000.00
	Sherry Maine - Weldwood	75.0	$3000.00	$0.00	$0.00	$3000.00
	Dr. A. W. Bailey - University of Alberta	16.0	$1500.00	$0.00	$0.00	$1500.00
	Field Assistants 64.0	$800.00	$0.00	$0.00	$800.00	
	Sub - total	**330.0**	**$12300.00**	**$0.00**	**$0.00**	**$12300.00**

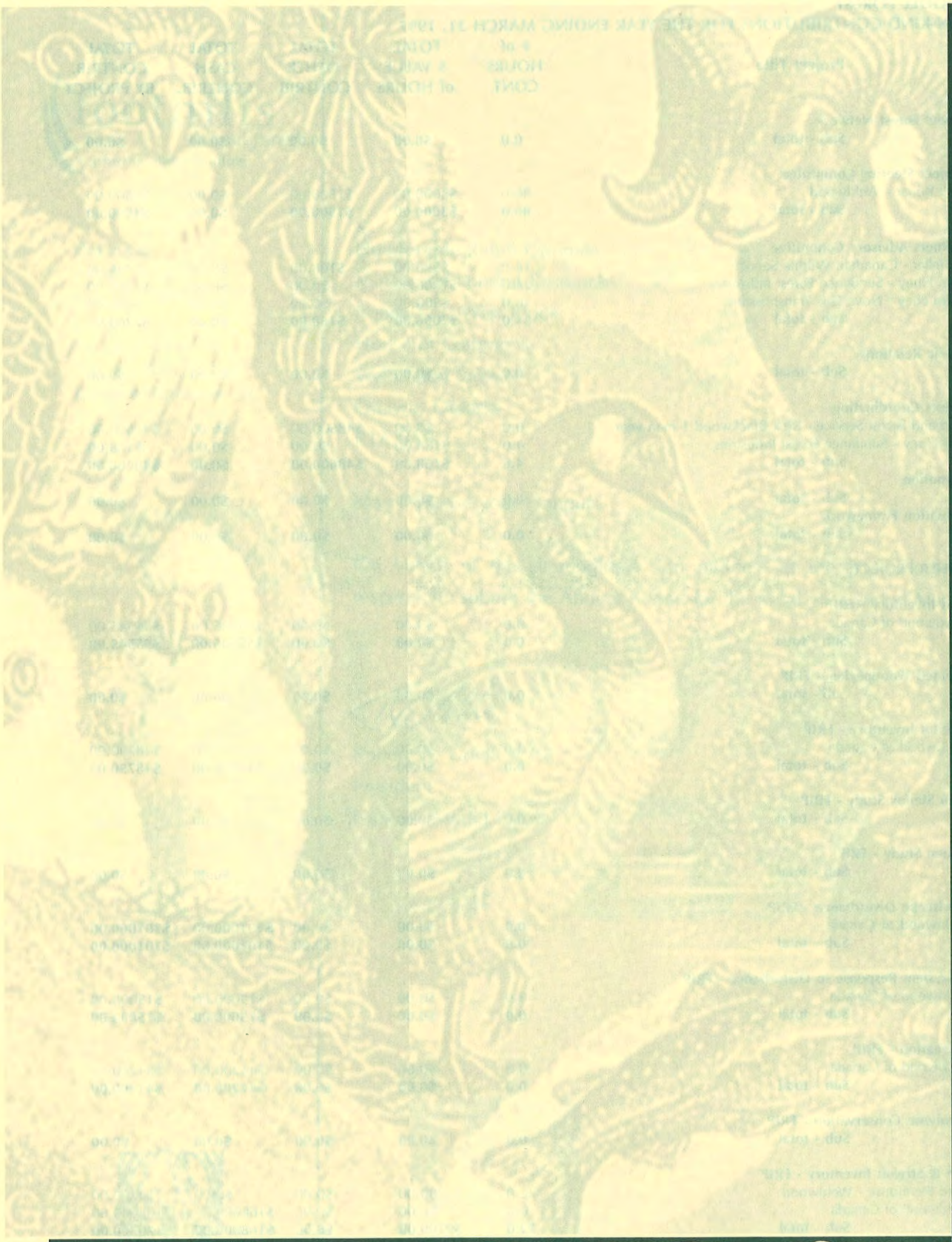
FOOTHILLS MODEL FOREST
RECORD OF IN-KIND CONTRIBUTIONS
FOR THE YEAR ENDING MARCH 31, 1997

Project Account #	Project Title	# of HOURS CONT.	TOTAL $ VALUE of HOURS	TOTAL OTHER CONTRIB.	TOTAL CASH CONTRIB.	TOTAL CONTRIB. BY PROJECT
224	**Socio-Economic Study**					
	Don Laishley -Weldwood	0.0	$0.00	$4006.44	$0.00	$4006.44
	Colin Edey - Nova Gas Transmission	32.0	$1000.00	$0.00	$0.00	$1000.00
	Canadian Forest Service Staff	1440.0	$45000.00	$6000.00	$0.00	$51000.00
	Sub - total	**1472.0**	**$46000.00**	**$10006.44**	**$0.00**	**$56006.44**
225	**Forest Carbon Budget Study**					
	Canadian Forest Service Staff	1360.0	$40000.00	$1050.00	$0.00	$41050.00
	Sub - total	**1360.0**	**$40000.00**	**$1050.00**	**$0.00**	**$41050.00**
226	**Yellowhead Regional Working Group**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
227	**Ecological Land Classification**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
300	**Communications Project Management**					
	Mike Voisin - Weldwood	96.0	$4032.00	$0.00	$0.00	$4032.00
	Black Cat Ranch 0.0	$0.00	$0.00	$50.00	$50.00	
	Sub - total	**96.0**	**$4032.00**	**$0.00**	**$50.00**	**$4082.00**
301	**Open House and Community Events**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
302	**Newsletters**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
303	**Newspaper Advertorials**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
304	**Printing and Publications**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
305	**Tour Development**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
306	**Speakers' Bureau**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
307	**NAIT Student Training Exercise**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
308	**Junior Forest Wardens**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
309	**Display System (Kiosk)**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
310	**Tech. Transfer**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
311	**Promotional Items**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
312	**Communication Focus Groups**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
313	**Annual Report**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
400	**Finance & Administration**					
	ETC - office space, furniture	0.0	$0.00	$2000.00	$0.00	$2000.00
	Bill Craig - Weldwood	50.0	$2100.00	$0.00	$0.00	$2100.00
	Sub - total	**50.0**	**$2100.00**	**$2000.00**	**$0.00**	**$4100.00**
410	**Board of Directors**					
	Marsha Spearin - Weldwood	144.0	$6048.00	$0.00	$0.00	$6048.00
	Don Laishley - Weldwood	0.0	$0.00	$5148.88	$0.00	$5148.88
	Colin Edey - Nova Gas Transmission	40.0	$1250.00	$2300.00	$0.00	$3550.00
	Jerry Sunderland - Land and Forest Service	120.0	$3000.00	$500.00	$0.00	$3500.00
	Bob Udell - Weldwood	216.0	$15120.00	$4815.00	$0.00	$19935.00
	Sub - total	**520.0**	**$25418.00**	**$12763.88**	**$0.00**	**$38181.88**

FOOTHILLS MODEL FOREST
RECORD OF IN-KIND CONTRIBUTIONS FOR THE YEAR ENDING MARCH 31, 1997

Project Account #	Project Title	# of HOURS CONT.	TOTAL $ VALUE of HOURS	TOTAL OTHER CONTRIB.	TOTAL CASH CONTRIB.	TOTAL CONTRIB. BY PROJECT
411	**Model Forest Network**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
412	**Project Steering Committee**					
	Rick Bonar - Weldwood	80.0	$3000.00	$1500.00	$0.00	$4500.00
	Sub - total	**80.0**	**$3000.00**	**$1500.00**	**$0.00**	**$4500.00**
413	**Partners Advisory Committee**					
	Ed Telfer - Canadian Wildife Service	14.0	$588.00	$168.00	$0.00	$756.00
	John Huey - Sundance Forest Industries	24.0	$1008.00	$0.00	$0.00	$1008.00
	Colin Edey - Nova Gas Transmission	16.0	$500.00	$0.00	$0.00	$500.00
	Sub - total	**54.0**	**$2096.00**	**$168.00**	**$0.00**	**$2264.00**
414	**Public Relations**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
500	**Project Coordination**					
	Land and Forest Service - Rick Blackwood 1 man year	0.0	$0.00	$48600.00	$0.00	$48600.00
	John Huey - Sundance Forest Industries	4.0	$168.00	$0.00	$0.00	$168.00
	Sub - total	**4.0**	**$168.00**	**$48600.00**	**$0.00**	**$48768.00**
501	**Promotion**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
503	**Evaluation Framework**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
	OTHER PROJECTS					
602	**Bird Inventory - FRIP**					
	Weldwood of Canada	0.0	$0.00	$0.00	$55545.00	$55545.00
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$55545.00**	**$55545.00**
603	**Pileated Woodpecker - FRIP**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
605	**Habitat Inventory - FRIP**					
	Weldwood of Canada	0.0	$0.00	$0.00	$48750.00	$48750.00
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$48750.00**	**$48750.00**
606	**John Stelfox Study - FRIP**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
607	**Lichen Study - FRIP**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
608	**Landscape Disturbance - FRIP**					
	Weldwood of Canada	**0.0**	**$0.00**	**$0.00**	**$101000.00**	**$101000.00**
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$101000.00**	**$101000.00**
609	**Ecosystem Response to Disturbance - FRIP**					
	Weldwood of Canada	0.0	$0.00	$0.00	$15000.00	$15000.00
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$15000.00**	**$15000.00**
610	**Recreation - FRIP**					
	Weldwood of Canada	0.0	$0.00	$0.00	$44200.00	$44200.00
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$44200.00**	**$44200.00**
611	**Carnivore Conservation - FRIP**					
	Sub - total	**0.0**	**$0.00**	**$0.00**	**$0.00**	**$0.00**
641	**Fish & Stream Inventory - FRIP**					
	Gord Stenhouse - Weldwood	72.0	$2700.00	$0.00	$0.00	$2700.00
	Weldwood of Canada	0.0	$0.00	$0.00	$168000.00	$168000.00
	Sub - total	**72.0**	**$2700.00**	**$0.00**	**$168000.00**	**$170700.00**
	TOTAL FOR ALL PROJECTS	**$6,648.00**	**$222,088.00**	**$117,078.32**	**$572,171.90**	**$911,338.22**

** Owing to an oversight at the time of publication of the 1995/96 Foothills Model Forest Annual Report, in-kind and other financial contributions provided by the Canadian Forest Service in the amount of approximately $230,000.00 were not reported. (Information provided by the Canadian Forest Service, on file at the Foothills Model Forest.)*



foothills
model *forest*
a growing understanding

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MODEL FOREST NETWORK
RÉSEAU DE FORÊTS MODÈLES