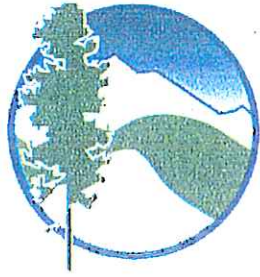
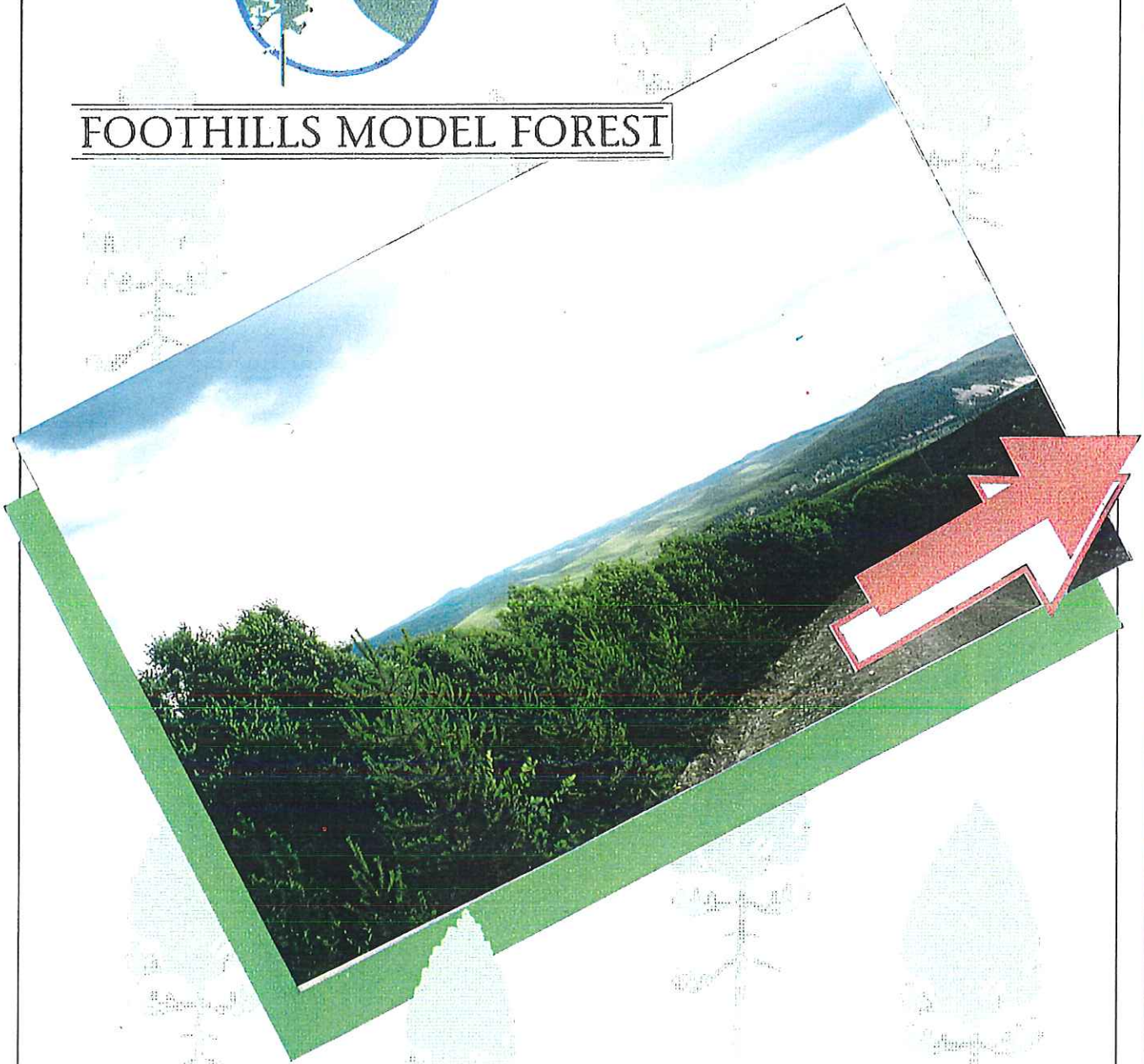


4.4.02



FOOTHILLS MODEL FOREST



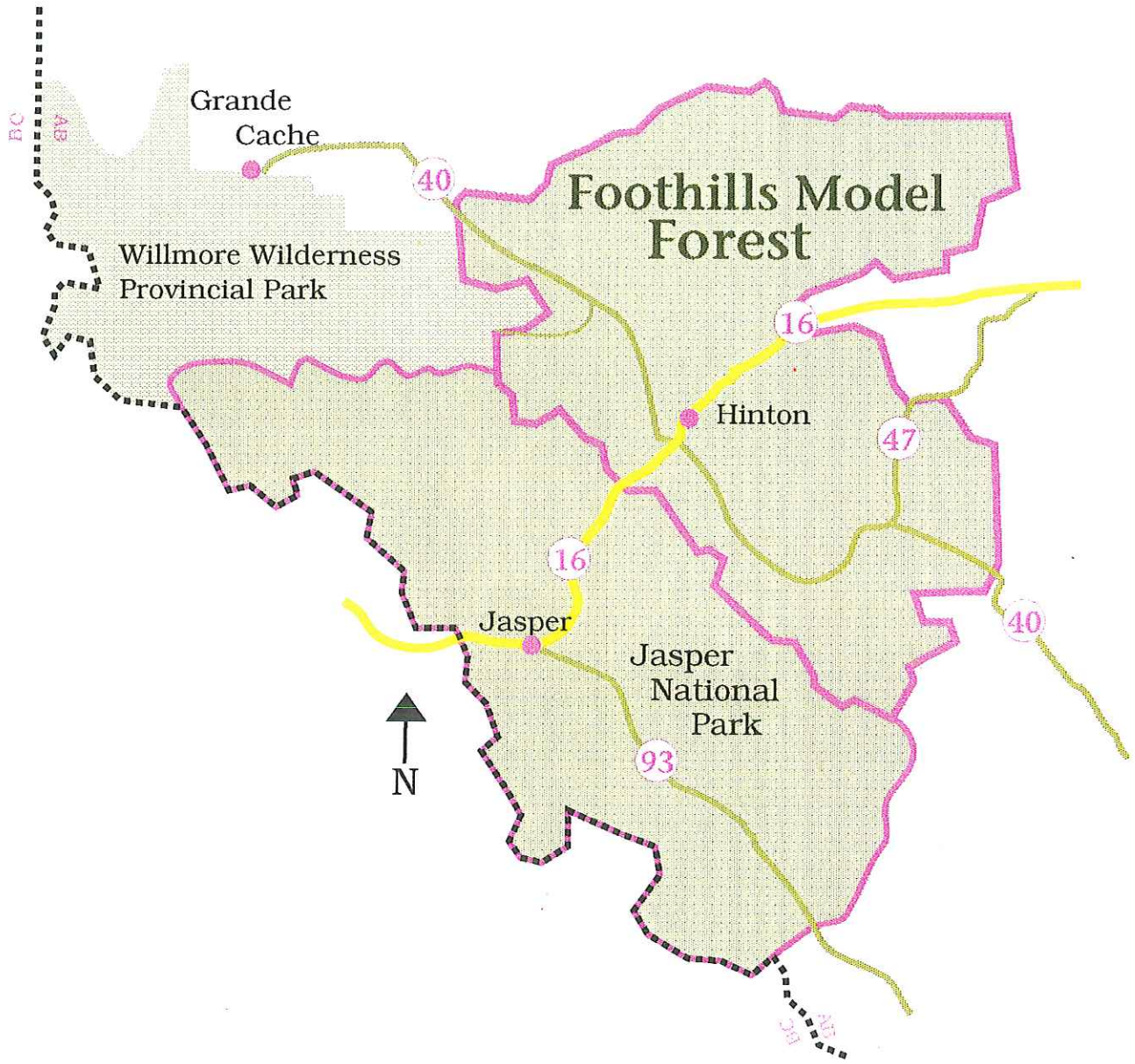
FEESA Tour

**FOOTHILLS MODEL FOREST
WELDWOOD OF CANADA**

Weldwood

Weldwood of Canada Ltd.
Hinton Division

Foothills Model Forest



Program Overview

The Foothills Model Forest is one of 10 Model Forests that make up Canada's Model Forest Network. The network is funded as part of the "Partners in Sustainable Development of Forests" program, administered by the Canadian Forest Service of Natural Resources Canada.

The Partners in Sustainable Development of Forests program was developed to demonstrate Canada's commitment to sustainable development and to maintain the health of our forests for the benefit of people everywhere.

The Foothills Model Forest's mission is:

"to develop and recommend an approach to sustainability and integrated resource management through research and technology developed by means of collaborative partnerships."

The sponsoring partners are committed to achieving this mission by incorporating values such as conservation, cooperation and integrated resource management into the Foothills Model Forest program.

The Foothills Model Forest is a non-profit corporation, founded on November 2, 1992 under Part 9 of the Companies Act of Alberta. The Board of Directors has overall responsibility for the Foothills Model Forest program and is comprised of 10 members including representatives from the sponsoring partners, Jasper National Park and the Partners Advisory Committee.

An Executive Committee, comprised of local representatives from the Board of Directors who represent the sponsoring partners, meet regularly to expedite the delivery of the Annual Work Plan.

The Partners Advisory Committee is a 12 member group made up entirely of elected representatives from the larger partner coalition. This group, working in conjunction with the Project Steering Committee, identify any potential information gaps that may exist in the development of work plans and making recommendations to the Board of Directors on proposed plans and activities.

The General Manager, a full-time forester seconded from the Department of Environmental Protection is responsible for the overall coordination and continuity of the Foothills Model Forest program. The Project Steering Committee, with representation from Weldwood of Canada Limited, the Environmental Training Centre, Alberta's Land and Forest Services and Fish and Wildlife Division, and Jasper National Park prepare the annual work Committee, is responsible for helping to plans, five year work plans and submissions for the annual report.

The projects and activities of the Foothills Model Forest are delivered by full-time staff

including a GIS (Geographic Information Systems) analyst, wildlife biologist, forest operations coordinator, watershed coordinator, and communications and public affairs manager. Research opportunities have also been created for 16 graduate students as well as a number of research assistants from the University of Alberta, University of Calgary, and the University of Guelph.

Jasper National Park has also devoted one full-time position to the Foothills Model Forest to coordinate joint projects.

Foothills Model Forest Officers and Board of Directors

Chairman of the Board

Ross Risvold
Director
Environmental Training Centre

Colin Edey (elected member)
Senior Environmental Planner
Nova Corporation

President

Robert Udell
Forest Planning Manager
Weldwood of Canada Limited (Hinton Division)

Jerry Sunderland
Regional Director, Northern East Slopes
Land and Forest Services

Secretary

Marsha Spearin, Administrative Coordinator
Weldwood of Canada Limited (Hinton Division)

Dennis Hawksworth
General Manager, Forest Resources and Lumber
Weldwood of Canada Limited (Hinton Division)

Board Members

Jeff Anderson
Manager, Ecosystem Management
Jasper National Park

Dennis Quintilio
Director, Forest Management Division
Land and Forest Services

Michel Audy

Manager
Intergovernmental Affairs
Parks Canada

Don Laishley
Director, Forest Strategy
Weldwood of Canada Limited

Dr. James Beck (elected member)

Professor, Forest Management
University of Alberta

Ex-officio Member
Bob Newstead
Model Forest Coordinator
Canadian Forest Service
Northwest Region

Keith McDonald

Director, Northern East Slopes
Fish and Wildlife Division

**LIST OF AGENCIES PROVIDING DIRECT AND IN-KIND
SUPPORT FOR THE FOOTHILLS MODEL FOREST
Ecological Classification and Landscape Forecasting**

Alberta Research Council
ESRI Canada
Natural Resources Canada - Canadian Forest Service
 Canada's Model Forest Program
The Forestry Corp
University of New Brunswick
Weldwood of Canada Ltd. (Hinton Division)

Forestry Program

Alberta Environmental Protection
 Alberta Environmental Centre
 Environmental Training Centre
 Land and Forest Service
Natural Resources Canada - Canadian Forest Service
 Canada's Model Forest Program
 Northern Forestry Centre, Edmonton
University of Alberta - Department of Renewable Resources
Weldwood of Canada Ltd. (Hinton Division)

Socio-economic Research Program

Natural Resources Canada - Canadian Forest Service
 Canada's Model Forest Program
 Northern Forestry Centre, Edmonton

Watershed Program

Alberta Environmental Protection
 Fisheries Management Enhancement Fund
 Forest Resources Improvement Program (FRIP)
 Natural Resources Service - Fish and Wildlife Division
 Land and Forest Service - Watershed
 Surface Water Assessment Branch
Forest Resources Improvement Fund (FRIP)

Wildlife Habitat and Fire Ecology Program

Alberta Advanced Education and Career Development (STEP)
Alberta Environmental Protection
 Land and Forest Service
 Natural Resources Service - Fish and Wildlife
 Wildlife Management Enhancement Fund
Alberta Recreation, Parks and Wildlife Foundation
Canada - Alberta Partnership Agreement in Forestry (PAIF)
Canadian Wildlife Service
 Prairie and Northern Region
 Prairie and Northern Wildlife Research Centre
Forest Resources Improvement Fund (FRIP)
Hinton Fish and Game
Parks Canada - Jasper National Park
Natural Resources Canada - Canadian Forest Service
 Canada's Model Forest Program
 Decision Support System Initiative
Natural Sciences and Engineering Research Council of Canada (NSERC)
Nova Gas Transmission Ltd.
Rocky Mountain Elk Foundation
University of Alberta
 Canadian Circumpolar Institute
 Department of Biological Sciences
 Department of Renewable Resources
University of Guelph - Department of Zoology
Weldwood of Canada Ltd. (Hinton Division)
Weyerhaeuser Canada Ltd.

FEESA TOUR

AUGUST 27, 1996
TOUR HIGHLIGHTS

STOP 1 GREGG RIVER DEMONSTRATION PROJECT

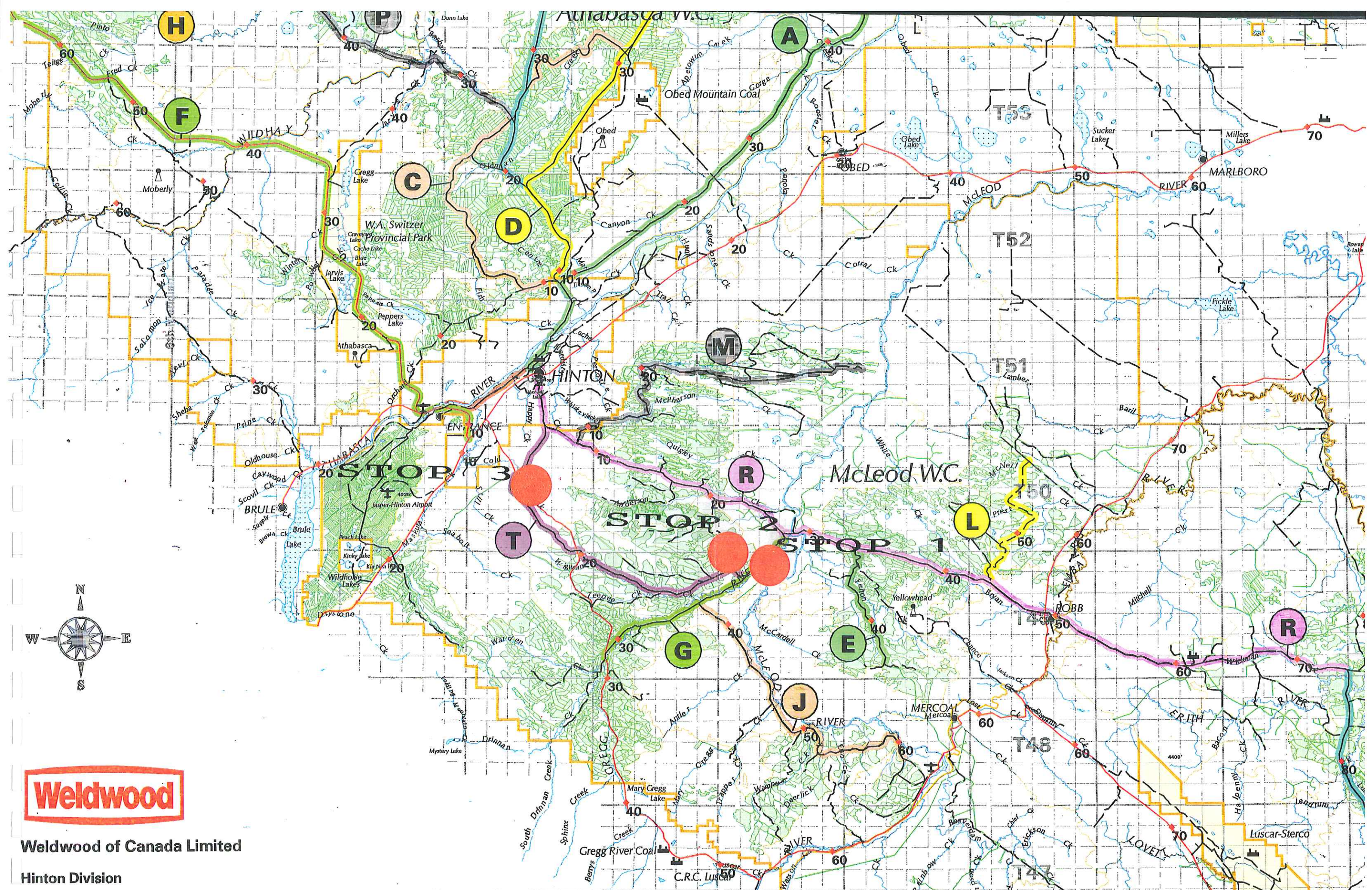
The floodplains along streams and rivers, called riparian areas, have many values, including fish and wildlife habitat, recreation, water quality, and historic/cultural significance. The Gregg River Demonstration Project is an example of managing watercourse corridors for multiple values.

STOP 2 LODGEPOLE PINE REFORESTATION TECHNIQUES

Recent and older reforestation projects are featured here. Different logging systems have influenced the stocking density and subsequent stand treatments.

STOP 3 ACTIVE HARVESTING

Harvest planning has evolved from a system which was entirely timber-driven to today's system of plans that consider and incorporate a wide range of multiple use values in harvest designs. Harvesting systems by Weldwood of Canada will be discussed while observing an active harvesting site.



Weldwood of Canada Limited

Hinton Division

GREGG RIVER DEMONSTRATION PROJECT

(Integrated Resource Management: Wildlife; Riparian Zone Management)

HARVESTING AND TIMBER MANAGEMENT

River valleys, or riparian zones, are sensitive areas representing about 5% of the landbase of Weldwood's Forest Management Agreement. This figure does not incorporate the riparian areas found in Jasper National Park or the Prime Protection Zone. They provide multiple values that include water supply and quality, wildlife and fisheries habitat, recreation and timber. In theory, all the landbase outside a 60 m buffer on each side of the high water mark is part of the allowable cut landbase managed primarily for the production of timber. But in fact, Weldwood is required to conduct its activities in timber management with sensitivity for other priority values. This usually means some modification of harvest practice. Forests in riparian zones are very complex ecosystems, and past attempts to manage them with conventional clear cuts have often resulted in difficult reforestation challenges.

Key priorities in management include:

- retrieve fibre/maintain contribution to the Allowable Annual Cut
- retain visual quality from the river
- maintain wildlife habitat presently supplied
- improve reforestation effectiveness
- maintain watershed values

This area was logged, using both horse logging and single grip, low ground pressure harvest systems, as an experiment to examine ways to manage for multiple uses in sensitive areas. There are seven areas with a variety of forest conditions. In each area, logging was carefully fitted to the site to ensure tree removal protected other resource values. This included small patch cuts, selection logging in spruce, retention of snags and deciduous trees for wildlife habitat, and operating during winter to reduce soil disturbance. Concerns over the lack of adequate seed and seed bed preparation, as well as less than optimal crown removal led to preparation of the site with an excavator in 1994, and planting with spruce in 1995.

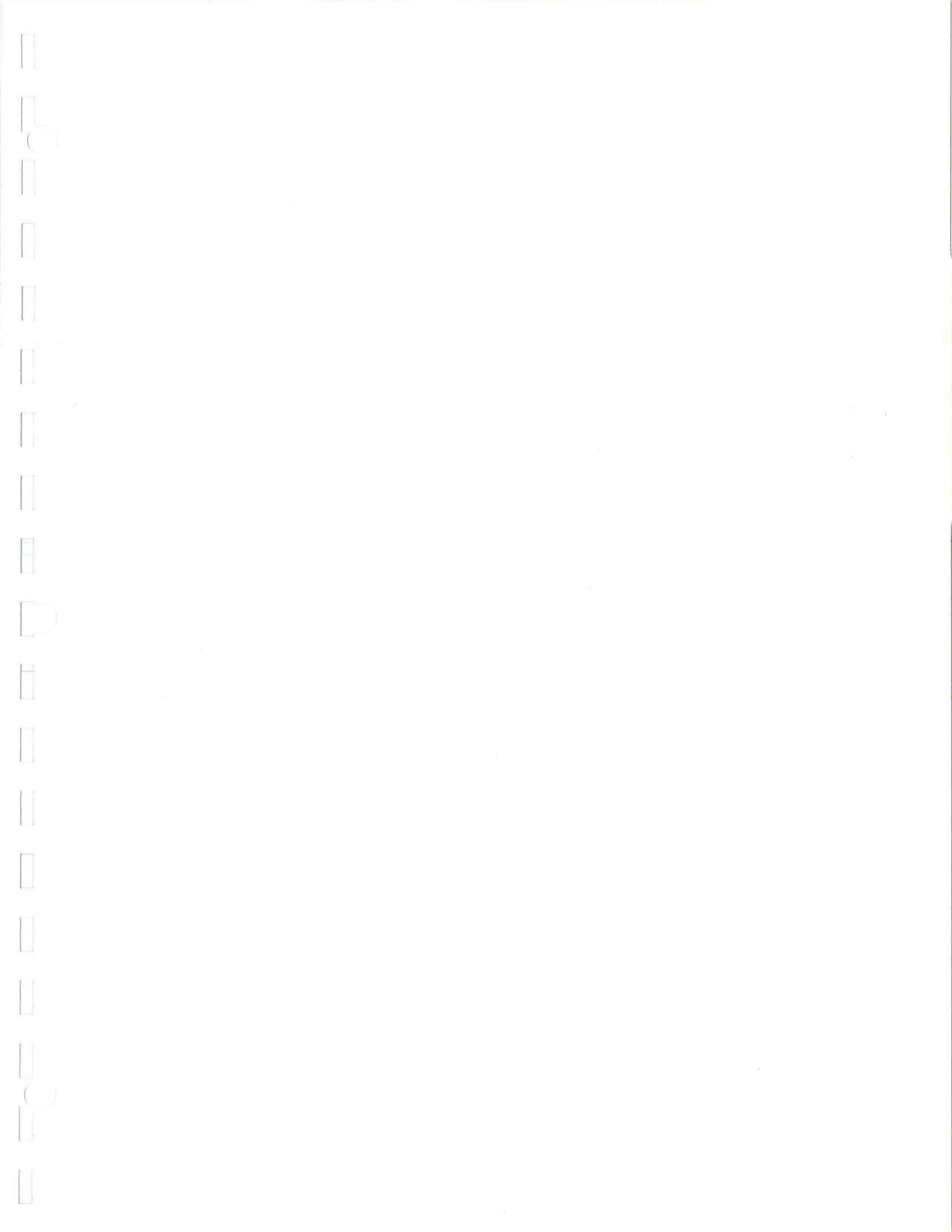
An old telephone line insulator was found nailed in one of the younger trees in this area - dating from about 1925. This suggests some of the younger trees in these stands may have originated from logging which is known to have been done in these river valleys in early times.

WILDLIFE HABITAT

This stand is occupied by many wildlife species associated with old-growth spruce forest, including pileated woodpecker, brown creeper, varied thrush, marten and mink. It also provides winter cover for white-tailed deer.

Partial cutting in the stand has helped to retain many of the structural habitat features required by species that used the stand prior to harvest. In addition, the quality of deer winter range should be improved as food plants respond to the increased light on the forest floor. Wildlife species that specialize in open forest stands should also find the new conditions attractive - these include American kestrel and olive-sided flycatcher.





LOGEPOLE PINE REFORESTATION TECHNIQUES

Block 33 122.1 ha
1973 - Manual logging - Cable skidder
1973 - Scarified with drags.
1987 - Thinned with brushsaws.

Block 118 18.5 ha
1987 - Feller-buncher logging, grapple skidder.
1987 - Scarified with drags.
1990 - Planted with lodgepole pine.

A. HARVESTING AND TIMBER MANAGEMENT

Cutblocks are normally harvested in a 2-pass, alternate-cut pattern. The second pass cut in this area was in 1982, after regeneration in the initial cuts reached 2m in height. The more recent cut in Block 118 made use of small diameter wood deferred beyond the normal 2-pass sequence. The small patches and fringe wood to the south are too small for economic harvest with present systems. The original forest was pure Lodgepole pine, with a spruce understory. The new forest contains a much higher diversity of trees and shrub species.

The 16-year-old stand in block 33 may be logged again in 2063. By then, the age 80 trees should be much larger than the age 110 fire-origin stand logged in 1973.

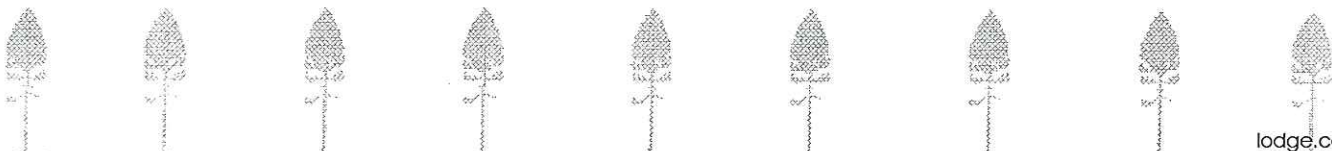
B. WILDLIFE HABITAT

Thinning of pine in Block 33 also rejuvenated willow and other deciduous shrubs, providing moose browse in good cover. Thinning also promotes growth of herbaceous plants eaten by mule deer.

This stand is old enough to again have red squirrels - also snowshoe hares, lynx, and robins. As it ages, other species such as marten and hermit thrush will also come back.

As an area is harvested, changes in furbearer populations associated with habitat changes occur. There will be fewer marten, fisher, and red squirrels until regenerated stands develop into suitable habitat. However, species such as lynx, coyote, and weasel will increase in number as areas of regenerated stands (these provide their preferred habitat) increase. At any time, furbearers will be available to support a trapping industry, provided trappers are willing and able to flexibly respond to opportunities.

The new Block 118 cut is developing to the grass-herb stage, which is suitable for species like savannah sparrow, northern harrier, and meadow vole. Residual stands provide ungulate cover, a buffer to the Gregg River, and refuge for species such as marten.



FOREST TENURE / FOREST MANAGEMENT AGREEMENT

The Forest Management Agreement for the Forest was signed in 1954, and has been twice renewed since. The most recent Agreement was signed in 1988 when the lease area was expanded from 800,000 ha to 1,012,000 in order to support the expansion of facilities in Hinton.

The responsibilities assumed by the Company, at its own cost, in return for the rights granted include:

- * construction of processing plants to utilize the resources granted;
- * initial development of, and 10 year revision of forest management plans to provide sustained yield forest management;
- * inventory, growth and yield programs to support management plan and operational plans;
- * development of all infrastructure (roads, bridges, etc.) to carry out operations;
- * progressive reforestation of all areas harvested, to a free growing status;
- * participate in fire control with the Province.

The rights granted to the Company in return for these commitments include:

- * security of tenure for 20 years, renewable;
- * right to compensation for land withdrawals impacting on AAC;
- * ownership of the trees in the Agreement area;
- * allowable annual cut increases arising from intensive management or better growth and yield information accrue to the Company;
- * potential of "stumpage free" fibre for incremental AAC arising from intensive management;
- * negotiated Operating Ground Rules with the Province.

MANAGEMENT PLANNING

Forest Management Plans and Annual Allowable Cut (AAC)

A forest management plan is prepared and revised every ten years. At this time a new management inventory is conducted, and the landbase dedicated to timber production is recalculated to take into account any reductions such as permanent roads, coal mines, seismic lines, licences of occupation recreation reserves, wildlife reserves or protective buffers along streams.

The growth characteristics of both the natural forest, which originated from forest fires, and the regenerated forest, which has been established by Weldwood, are tracked and documented through Weldwood's research program in forest growth and yield. This knowledge is applied to existing stand and age class distributions. Operating ground rules and strategies for integrate resource management are identified. A forest estate model (computer simulation program) takes this information and uses it to evaluate sustainable levels of forest management activity by "growing" and "harvesting" and "reforesting" the area to be managed over a period of at least two full management cycles.

Since forest operations began in 1956, approximately 140,000 hectares of forest have been cut and reforested, from a productive landbase of close to 800,000 hectares. In the early years, much attention was paid to developing detailed inventory information, leading to the production of the first Detailed Forest Management plan in 1960. This plan has been updated and revised four times since (1966, 1977, 1986, 1991), to include improved information on forest inventory, growth and yield; better management planning tools including computer modeling; and to reflect changes in the landbase arising from such activities as facility expansion, coal mining, oil and gas exploration and wildlife reserves.

MANAGEMENT PLANNING CONT'D

Certain objectives and strategies have remained common throughout all these management plans, and can be credited for much of the success and sustainability of this operation, now 40 years old. These are:

- * sustained yield forest management
- * provide overall cutting plan to schedule operations, maintaining uniform haul distance
- * improve stand vigour, cut oldest timber first

As time developed other needs were identified and these also are included in the statements of intent:

- * practice integrated resource management
- * balance winter and summer cuts
- * balance the flow of sawlogs and pulpwood to the Hinton processing plants.

The fifth revision of the Forest Management Plan is due in 1998. Need for a new forest estate model is being evaluated as a cooperative project between Weldwood, Foothills Model Forest, the University of New Brunswick and the Forestry Corpss. The new model, to be in place by late 1996, will be required to incorporate wildlife habitat supply and species response on a sustainable basis.

Because so many wildlife models rely not only on quantities of habitat but also on habitat arranged in a particular manner, many of them will be a GIS-based. A "blocking model" is near completion which will be used to generate patterns of disturbance (cut blocks, roads, etc.) within operating compartments. The new forest estate model will then be required to produce "snapshots" of future landscapes which can then be evaluated by the wildlife habitat models.

The new forest management plan will rest within, and to a large extent direct, a Linked Planning Process developed by Weldwood and the Alberta Forest Service in 1993. At the time of development, there was no process in place which could be used to examine the impacts of short term decisions, such as the scheduling and timing of forest operations, on the long term assumptions which support the allowable annual cuts developed in the forest management plan. This process was designed to provide explicit linkages and feedback / correction loops between forest management plans, general development plans and annual operating plans. A key feature of the process is an annual stewardship report which examines and reports on the impacts of operational activities on the forest management plan assumptions. Depending on the range of variation from these assumptions, corrective actions could be triggered. In the Company's view, this linkage is critical to assess progress towards the goal of sustainable development.

FOREST INVENTORY SYSTEMS

All permanent systems are being upgraded for the 1998 Forest Management Plan revision.

Permanent Sample Plot (PSP) system

3,000 - 1/5 acre (.08 ha) and 1/10 acre (.04 ha) plots were established from 1956 - 1961. This year, some will have been remeasured for the fifth time. PSP information is used to develop tables of volumes and log profiles and to model growth stand and individual trees. Additional PSP's and temporary sample plots (TSP's) will be installed where required.

Management Inventories

Every management plan revision requires a new forest inventory. Until now, the management inventory for the forest management plan was gathered through the interpretation of photo point samples on a 0.8 km grid throughout the Agreement area. Forest stand information from these points was translated into volume tables developed from the PSP data. The management planning model "harvested" the stands in a planning sequence.

The Photo Point Sample Inventory is being abandoned and the 1998 forest management plan will have a new spatial inventory, using Alberta Vegetation Inventory (AVI) standards, developed from the interpretation of individual forest types throughout the Agreement Area. Individual stands will be mapped from the aerial photographic interpretation, and stand listings are then to be translated into volumes and log profiles. Since the forest is a dynamic system, many changes will occur before some of these fine type inventories will be used to plan operations. For this reason, growth factors are also included in models which will "grow" the forest stands in the operating compartments, to maintain current information.

Fine Type Inventories

Operational harvesting, reforestation and habitat management plans require more site-specific information than PPS inventories provided, or than the new Management Inventory will provide. To meet these needs, a detailed forest inventory is conducted for upcoming operating compartments, using aerial photo interpretation and extensive ground truthing of the interpreted forest stands. Stand listings are translated into volumes, log profiles, and other operational information.

This inventory, also conducted to AVI standards, will be included with the management inventory to provide the inventory for the 1998 forest management plan revision. It differs from the Management Inventory only in that the level of detail collected is more precise.

Ecological Site Classification

Detailed ecological site classification mapping is being done in conjunction with the fine type inventories. A hierarchical structure is used to identify uniform areas of soil moisture and nutrient status, elevation, slope, aspect and overstorey composition. These are being developed for upcoming operating compartments on the Agreement area. In addition, a computer-based system (NAIA) is being considered to take soils, vegetation and topographical information into consideration to generate ecological site classifications for those operating compartments not yet scheduled for detailed inventory.

Regenerated Stands Inventory (RSI)

This program examines the present status of regenerated stands, dating back to those established following logging in 1956. RSI data will be used to identify management needs and opportunities such as release from hardwood competition, or intensive management investments aimed at improving stand growth and yield. It will also form the standing inventory input for the managed stand yield table program, and therefore requires more detail than either the Management Inventory or the Fine Type Inventory can provide.

Wildlife Habitat and Use Inventory

In recent years, we have started to collect wildlife habitat and use information in conjunction with our other inventory programs. This information will be used as part of our integrated resource management planning process, to provide preliminary indications of species distribution and abundance. These indications can then be used in the formulation of specific wildlife and habitat plans.

TWO PASS PATCH CLEARCUTTING AND EXTENSIVE FOREST MANAGEMENT

Harvesting

One of the objectives in the forest management plan is to harvest the older, slow growing and disease-susceptible timber as soon as possible to replace it with thrifty, fast-growing young trees. Working Circles, each a sustained yield management unit are subdivided into operating compartments based on predominant age classes and topographic features. These compartments are then prioritized for the progression of harvest entry.

Harvesting and reforestation began in 1956. Clearcutting is an appropriate silvicultural technique for the species on the Weldwood FMA. Continuous clearcuts are not allowed in Alberta, and alternate patch or block clearcutting is the common cutting method now used. This usually involves setting out a patchwork pattern of first-pass blocks, considering topography, roads, drainage, wildlife, fisheries, aesthetic and economic concerns. Approximately half the blocks are harvested in each pass, with second-pass harvest commencing once first-pass blocks have been adequately regenerated with regeneration averaging two metres in height.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

FOREST OPERATIONS

Harvest Systems

When the Company began woods operations in 1956, men cut trees with powersaws and used horses to skid them to roads, where they were cut to 100" lengths and piled. Using draglines, wood was loaded onto pulp trucks and hauled to Hinton over a network of winter roads. A good day's production for a man was about 8 m³. To produce the 843,000 m³ required for the pulp mill, 450 woodsmen plus support staff were required. Ten large, permanent camps housed the woods crews. One of these was only 24 km from town.

In 1965, the Company began experimenting with tree length harvesting using wheeled skidders to move the wood to roadside where it was mechanically slashed before hauling. In four short years the conversion was complete. The bush camps and horses were gone, replaced by crews that commuted each day between the woods and town. As the quality of roads improved, hauling became a year-round activity.

The next major step in the evolution of logging systems came with the purchase of two feller-bunchers in 1973. Today, about 90% of wood production is from fully mechanized logging systems. For many years, combinations of feller-bunchers, line or grapple skidders, delimiting at roadside with single stem delimiters, and wood hauling with self-loading trucks have been the major systems.

Hand falling, with an average man day productivity of 35 m³, is now restricted to areas where terrain or tree size prohibit the use of mechanized systems. As new technologies emerge, the role of hand falling continues to decline. It cannot match the productivity (and safety) of fully mechanized systems where production approaches 120 m³ per man day. Such productivity will be tested to the limit as the level of harvest rises from 600,000 m³ in 1989 to around 1,900,000 m³ (plus 80 -90,000 m³ of aspen) in 1993.

HARVESTING SYSTEMS DEPLOYMENT 1996

System	Type	% of Volume (approx)
Feller Buncher, Grapple Skidder, Roadside Delimiting	Tree Length	10
Feller Buncher, Grapple Skidder, In-block Delimiting	Tree Length	45
Hand falling, Topping, Line Skidding, Roadside Delimiting	Tree Length	4
Feller Processor, Grapple Skidder	Tree Length	22
Feller Processor, Clambunk Forwarder (Can also do shortwood)	Tree Length	6
Feller Processor, Shortwood Forwarder	Shortwood	4
Feller Buncher, In-Block Topping, Grapple Skidder, Bush Chipping	Chips	9

80% of all skidders and forwarders are equipped with flotation (wide) tires

Harvest Planning Systems

Over the past 40 years, harvest planning has evolved from a system which was entirely timber-driven to today's system of plans that consider and incorporate a wide range of multiple use values in harvest designs. Although timber production is still the prime use of most of the FMA area, planners also consider and balance other resources such as watershed protection, aesthetics, recreation, wildlife and fish habitat, and archaeology.

The size of cutblocks has generally been dependent on the type of harvest system used. When large cable skidders were added, skid distances of 500 to 800 metres were within reason, and block sizes could be large, often over 80 hectares. In recent years, block sizes have been decreasing because grapple skidders have a maximum skid distance of 200 metres, and because of other considerations such as wildlife habitat. Some parts of the FMA area have been identified as having key value for resources other than timber. In those areas, modifications to conventional harvesting systems are being evaluated and implemented. These include techniques like smaller patch cuts, longer intervals between harvest passes, and some testing of shelterwood cuts (an even aged form of selective harvest).

Improved systems for operational planning, inventory maintenance, record-keeping, and integrated management are under development by staff and by contractors. New inventory systems, such as the Regenerated Stands Inventory, will be integrated with existing systems. New stand-level growth projection models are being obtained. Use of a Geographic Information System (GIS) is fundamental to all systems under development. All maps, formerly hand drafted, are now produced using the GIS. More importantly, the system supports all the data which is tied to the map features. By merely changing the boundaries of features on the map, the planner is then able to receive information from the system about the impact of those changes on such values as timber volumes, log profiles, summer / winter wood splits, wildlife habitat, etc.

Road Development

Two objectives of the Forest Management Plan have had a major influence on the progress of harvesting operations and the development of roads throughout the FMA area. In general terms, the Company tries to harvest the oldest timber first, and balance the haul distance to the mill. The results are a network of roads and a pattern of harvesting that spreads throughout the original FMA area. Because of these objectives, large areas of uncut timber still exist within a few kilometres of the mill, and the average haul distance over the period of the first rotation remains around 68 kilometres.

The new facilities demand a large supply of wood which cannot be satisfied entirely from outside sources and wood from the original FMA area. In 1988, a new FMA was signed, giving the Company the rights to the timber resources on an additional 2300 square kilometres, largely without roads. Gearing up to satisfy the new mill requirements included a major expansion of the main trunk road network. Over 160 kilometres of new trunk road are required to serve this expanded area.

Stand Tending

Many successfully regenerated stands require treatment during their juvenile stages to control suppression and mortality. Aspen has been the most devastatingly competitive species on sites regenerated to conifers, both directly through inter-specific competition and indirectly through provision of hare habitat. In most Canadian provinces, this competition is controlled through the use of registered herbicides, and this tool is being carefully introduced for Alberta.

On some sites, particularly those regenerated to pine following logging or wildfire, intra-specific competition has impeded stand development. Various tactics have been tried for competition control, with manual brush saw treatment being the most prevalent. Regenerated stands may be commercially thinned in future.

SILVICULTURE SUMMARY

Total Area Cut to Dec. 31, 1995 (est)	(ha)
	- 136,287

Cutover Treatment

- Site preparation for natural seeding	87,809
- Aerial seeding	5,365
- Planting	64,055
- Manual spacing of over-dense regeneration	1,800
- Release of regeneration from competing vegetation	4,451

Reforestation Success (to most recent survey)

- Area Surveyed	109,037
- Area adequately reforested (97.6%)	106,513
- Area requiring further treatment or resurvey (2.3%)	2,524
- Area with serious vegetative competition problems (estimated)	- 21,300

Weldwood Nursery

The nursery grows 700,000 seedlings per crop 1,400,000 seedlings will be grown in 1996.

1996 Reforestation Plan

- Planting 6,200,000 trees	4,430
- Site Preparation for Planting	5,485
- Scarification for Natural Regeneration	5,755
- Stand Cleaning (manual release from hardwood competition)	2,400

Note: Areas requiring further treatment are continuously addressed by resurvey, fill-in planting, etc.



Weldwood

WELDWOOD OF CANADA LIMITED ENVIRONMENTAL POLICY

Weldwood is committed to responsible stewardship of forest resources and the environment in which we live and work. In the conduct of our business, we will be governed by the following principles:

Weldwood will

practice integrated resource management on the forest lands under its jurisdiction to enhance the long term sustainable fibre supply.

Weldwood will

comply with all environmental regulations employing sound management practice and practicable technologies.

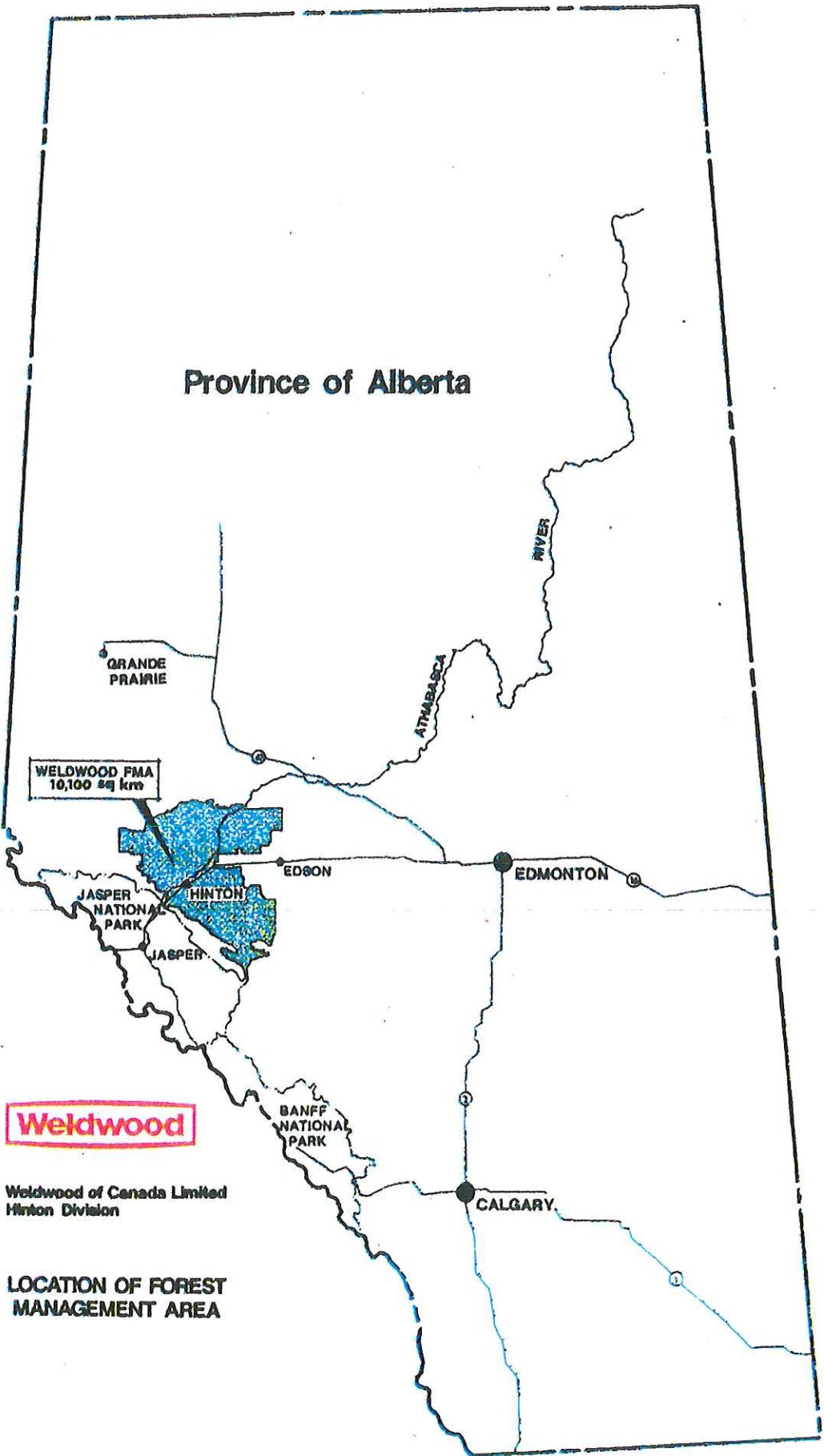
Weldwood will

promote and develop environmental awareness and responsibility among its employees and maintain communications with its employees, the public and regulatory agencies.

Weldwood will

regularly audit the environmental performance of its operations and report the results of such audits to its Board of Directors.

Province of Alberta



WELDWOOD FMA
10,100 sq km



Weldwood of Canada Limited
Hinton Division

LOCATION OF FOREST
MANAGEMENT AREA

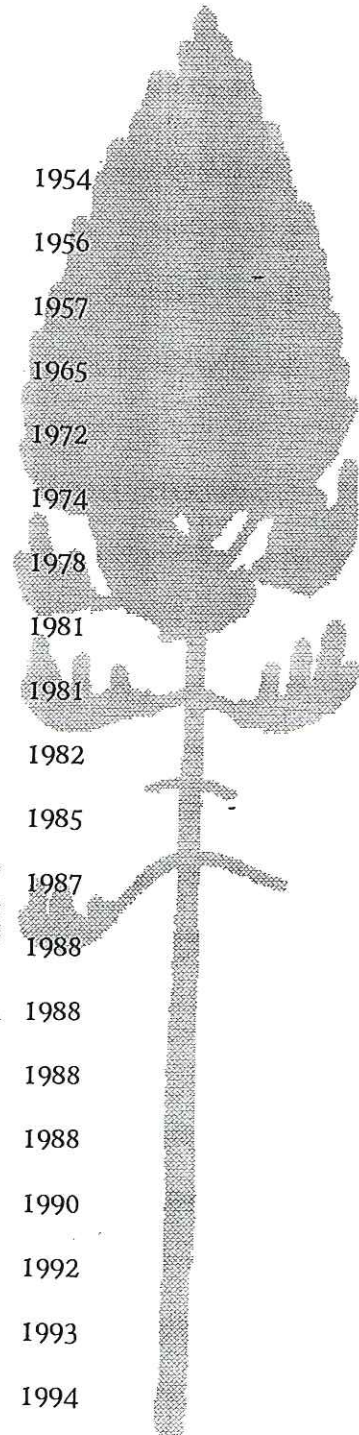
FOREST MANAGEMENT HIGHLIGHTS

WELDWOOD OF CANADA LTD. - HINTON DIVISION 1996

In 1954, North Western Pulp and Power signed the first Forest Management Agreement (FMA) in the Province of Alberta. This FMA, a landmark in the history of forest policy development in Alberta, has been used as a model for other Canadian FMA's. In return for the right to harvest and manage timber from a 780,000 hectare FMA area, N.W.P. & P. assumed many resource management responsibilities traditionally held by the Provincial Government, while returning benefits to the Province in terms of infrastructure development, employment, tax base and royalties.

SIGNIFICANT DATES

First Forest Management Agreement signed	1954
Harvesting Began	1956
91,000 tonne Kraft Mill began production	1957
Original Forest Nursery and Greenhouse opened	1965
50 Million fbm Studmill opened	1972
First Development of Hiking Trails: Wild Sculpture Trail	1974
N.W.P.& P. became St. Regis (Alberta) Ltd.	1978
Studmill expanded to 70 Million fbm	1981
New Forest Nursery and Greenhouse opened	1981
Task Force on Forestry/ Wildlife Plan for FMA	1982
Champion Forest Products (Alberta) Ltd.	1985
Prototype Report on Forestry/ Wildlife Program for FMA	1987
Champion Forest Products purchased by Weldwood	1988
Weldwood of Canada Ltd. - Hinton Division	1988
New FM Agreement signed, FMA expansion	1988
Integrated Resource Management Steering Committee	1988
Opening of expanded kraft mill (385,000 tonnes)	1990
Model Forest Agreement signed	1992
New Sawmill (200MM fbm) Began Operations	1993
Two New Biologists Hired for Hinton Division	1994



SUSTAINABLE ECONOMIC CONTRIBUTION

Weldwood of Canada has made a steady contribution to the economy of Canada, Alberta and Hinton over the past 40 years. In addition, the Company makes a substantial effort to be a good corporate citizen of the Town of Hinton. Some statistics for the Hinton area are presented to illustrate this contribution.

1995 ECONOMIC ACTIVITY

ITEM	DETAIL	VALUE/ QUANTITY
Employee Base	Pulpmill / Forest Resource	732
	HiAtha	217
	Logging Contractors	100
Payroll	Pulpmill / Forest Resource	69,000,000
	HiAtha	10,200,000
Local Expenditure: - vendors - contract services - donations - contractors	Pulpmill & HiAtha	56,000,000
Taxes	All levels of government	110,000,000
Water Supply: Town of Hinton	Weldwood Treats and Supplies all the Potable Water for the Town	2 - 2.5 Million Gallons / Day
Sewage Treatment: Town of Hinton	Weldwood Treats all the Town Sewage	App. 1.5 Million Gallons / Day