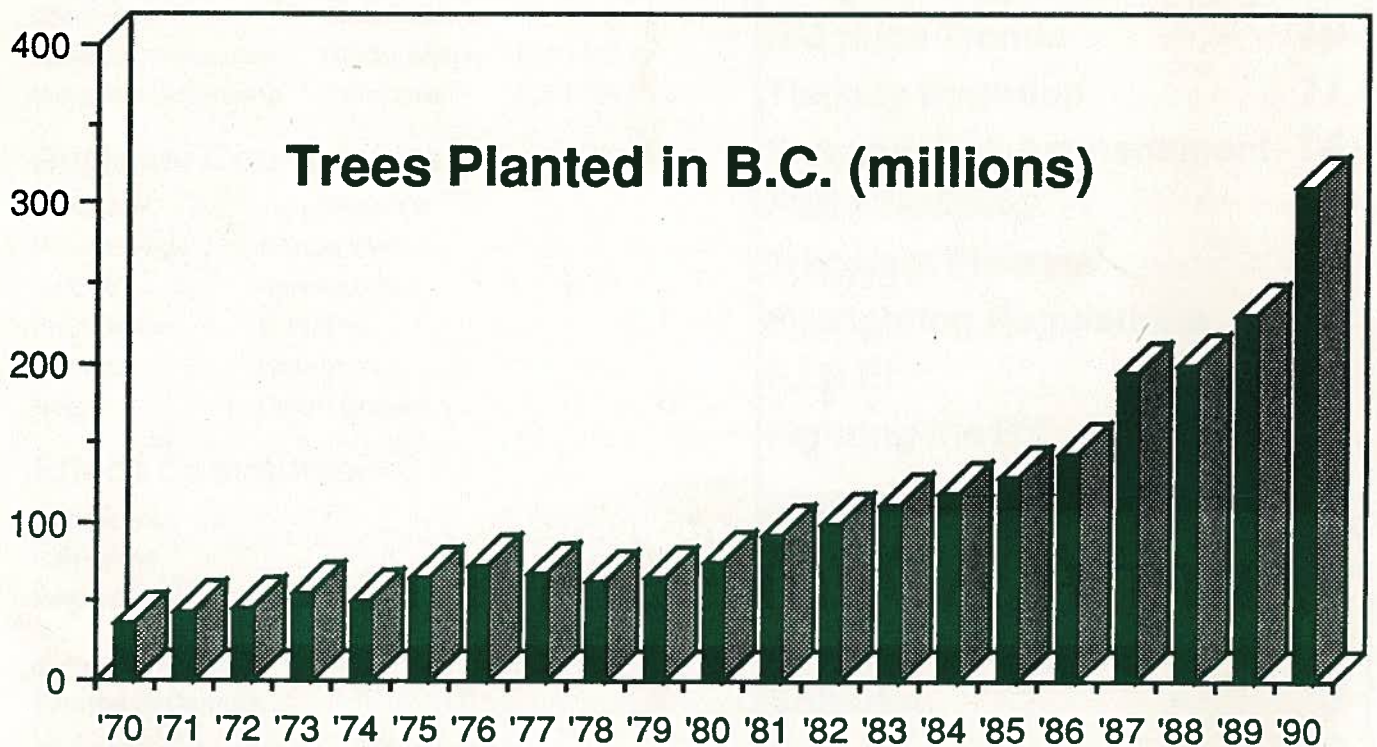


WSCA

Fall 1989

NEWSLETTER



TREES PLANTED IN B.C. INCREASING

BUT NOT FAST ENOUGH TO STOP THE...

F.I.R.E!

Forest Inventory Renewal Emergency!

Western Silviculture Contractors Association

Newsletter FALL 1989

WSCA Executive

Executive Director	Ross Styles	376-0830
President	Dirk Brinkman	521-7771
Treasurer	Lynn Norton	562-4884
Director	Tony Harrison	
Director	Max O'Brian	
Director	Doug Hearn	
Director	Chris Akehurst	
Newsletter Production	Gordon Murray	877-1403
Newsletter Advertising	Tom Chavez	876-0029

Regional Coordinators

Vancouver	Tony Greenfield
Prince George	Michael Wells
Cariboo	Dennis Loxton
Prince Rupert	E. Hughes
Kamloops	Ross Styles
Nelson	Dennis Graham

Ethics Committee

Alan Bahen
Carl Loland
Harold Stevens

© Copyright 1989
Printed in Canada

The WSCA Newsletter is published by the Western Silviculture Contractors Association three times a year.

Opinions expressed by the authors do not necessarily represent the views of the WSCA.

This Newsletter was produced by Gordon Murray of **GraphiCoe**™

Thanks to Kate Hearty and Tom Chavez for their production assistance.

Send correspondence and articles to:

**WSCA Newsletter
310 —1070 W. Broadway
Vancouver, B.C.
V6H 1E7
(604)-736-8660**

Contents

Articles

Economics of Treeplanting	4
Bid price Trends	10
Toxicity Roundup	11
Reinspection Ammendment	14
FRDA Funding	15
Transient Planters	16
Firefighting Regulations	22
F.I.R.E!	24
Fighting the B.C. F.I.R.E!	27

Departments

News Briefs	2
Editorial	3
MOF Reports	12
Mail In/Out	18
Membership	28

For Advertising rates and information please call Tom Chavez at 876-0029.

To reserve a booth at the 1990 WSCA Convention please call 736-8660.

News Briefs...

Forest Resources Commission

Following the province-wide TFL hearings where "the public identified a broad range of concerns on many topics relating to forest management," Forests Minister Dave Parker created a permanent Forest Resources Commission. The commission will advise on forest policy and undertake special investigations requested by the Minister.

Initially, three priority tasks have been assigned to the commission:

- Advise on the effectiveness of tree farm licences as a form of tenure.
- Recommend ways to improve public participation in forest planning and management.
- Review and recommend ways to improve forest harvest practices, focussing on clear-cutting and its impacts.

The commission will report directly to the Minister and all reports will become public documents.

Waste not wanted

Forests Minister Dave Parker has announced a new 'zero tolerance' policy for wood waste in B.C.. Under the new policy company's will be charged stumpage for any wasted usable wood and the volume of the waste will be charged against their allowable annual cut.

As a further incentive to use all wood, the province is lowering the stumpage on low quality pulp logs to \$0.25 per cubic metre. These new policies are retroactive to January 1st, 1989.

For silviculture contractors the result should be cleaner settings with less slash during the 90's.

Forest inferno

Over 6 million hectares of forest were burned across Canada in 1989. This is the largest loss to fires on record.

TFL issue rolls over but not dead

After 90 hours of public hearings with over 300 presentations the T.F.L. conversion proposal has been put on hold. The newly appointed Forest Resources Commission has up to two years to investigate the effectiveness of tree farm licences.

Kick screefing gets the boot

Quebec Occupational Health regulations now prohibit kick screefing because of the high incidence of damage to planters' knees.

MOF revenue no longer stumped

The provincial government has given the Forest Service \$11 million to overhaul its revenue management processes. The top priority for this fiscal year is to install a new computer system to ensure that stumpage payments are received as soon as possible. The Forest Service has already increased monitoring of timber scaling. They are also considering denying harvesting rights to those firms that owe past-due stumpage fees.

Send in the clones

B.C. scientists have found a way to produce large numbers of seed embryo clones of top performing interior spruce trees. The breakthrough could lead to the introduction of superior seedlings with increased growth rates and lead to shorter harvesting cycles according to the researchers.

New WSCA constitution

The well thought-out constitutional amendments that Ross Styles proposed at the last AGM are currently being revised. The WSCA has recently had some costly legal bills arising from the newsletter and from the investigations of ethics committee. Lawyer Owen Bird is reviewing our code of ethics and advising us how to proceed. This comprehensive report is now being integrated into the new constitution.

Members will receive a draft of the proposed constitution a month before the AGM so that they can make an informed vote.

Garbage Gossip

The number of stashing incidents appears to have been significantly less in 1989 than 1988. This year, however, seedlings were found in some very strange places: a Woolco dumpster, the 101 dump and campground garbage cans.

Quebec Tragedy

Two planters were asphyxiated overnight when their propane heater accumulated fatal levels of carbon monoxide in their tent. This accident is a terrible warning to all contractors and planters that use propane heaters. The event may cause major changes in Quebec camp standards.

LATE FLASH!

N.S. & N.B. FRDAs

The signing of new 2-3 year FRDA agreements for Nova Scotia & New Brunswick is reported to be imminent. According to sources in Forestry Canada, the volume of work to be performed in this new generation of agreements will increase more than inflation. ▲

Editorial

Reforestation, the fat benefits

1990's: The Environment Decade

This is the last issue of the newsletter before the 1990's.

In past issues we ran a special section called "Reforestation—the Thin Benefits." These benefits were called "thin" because they seemed to affect us in such slim increments. These environmental benefits have suddenly become the big issues of the coming decade.

The value of environmental enhancement is one of the best arguments for FRDAII.

The WSCA is kicking off **F.I.R.E.I** (Forest Renewal Inventory Emergency!) a national campaign to argue the composite benefits for the new FRDA agreement. Many of the arguments are based on environmental benefits that have not been identified with FRDA before. (See page 22 of the newsletter for the full **F.I.R.E.I** discussion.)

Carbon dioxide on the hot seat

Man-made carbon dioxide emissions represent 80% of the contributing factors to the greenhouse heating of the planet. Forests were the great storage sink for the world's carbon supply but two-thirds of the earth's forests have been liquidated in the past 100 years. 90% of the wood was burned as slash or fuel-wood.

Burning forests and the world wide burning of fossil fuels will add about 6 billion tonnes of carbon to the atmosphere this year. About 50% of man-made carbon emissions stay in the atmosphere and 50% seem to be absorbed by the oceans.

Reforestation on a massive world-wide scale is seen as one of the best

solutions for reabsorbing CO₂ and reducing the greenhouse effect.

Canada's 1987 CO₂ emissions are equivalent to 128 million tonnes of carbon—about half of this is in the atmosphere, available to be absorbed by forests.

Young trees gulp carbon dioxide

Young growing forests most rapidly absorb airborne CO₂. In fact they grow more vigorously when exposed to carbon dioxide. In Sweden some nurseries flood seedling greenhouses with CO₂ each morning to increase seedling growth. The greenhouse effect is more than one of warming—the increased availability of CO₂ can also increase forest growth.

Sweden boasts that its well tended forests are growing an average of 8-10 cubic meters of industrially usable wood per hectare per year (this figure is known as the mean annual increment or MAI). A cubic meter of industrially usable wood requires approximately 1.6 cubic meters of wood fibre (including the round-wood, branches, leaves, roots, tops, etc.).

The average MAI in B.C. without silviculture is about 2.7 cubic meters per year. B.C.'s well tended young plantations have the potential of growing at least 5 cubic meters of industrially usable wood per year—or about 8 cubic meters of fibre—using intensive silviculture techniques.

According to a recent Environment Canada Report on CO₂ emissions, each cubic meter of wood fibre growth uses about 250 kg of carbon. Young healthy forests could therefore absorb approximately two tons of carbon per hectare per year. Replanting B.C.'s NSR of 3.7 million hectares could

absorb 7.5 million tonnes of carbon a year—almost 45% of B.C.'s total emissions.

Slash Burning up in smoke

Slash burning is the quick liquidation of the carbon reserves on a site—the slash would eventually decay into CO₂ if left alone. Slash burning comprises over 15% of B.C.'s man-made carbon emissions (3% of Canada's man-made emissions). Slash-burning will be eliminated some day on the grounds that it contributes to the greenhouse effect, as well as that it represents an unacceptable health hazard (the reason it was severely restricted in Oregon).

Fat Benefits

The 1990's will be fat years for the thin benefits of reforestation. Water quality, air quality, soil preservation, habitat restoration, atmospheric re-balancing, species preservation and ecosystem enhancement are fast becoming global priorities.

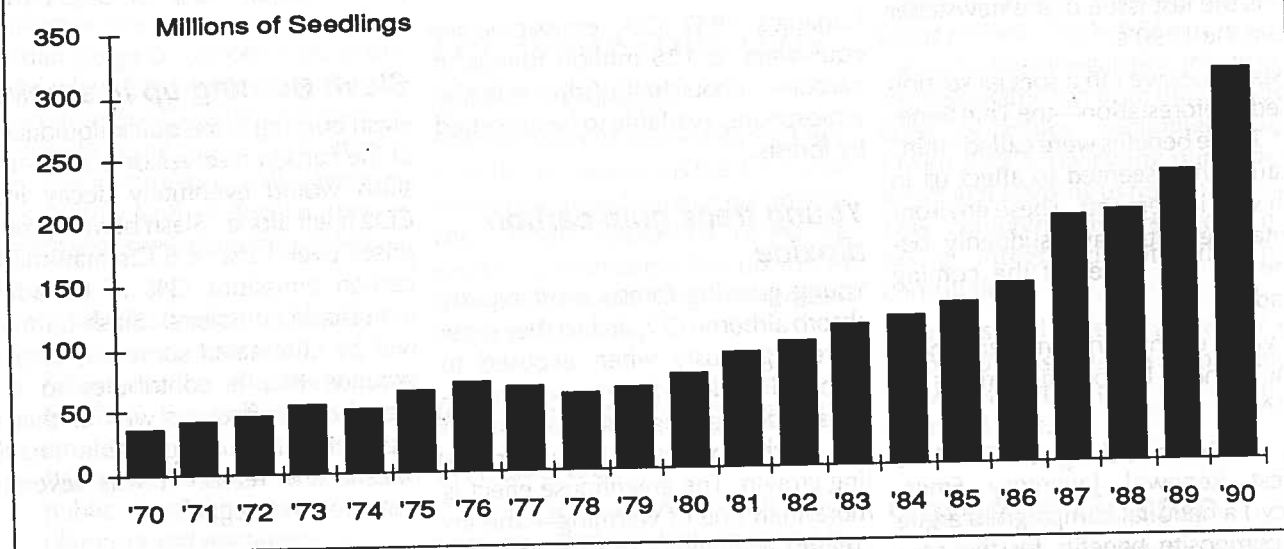
The cost of reducing CO₂ emissions is presently being analysed by a task force under the direction of Canada's energy ministers. This task force was formed because a 20% reduction in emissions by the year 2000 was recommended by a recent international environment conference and by a coalition 200 Canadian environmental organizations. The cost of such a reduction is expected to be billions of dollars—an equivalent value should be attributed to absorbing it through forest renewal.

The last decade before the end of the millenium will see an new composite of environmental, economic, and social benefits for forest renewal. This may create vastly different priorities for future silviculture programs and FRDA agreements. ▲

Economics of the Treeplanting Industry

Dirk Brinkman, President Brinkman & Associates Reforestation Ltd.

Figure 1: B.C. Seedling Volume Trends



Predicting Prices

Prices will go up dramatically in 1990—the big question is, how much will the market bear?

In 1987, the 33% increase in volume (146 to 195 million seedlings) resulted in a 31% price increase.

Will the 1990 volume increase of 33.7% (231.1 to 307.8 million seedlings) also result in a 31% price increase?

Planting program increases by Region

	1989 Seedlings (million)	1990 Seedlings (million)	% Change
Cariboo	22.4	35	56%
Kamloops	30.9	40	29%
Nelson	28.9	36	25%
Prince George	86.5	111	28%
Prince Rupert	40.2	54.7	36%
Vancouver	22.2	31.1	40%
Total	231.1	307.8	33%

based work, adding another level of pressure to the prices. Does this mean we should expect a price increase of over 35%?

Price trends

Compare the price graph (Figure 2) to the volume graph (Figure 1). During 1982-1985 the volume did not increase very quickly. High unemployment kept the supply of contractors and planters above the demand. Consequently, in 1983-5 prices fell to their lowest levels (adjusted for inflation). Over twenty years the average increase in price is about 10% per year. Since 1980, the average increase is about 8% per year. After each period of suppressed prices there is a correction to the long term trends.

Supply and demand

The main pressure on the price is the increased demand on the limited supply of good planters and contractors?

In 1989, there was a 15.5% increase in volume and very little increase in price. The industry handled the 15.5% volume increase from 200 to 231.1 million seedlings with a great deal of difficulty—a lot of contracts were finished late. The pressure on the existing supply of good planters and contractors requires that additional resources be brought to bear. There is little question among contractors that there will have to be a price correction to accommodate additional costs.

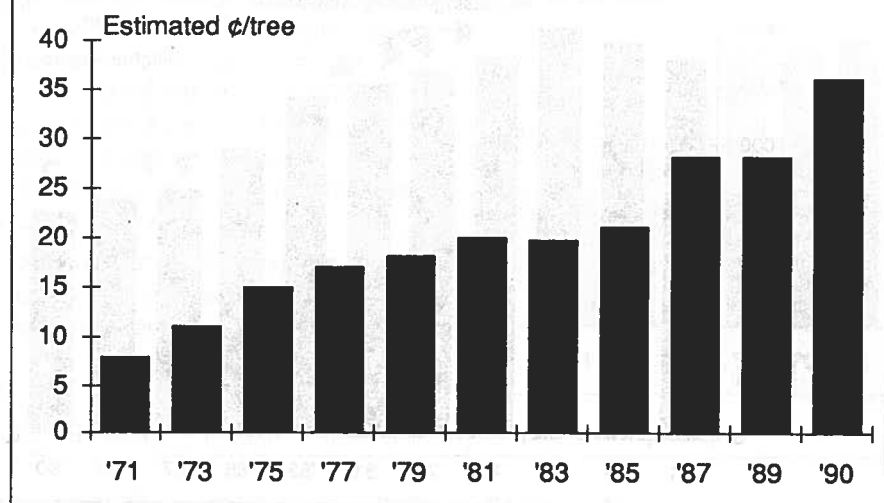
Area base planting increases total workload

The shift to area base planting also adds to the work load for 1990 since the same number of trees will cover 15% more ground on area-base projects. Approximately an additional 20% of the planting program will shift to area base in 1990, requiring an estimated 2.5% more planterdays (persondays) to complete the volume in 1990. This means that the increase in work from 1989 to 1990 is actually 36.2%.

Only a limited number of contractors and planters are experienced in area-

Increased volume results in lower production

A higher ratio of inexperienced planters will result in a corresponding decline in production. Contractors who expected to reap higher profits in 1987 due to the increase in volume are wiser. Prices in 1990 will have to

Figure 2: Average Seedling Price Trends

accommodate the true cost of equipping new crews, training inexperienced planters and working at lower production.

Higher prices means higher quality expectations

Contract administrators who pay more naturally expect more. Planters meeting those raised expectations are less productive. This further reduces contractors expectations of increased profits from higher prices.

Industry obligations create Additional demands

Industry foresters are anxious about meeting their free-growing obligations—planting must be done right the first time in order to meet their targets. Now that the forest industry must pay all their own reforestation costs, their foresters are becoming more rigorous and demanding about planting quality and stock handling than they were when the government was paying the bill.

Upper price limits

The upper limit on the price of supplying our labour services is the cost of MOF or the forest industry hiring and training their own crews.

A number of companies across Canada still do hire their own crews for

various (eg. union) reasons. They currently have costs that are about 20-30% higher than local contracting rates and quality tends to be lower.

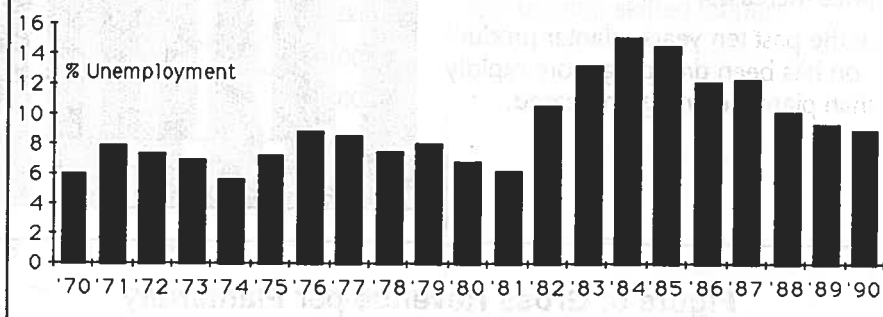
ment correspond with the highest prices.

It was estimated by the WSCA that during the 1989 season over 50% of the planters in the Prince George Region left in disgust at the poor wages and working conditions. The shortage of planters got so bad that some contractors were openly raiding each others crews.

1990 promises an even hotter economy in B.C. than 1989 with a boom in real estate development and construction.

The 1987 survey by CFS "Economic and Social Aspects of Treeplanting in British Columbia," identified that 39% of the planters also worked in construction. We are competing directly with the booming construction industry for our labour.

There are fewer young people (as a percentage of population) to enter the labour market because the baby boom

Figure 3: B.C. Raw Unemployment (in April)

Lower price limit

The lower price limit is largely dependant on the lowest price and the cheapest conditions a contractor can persuade a competent crew to keep working. This has historically set the bottom end of the open market price for planting. This bottom price is being driven upwards by the shortage of labour.

Labour market & employment

Compare the unemployment data (Figure 3) to the price graph (Figure 2), the lowest levels of unemployment

peak is over. Women have historically made up a large portion of the part-time/seasonal labour pool but now 57% of women have full-time jobs. The average entry level wage for semi-skilled part-time work in Vancouver is now over \$10 per hour.

The Grapevine

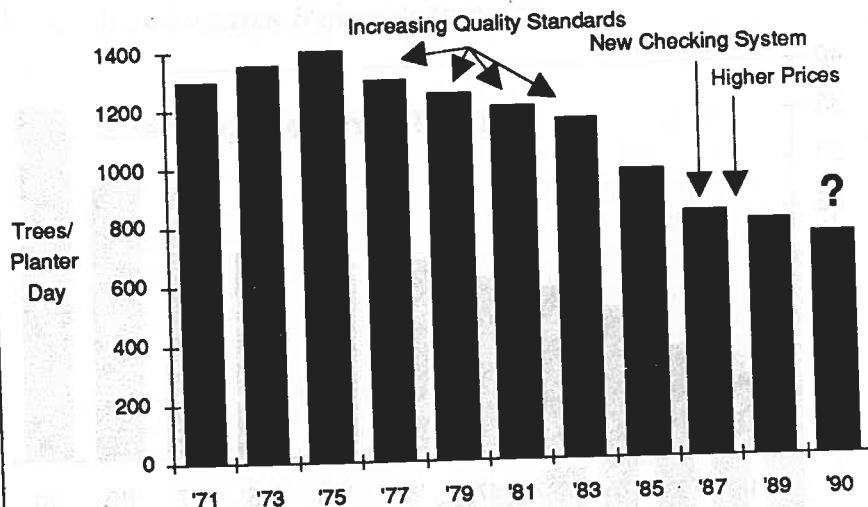
The May-June peak group of planters have ten months to compare experiences before the next season. Contractors will have to pay competitive wages if they want their experienced crews to return the following spring. This spring will be a "planter's market"—more jobs than good planters.

Graphing production

The rough data for average production (Figure 4) is amalgamated from anecdotal reports on the grapevine and trends in our operation. It illustrates the gradual decrease in production 1975 to 1983 due to the annual imposition of more demanding quality standards. Foresters expect additional growth and survival value in exchange for price increases.

In 1983, seedling survival was estimated to be 69%, now it is reported by Minister Parker to be 73%—not much improvement for a 35+% loss in production. An analysis of the relationship between the cost of quality factors and the value of their benefits has never been done to my knowledge.

Figure 4: Estimated Average Production in BC



Price and production trends

In Figure 5 the line shows the fluctuations in price, the bars show change in daily production.

Contractors base their prices on planter production estimates. Generally, as the production decreases the price increases.

In the past ten years, planter production has been dropping more rapidly than planter earnings increased.

Figure 5: Price and Production Trends

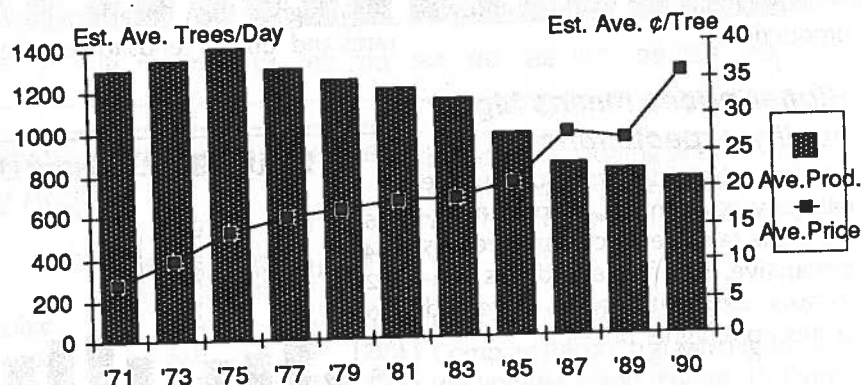
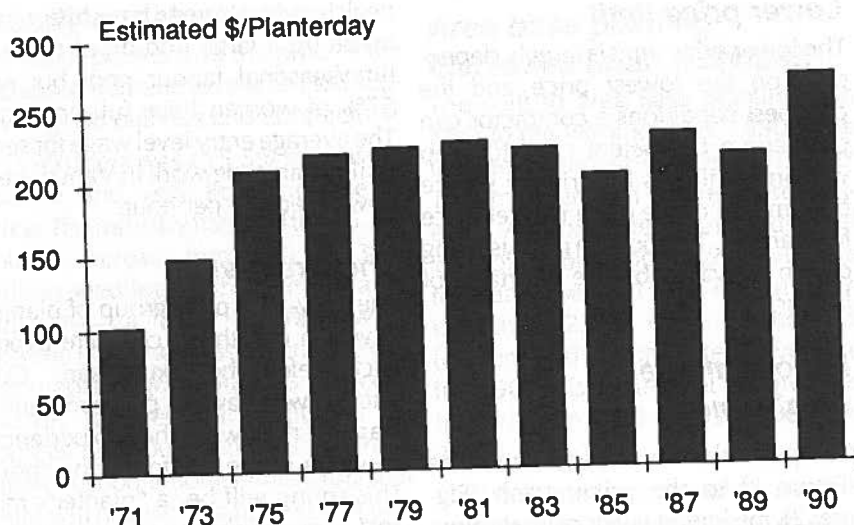


Figure 6: Gross Revenue per Planterday



Contractor revenue per planterday trends

In Figure 6 dollars per planter day are calculated from the bid price per seedling (or hectare) times the average number of trees (or hectares) planted per day in that year.

The revenue per planter day has stayed around \$220 per day since 1975. This is well below the level necessary for a healthy (and legal) industry.

Contractor cost trends

While the gross revenue per planter day has held steady, the cost of supervision increased with higher quality standards. The cost of contract supplies increased with additional requirements by WCB, MOH, and inflation. Overhead increased with the complexity, risks and financing costs of the business.

Because of static revenue and increases in the fixed costs, labour and benefits were squeezed.

Figure 7: Breakdown of Contractor Costs

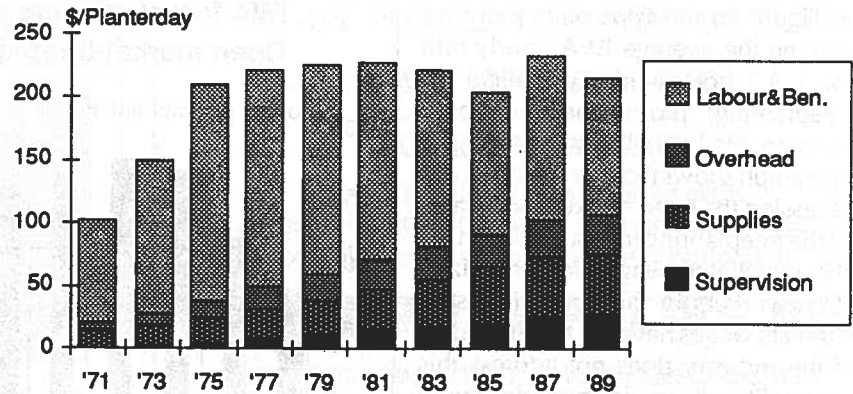
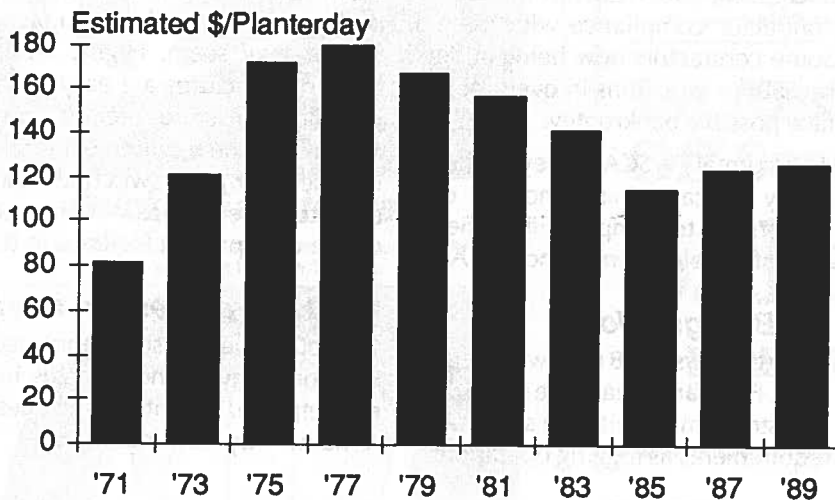


Figure 8: Labour & Benefit Trends

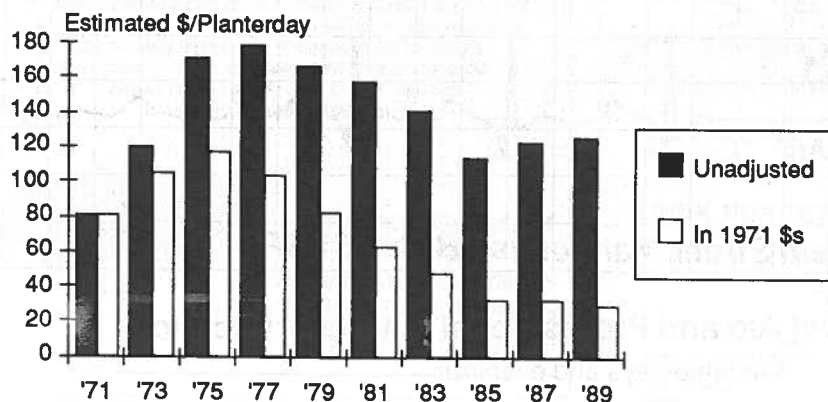


Planter earnings trends

Figure 8 shows estimated labour & benefits (UIC, WCB, CPP, Holiday pay, etc.) trends since 1971.

Tree planting is not unskilled labour. Only a small percentage of the population is capable of the self-motivation required within the adverse isolated working conditions. This specialized labour force deserves wages equivalent to other skilled labour.

**Figure 9:
Veteran Planters' View of Earnings**



The veteran planter's experience

Figure 9 shows planters earnings in current dollars and planters earnings in 1971 dollars—adjusted for the cost of living index.

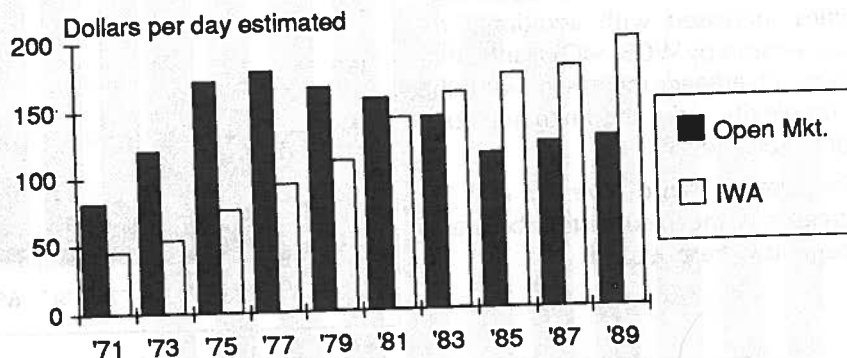
The decline in buying power of planters daily earnings over the past years is greater than the decline in buying power of the average labourer in Canada.

Planters have justifiably been upset and the emergence of the PRWA coincides with this decline in earnings.

Comparison with other forestry workers' wages

In Figure 10 the IWA daily earnings assume the average IWA hourly rate for a 9.5 hour workday (typical for treeplanting) plus benefits (dental, pension, etc.) equal to 30% of wages. The graph shows that during the 81-83 recession the open market labour rates of the treeplanting industry fell behind the negotiated wages for organized IWA workers in the Forest industry. Planters wages have yet to catch up—if the industry does not address this inequality, it could provide fertile ground for IWA organizing.

Figure 10:
IWA forest workers ave. wages &
Open market treeplanting wages



Outlaws

Our 'outlaw' industry is under increasing scrutiny by government regulatory agencies. The necessity of meeting 'normal' business operating requirements is an upward pressure on price trends.

Ministry of Transport

The MOT is increasing attention on overloaded and unsafe crew transport vehicles and the lack of Class 3 drivers in the industry.

Employment Standards

Employment Standards Branch has decreasing patience with the lack of contractor compliance with the act. Some contractors now being audited by ESB for violations in overtime pay face possible bankruptcy.

An informal WSCA survey of the industry indicated that almost all contractors fail to comply with some aspect of Employment Standards Act.

WCB Regulations

Each ten years WCB reviews its regulations. Plans are to have the silviculture industry comply with the same safety requirements as logging operations.

MOH Camp Standards

1990 is the year for introducing dining room floors. This is a more difficult problem for nomadic camp facilities than it may seem. Highly compact building structures are easy to transport, floor structures are not. Industry response to the requirement for floors in Quebec was to switch almost entirely to trailer camps—a big cost increase over present facilities in B.C..

1990 still a question mark?

Obviously the industry is about to correct for many of these forces in the marketplace. The interesting question remains—by how much? ▲

For free brochure call (604) 874-3913

TRAUMA TECH

The Professionals in First Aid

4645 Main Street, Vancouver, B.C. V5V 3R6

For Industrial First Aid and Professional IFA Recertification

Available days and evenings

Also: A full line of First Aid Equipment Ask about Silva First Aid and Safety Training

Bid Prices— What are the Trends?

Ross Styles

WHAT'S AHEAD?

Another viewing season has arrived. Submitting tenders means anticipating what's ahead: What additional service will contractors be expected to provide? What added costs must be taken into account? What sort of capital requirements will contractors face in the future? Providing answers for such questions requires anticipating the future, and predicting the future is often a shot in the dark; but, examining trends can help.

SERVICE

Every year, for many years now, planting contractors have faced stiffer demands in the quality of service expected. In the past year alone additional expectations have included the following: responsibility for planting quality inspection, requests for double of caches and for 2" styrofoam in truck beds, higher standards for stock handling, and more hot-lift contracts. Delay-producing problems still abound: anticipated stock delivery volumes, etc., etc.. The trend is clear— expect higher standards of service and a continuation of delay-producing problems.

COSTS

Inflation is currently running at about 5% and has ranged between 4-5% for recent years. That is an indication of cost increases that can be expected and that our employees will have to contend with. Have they seen wage increases in recent years that would offset inflation? The trend in planter pay rates may be , but the cost of required goods and services is rising to match inflation: vehicles, fuel, repairs, food, etc. will cost more each season— that trend is clear.

When contractors find persons who can put up with the harshness and rigour of the job and do it well, are they

returning for subsequent seasons? A labour force of experienced, capable workers is a valuable asset. Pay rates are the key to maintaining that asset. Workers wages of workers may need to be increased more than the rate inflation. Transience in the work force needs to be examined and determined. The trend is fuzzy. For some clues, see L. Norton's article on transient planters in this newsletter.

The return of capable, experienced workers is a key factor in the capacity to handle larger volumes of work. Expect a 25% to 30% increase in the number of seedlings to be planted next year. B.C. government TV commercials have proclaimed that the law requires that 1 billion seedlings be planted in the next three years. The trend— high volumes of work to be done!

CASH FLOW NEEDS

In the past, contractors have been able to minimize their cash flow needs by delaying the payment of wages. The resultant delay in Revenue Canada remittances also helped. But, there is a growing insistence for compliance with B.C. Employment Standards legislation. Regular full payment of wages and Revenue Canada remittances may not be far off. How many contractors have the capital base to finance their operations under such demands?

At current prices, how fast is the capital base of contractors growing? Is the industry established enough, stable enough, and profitable enough to attract investors should contractors need to add capital, or will they have to rely on their flow of earnings to do so? Signs on the horizon indicate this trend: Contractors will need more capital, a lot more, if they are to pay their employees with the regularity and promptness the law requires.

RECENT HISTORY— A REPLAY?

In 1987 there was a sharp move up in prices triggered by the introduction of camp standards. Since then, prices have gained little or even lost ground. Have we lapsed back into the pattern that prevailed earlier? In the early part of the decade, the stagnation in pricing led to a serious decline in the wages and working conditions of planters as contractors struggled to offset rising costs and meet increasingly tougher planting standards while holding bid prices down. Can we stop that from happening again?

There are some early warning signs: capable planters may be less inclined to stay with it, some contractors are nibbling away at camp standards, and concerns about the safety of crew transport vehicles are being expressed again.

TRENDS INDICATE

When preparing tenders for next year's work, the trends discussed here need to be considered.

Silviculture contractors provide a valuable, specialized service to the forest industry. They can take pride in what they have accomplished in the past and in the level of service they are capable of delivering. They have a right to compensation that reflects the significant worth of forest restoration and environmental enhancement they provide— not to mention the difficulty and hardships of the conditions under which they work.

Contractors have a responsibility to maintain an experienced work force through fair and reasonable compensation, adequate camps and safe transport; they need to maintain the financial health of their firms.

The trends speak loudly. They indicate a need for increased bid prices. ▲

Round-Up Toxicity

Arlene Higgs, B.C. Research

Note: At the request of Dirk Brinkman, B.C. Research investigated rumours that the surfactants in Round-Up are hazardous to workers. This article is based on Arlene Higg's letter of reply.

I would like to thank you for the opportunity to research the interesting and important question of the toxicity of the surfactant in Round-Up and Vision.

Surfactants, also known as surface-active agents, are a large group of chemicals used as wetting agents, emulsifiers and detergents. One such surfactant is polyoxyethyleneamine (POEA) which is added to the herbicide to increase its ability to penetrate the leaf. Round-Up and Vision are reported to contain 15% POEA whereas Rodeo, another glyphosate product of Monsanto, contains no POEA.

A study was done in Japan by Dr. Jusuke Sawada and four other medical researchers at Kogoshima University. They studied the records of 56 cases of poisoning from swallowing Round-Up. Most of these cases were suicide attempts and three were children who accidentally swallowed it. The average amount ingested was about 120 ml (half a cup). In the nine fatal, the average volume ingested was 206 ml.

The overall clinical picture in these cases was very similar to the pattern seen in poisonings by surfactants. The symptoms included gastro-intestinal,

respiratory and central nervous system problems, and haemolysis (loss of haemoglobin from the red blood cells).

On the basis of these clinical similarities, the authors suggest that POEA was responsible for the illness caused by drinking the Round-Up. The reported nothing on reproductive effects.

No other information is available on the potential reproductive toxicity of Round-Up, Vision or POEA. Among the case summaries reported to the Pesticide Incident Monitoring System of the U.S. Environmental Protection Agency, no reproductive symptoms were indicated.

There is a remarkable lack of information available on the toxicity of POEA and of the formulation of Round-Up and Vision as used in field applications. The only data available concern fish toxicity. In Sockeye salmon fry, POEA is roughly ten times more toxic than Round-Up: 2.6 mg/l and 28.8 mg/l respectively. POEA is 400 times more toxic to fish than the Rodeo formulation which contains 40% glyphosate and no surfactant.

I tried to investigate the story that Round-Up was responsible for sterility in a South American tribe. I could not confirm this story although I contacted environmental scientists, toxicologists and pesticide information gathering agencies known to be reliable and up-to-date. Nor did my on-line library search (which has access to all the

major medical and toxicology databases) turn up any information about the incident you reported.

What may have happened is a confusion between Round-Up and DBCP (dibromodichloropropane). A dramatic story of sterility recently appeared in the popular press (*Mother Jones*, June 1989). The authors of the story report that one thousand banana plantation workers in Costa Rica became sterile after mixing and applying DBCP for periods up to several years. This pesticide is known to be toxic to the reproductive systems of both laboratory animals and humans and has been banned. DBCP is not a herbicide but is applied to the soil at the base of banana plants to kill nematodes (microscopic worms that feed on the roots of the plants).

There is one more fact about POEA that may have caused people to link it with sterility. Its chemical structure is similar to that of a new developed spermicide. However, the toxicity of a chemical cannot be predicted accurately by relating it to similar molecules. Toxicity tests would have to be done on POEA itself to evaluate its potential reproductive effects. These may have been done by Monsanto but not be published.

I would be very interested in reviewing literature to identify appropriate re-entry times after pesticide use, as you suggest. I look forward to hearing more from you about this ▲.

Reports from the Ministry

Renewal of Hope for FRDA II

*Honourable Dave Parker,
B.C. Minister of Forests*

Despite the recent media coverage about the new Federal Budget and its impact on renewing the Canada-British Columbia Forest Resource Development Agreement (FRDA), the Province remains optimistic about securing a second Forest Resource Management Agreement with the Federal Government. As you know, the Province is on record as stating our intent to negotiate \$700 million "FRDA II"—more than double the amount of the current Agreement.

The Government of British Columbia is committed to renewing the Canada-British Columbia Forest Resource Development Agreement. The accomplishments attributable to FRDA are many with benefits accruing to the people of the Province of British Columbia and to all governments.

I am encouraged by the Honourable Frank Oberle's comments about federal support of a second Agreement. Mr. Oberle, Minister of Forestry Canada, has publicly stated that he views forestry Agreements as a major achievement of the Federal Government, and as an important element in ensuring a healthy forest resource and a competitive forest industry. He has also stated that the FRDA Agreements are an excellent demonstration of effective cooperation between the Federal and Provincial Governments who have joined with the forest industry to work toward a more economic wood supply and a healthier forest resource.

Mr. Oberle has also recently stated in the House of Commons that the Federal Government is behind the Province strongly with a very firm commitment to our forest resources.

Continuing FRDA is a high priority for the Province. To this end, the Province is investigating a number of potential courses of action, including negotiations with the Western Economic Diversification of Canada agency.

I must stress the importance of your continued support for FRDA as the need for negotiations to renew FRDA intensifies. May I suggest that you again make the Honourable Frank Oberle, Minister of Forestry Canada, and other elected officials, aware of your continuing support of FRDA.

Sheep for Brushing

*M. Carlson, MOF
Cariboo Regional Manager*

Note: See the sheepish letter from the WSCA in the last issue of the newsletter.

We are pleased to see your members have endorsed the use of sheep as a valid silvicultural brushing and weed-ing technique. We have been funding sheep grazing since 1984 and feel this new technique has the potential of becoming a viable silvicultural tool for certain areas. We anticipate funding will be available to graze sheep operationally again this fiscal year.

Although sheep grazing shows promise as a silvicultural tool there are constraints which limit its use. One constraint, voiced by the Ministry of Environment, is the predator-prey interface with sheep drawing grizzly bears into the area. The concern is that either the bears get shot, or their patterns become affected by man's presence in the area. This constraint alone limits sheep grazing in the Cariboo to roughly 10% of the area requiring some form of brushing. Before you implement your resolution you should clearly understand both the logistical and environmental constraints of sheep grazing.

Seneca Rating

*R.G. Brown,
Silviculture Branch*

In a letter sent to the Silviculture Branch, Seneca explained their company's position on the tree-stashing incidents and the corrective actions they have taken or propose to take for the next planting season.

We are prepared to accept their explanation of events and will drop further action. Seneca will remain as a 'B' class contractor until their track record improves and warrants a reclassification in accordance with the Contractor Performance System rating.

Forest Management Contracts

*Gregg Cousens,
Silviculture Branch*

Last April the Silviculture Branch initiated a meeting to discuss the use of more long-term and/or multi-phase contracts in facilitating the Silviculture Program, and the increasing role of the private sector in the process.

At that meeting some participants suggested that it may be beneficial to hold a follow-up meeting this fall to discuss concerns, future plans, etc.

The Branch suggests the following agenda topics:

- Introductory comments and brief review of April meeting
- Current status of silviculture contracting within the Ministry
- Review of silviculture Request for Proposal (RFP) contracts awarded and in progress
- Basic public sector RFP process as used for silviculture contracts
- Perspectives of the associations

Please let us know if your association is interested in such a meeting.

Note: MOF has hired a forester/lawyer who has just finished writing area-based and long-term contracts for BCFP. We should see some interesting contract types evolving this spring. A meeting is set for Nov. 89.

Reinspection Amendment Proposed

Chris Akehurst, Director WSCA

Note: This was sent as a letter to the Silviculture Branch

After much discussion and reflection, the WSCA recommends that Section 3.3.3 of the Silviculture Contract concerning re-inspection be amended.

This section of the Contract currently reads as follows:

Where the re-inspection indicates that the variance in the planting quality is less than or equal to ten percent (10%) of the original inspection results, the original inspection results will be used and the Contractor will pay for the cost of the re-inspection. Where the re-inspection indicates a variance of more than ten percent (10%) in planting quality, the inspection results which are most favourable to the Contractor shall be used, and if the Contractor or his designated representative were present for the re-inspection, the Province shall also pay the Contractor one hundred dollars (\$100.00) as reimbursement for the Contractor's time spent re-inspecting the area.

The WSCA recommendations are two-fold:

- 1) Only the results of the second inspection be used regardless of their variance from those of the first inspection.
- 2) The contractor shall pay for the inspection only if the re-inspection differs from the original inspection by less than 5% (not 10%).

The main reason for recommending this change is that under the new payment percentage calculations, a small percentage difference in quality can lead to a large difference in payment. We feel that the contractor should have the opportunity to realize this payment differential regardless of the size of the variance between the first and second inspections.

An example at the extreme end of the scale will illustrate the above point:

Inspection Planting Quality: 83%,
Payment Percentage: 76.23%
Re-inspection Quality: 92.9% (9.9% increase)
Payment Percentage: 100%

Thus a variance of 9.9% in planting quality can translate into a 24% variance in payment!

Under the present Section the contractor would not be able to realize this variance in payment percentage. Admittedly this is an extreme example

but similar examples can be worked out where even 5% variance in planting quality can result in almost 9% variance in payment percentage.

The WSCA recommendation that the second inspection be final will discourage flippant calls for re-inspection, because only a contractor who is certain will risk getting a lower payment quality. The proviso that the contractor pay for the re-inspection if the variance is less than 5% also acts as a deterrent.

The WSCA recommends that Section 3.3.3 of the Silviculture Contract be amended to read as follows:

Where re-inspection indicates a variance in Planting Quality from the first inspection then the results of the second inspection shall be used. If the variance in planting quality between the re-inspection and first inspection is less than or equal to 5% of the original then the contractor shall pay for the cost of the re-inspection. If the variance is greater than 5% then the province shall pay for the re-inspection and also pay the contractor or his representative \$150 as reimbursement for his time spent re-inspecting the area. ▲

Wolverine Enterprises Ltd.

Tel: (604) 962-6750

Now on Sale at Wolverine

SILVISACS \$ 9.90 & FST
TARPS \$ 0.47/sq. ft. & FST
RAINFANTS \$ 49.00

These prices are valid until September 30, 1989

Please call to order @ 962-6750 or 563-6476

BOX 101, STATION 'A', PRINCE GEORGE, B.C. V2L 4R9

FRDA Funding

Ross Styles

Note: *This article was a letter to Finance Minister Michael Wilson.*

A news article circulated by **The Canadian Press** and printed in the **Kamloops Daily News**, Saturday, March 18, 1989, reports a federal government freeze on negotiations with the provinces over billions of dollars worth of regional development agreements. I can appreciate your need to carefully evaluate spending programs as you proceed to prepare a budget, but news of this sort sets the alarm bells ringing throughout the silvicultural contracting community here in British Columbia.

A recent set of public hearings conducted by the Honourable David Parker, Minister of Forests, Province of B.C., regarding forest tenure changes revealed that unlike some other areas of forest activity, public support for the kind of work being done under FRDA is virtually, unanimously positive. Let me mention some of the reasons for this support.

Economic

Many Communities outside the metropolitan Vancouver area have been experiencing high unemployment and depressed economics since early in this decade. For many persons in these communities, employment on silvicultural projects has been the only source of earned income, many are college or university students. A large proportion of the projects they have worked on have been funded under FRDA.

The wood availability of accessible, old-growth timber is in serious decline. Therefore, a downfall in wood supply in the future is widely anticipated. With it will come economic slow down and loss of tax revenue. One stop-gap remedy is the enhancement of forest growth through treating over stocked, stagnant, immature stands and returning backlog NSR to productive forest status quickly. The majority of FRDA funding is now going into activity of this kind.

Social

For nearly two decades, market forces have dictated that wood products producers pursue cost efficiency. This has been achieved through increased mechanization and automation. The result has been more product, fewer jobs, year after year. Since the early seventies, and particularly with the advent of FRDA, a new labour-intensive component has been added to the industry— silviculture. While only mid-stage in its development, silviculture techniques employed are state-of-the-art in quality, thanks to the added impetus of FRDA. Experienced, established silvicultural contractors, and the workforce they depend on, are just now coming into place. There is too much at stake to have it all falter for want of funding for a job crying out to be done.

Environmental

Young, healthy, thriving forests scrub CO₂ from the atmosphere and old decadent forests do not. With proper

input from wildlife experts, fisheries staff and informed environmentalists, silvicultural pursuits can enhance wildlife habitat and recreational forest usage. FRDA has done much to begin this inter-agency, co-operative approach to environmental concerns.

The legacy

We have a forest cover in British Columbia which includes 2,200,000 hectares of overstocked, stagnant, immature timber stands and about 500,000 hectares of good and medium NSR backlog. This is our legacy. Its easy to get into arguments about how this came about and who, therefore, is responsible for the clean up; but that won't solve the problem. Clearly, both federal and provincial coffers derived revenue from past harvesting and both will benefit from having healthier, more productive forests in the future.

We have a choice in what sort of legacy we leave for future generations. By the end of FRDA I we will have treated 140,000 hectares of NSR backlog. Let's not let it all brush in and be wasted. We can release the stagnant, over stocked, immature stands and help offset the expected down fall in wood supply.

Please ensure that funding for the continuation of work started under FRDA is assured when you prepare your budget. The Honourable David Parker and the provincial government are on record as favouring a renewed— and enlarged— FRDA program. ▲

Transient Planters

Lynne Norton, Singletree Ventures Ltd.

Transient planters. It's a common site in the spring. The Greyhound bus depots are lined with a mixture of wide eyed and innocent and the disappointed and bitter. They carry a backpack laden with all they need in the bush... plus the dangling boots and the shovel strapped to the back.

They are a constant flow of coming and going throughout the planting season. The turnover rate is high, some claim up to 50% of their planters do not return. The problem seems to be more pronounced in the northern interior. Those arriving are starry eyed and lost, those leaving look despondent and bitter. Why are they leaving? The job wasn't what they expected; they weren't making much money; they can find easier work for as much money near home. The list goes on, but the fact is that the planter that came and "stuck it out for the season" is becoming less and less common. The returning "experienced" planter is vanishing even faster.

WHY? There is less opportunity to make a wage that compensates for the added hardships of the job. Conditions have improved with the arrival of camp standards, but they are not like the "cushy" job in town. Treeplanting used to be worth the hardship because you could make twice as much money your friends. They enjoy the summer, the beach, real life; but you knew the pain was worthwhile in the long run. Well that isn't true anymore and it's put a drain on the calibre of the new planter. The new planter is younger, not as sure of his or her goals, not necessarily out for the money. Talk to them and you'll hear things like: all my friends were going so I thought I would to, or I wanted to see B.C. and meet some new people. You'd expect to hear that they wanted to make money, but those people are looking elsewhere. Good solid, self motivated individuals are no longer a common denominator in the industry. Talk to the contractors and they complain of feeling like baby sitters.

I must acknowledge that there are still some people that arrive each year that are hard dedicated workers, staying the full season and some even returning. My hats off to them, they grew up fast and hard out there. Talk to this rare breed and you'll find they may come back 2-3 times but they don't look at it as a serious alternative.

There are many symptoms of a diseased industry, but keep in mind they are symptoms, not the disease. It's not because the camp life is too soft or because of the Bank of Mom & Dad that the industry can't keep planters staying and returning. The job demands a skilled, hard working individual willing to persevere the hardships—the industry, the contractors, the licensees, the MOF are not willing to pay for that.

The industry wants quality long term commitment to silviculture. In order to achieve that end we as contractors have an obligation to the people that sweat and make it happen. We must address the disease. The Prescription is to bid with the realization that good returning skilled planters need to make more money than the guy with the "soft" job in town. ▲

STAND TENDING? SPACING?

We Have The Equipment Which You Need!



- ✓ Knapsack Sprayers
- ✓ Safety Pants
- ✓ Spotguns
- ✓ Disposable Coveralls
- ✓ Respirators
- ✓ Fire Fighting Equipment
- ✓ First Aid Kits
- ✓ Raingear
- ✓ Brush Cutters, Loppers

Call Us Today!

Pay NO FREIGHT on Orders Over \$800.

Canadian Forestry Equipment Ltd.

17212-106 Avenue, Edmonton, Alberta T5S 1H9
Toll Free: 1-800-661-7959 or (403) 484-6687

PHONE (604) 736-3100

Peter M. Kendall
BARRISTER & SOLICITOR

Specialist in Silviculture Law
Criminal and Family Law

BCAA BUILDING
500 — 999 WEST BROADWAY
VANCOUVER, B.C. V5Z 1K5

EX—TREEPLANTER STAYS DRY

Mail in

Wilson on FRDA

Thank you for your letter concerning funding for the Canada-British Columbia Forest Resource Development Agreement (FRDA).

My colleague, Charles Mayer, Minister of Western Economic Diversification, is, as you know, responsible for federal regional economic development programs in Western Canada. In this capacity, it will be for him, in consultation with Frank Oberle and other concerned Ministers, to establish the relative priority of federal forestry spending in B.C., and to make recommendations to his Cabinet colleagues regarding federal funding for FRDA. In making these recommendations, Mr. Mayer will need to consider the many competing priorities to be accommodated within the resources allocated for regional economic development in Western Canada.

Thank you for having brought this question to my attention, and for having informed me of your views.

*Michael H. Wilson,
Minister of Finance*

Intertribal Forestry Association

NOTE: See letter suggesting an exchange of membership in the Spring 89 Newsletter

Please be advised that we concur with your suggestion to exchange Associate membership status.

I don't know if your association has an annual fee- ours is \$50 for corporate membership. If there is a offsetting fee we can just waive the equivalent. I am sending you a brochure on our background and terms of reference.

Harold Derickson, Manager

No Royal Commission Thank you

NOTE: See letter requesting a Royal Commission on the forests in the Spring 89 Newsletter.

Thank you for your letter requesting a public inquiry into Provincial forest policy. As a result of the Forest Management Review, the government has made changes to our legislation during the fall of 1987 and during 1988. The input received from the public, various organizations and industry formed the basis of these changes. For your information, I am enclosing a summary of them.

Until we can fully assess the effects of these changes, I feel that a public hearing would be of limited value. The next Forest and Range Analysis in 1994 will address this issue.

*Dave Parker,
Minister of Forests*

WCB first aid requirements

NOTE: See letter concerning WCB requirements in the Spring 89 WSCA Newsletter

Thank you for your recommendations on first aid services and equipment for tree planting. These will be given serious consideration in future drafts which you will have an opportunity to review and comment on.

It is my recollection that tree planting is currently classified as a "B Hazard" industry but when the use of saws and similar equipment is used in clearing land, the hazard becomes "A".

I have asked our statistician Keith Mason to see what data he can collect on tree planting. These would be available to you as well. In your letter you indicated that you could have

data of your own. Would it be possible to see them?

I would be pleased to meet with you to further discuss your concerns and your submissions. Should you wish to do so, please arrange a date and time with my secretary, Gloria Dolhon, as she is coordinating and arranging such meetings.

*A.L. Riegert, Director,
WCB Research & Standards*

Fire prevention regulations

Note: See Ross Styles' notes on Fire regulations in this issue.

Sterling Wood Group Inc. is under contract to the Ministry of Forests Protection Branch to research and develop a revised set of Forest Fire Prevention Regulations. Our mandate is to develop an all-encompassing regulation that will:

- 1 Reduce the number of man-caused fires.
- 2 Allow the development of cooperative relations among forest users
- 3 Allow local modification and flexibility of Section 12 Regulation of industrial operations.
- 4 Improve the mandate for the Ministry to administer the Forest Fire Prevention Regulations.

In order to accomplish this task we are preparing a checklist of issues intended to stimulate discussion and creative review of the strengths, weaknesses and shortcomings of the current forest fire prevention and related regulations. We will visit Ministry Regional Offices and hope that you can attend a meeting to discuss the issues. We will prepare a White Paper and distribute it to the public and special interest groups concerned with the use of the forest and range resources.

more Mail in...

Forest Resources Commission Rebuttal

The Sierra Club of Western Canada is contacting you because your organization, like ours, was one of the many in British Columbia which called on the government to establish a Royal Commission into Forest and Land Use. As you may be aware, Forests Minister Parker recently responded to public pressure by creating the Forest Resources Commission.

The new Commission is flawed for two very good reasons.

First, six of the ten appointed commissioners have strong active ties with the forest industry. These six commissioners are: Bob Kennedy, the Dean of the UBC Forestry Faculty; Jack Munro, IWA President; Carmen Purdy, manager, Crestbrook Forest Products; John Szauer, former Forest Service Regional Manager; Joyce Harder, "Share the Forest" spokesperson; Bob Rogers, former executive with M&B.

None of these people can be expected to be objective on issues concerning the forest industry. There is only one Commissioner who is identified as environmentalist. We feel that Minister Parker has set up a situation whereby the guilty will be sitting in judgement of the innocent.

Secondly, the terms of reference for the Commission do not address the broad range of concerns that were raised by you and others when calls were made for a Royal Commission. Most of these concerns are based on the control of the British Columbian land base by the Ministry of Forests for a single industrial use. Specifically, some of the issues not addressed by Parker's Commission are:

- The commission does not have full powers of inquiry
- The commission is constituted by and reports to the Minister rather than the Cabinet or legislature
- Reform of the Forest Act
- The establishment of an adequate forest inventory

- Assessment of competing uses of forest lands
- Achieving a competitive sale of public timber
- Research & development of value-added possibilities
- Native title
- Corporate concentration and monopoly
- The establishment of a Forest Practices Act
- Alternate methods of logging
- Reforestation & silviculture practices
- Protection of old growth forests
- Protection of fish/wildlife habitat

As you may be aware, the Commission will look at the very narrow issues of TFLs as a "form of tenure", clearcutting, and public participation. We find this last term of reference particularly ironic, for if the Minister had any concerns for public participation a Royal Commission would have already been established.

We feel that the public has been cheated. Worse, the forests and lands of this province will suffer for it. Mr. Parker is apparently unaware that the Bruntland Commission Report (UN Publication) describes deforestation as a major contributor to our deteriorating global environment. We are asking you to continue your efforts to get a Royal Commission by using your considerable influence on the Premier and his cabinet. If nothing else, the constitution of the commission shows that the Minister realizes something must be done to appease the public. The door has been opened a crack.

Thank you for your efforts. Working together we may yet open the door fully and see responsible forest practices in place in this province.

*Peter McAllister,
Chairman, Sierra Club*

Pesticide Survey

Note: The "Profile of selected constituent issues and attitudes regarding the risks and benefits of pesticide use in B.C. forestry programs" is now available by writing the Pesticide Advisory Committee care of the Ministry of Forests in Victoria.

The Pesticides Advisory Committee of the Ministry of Forests commissioned a consultant to conduct a survey of selected constituents to determine the issues and attitudes regarding the risks and benefits of pesticide use in British Columbia forestry programs.

We have received the consultants phase 1 report. As agreed, I am sending you a copy of the report. Thank you for your participation in the survey. We value your input and appreciate your cooperation.

*J. Biickert,
Pesticides Advisory
Committee Chairman*

Tree Planters Primer

We are in the process of updating The Treeplanter's Primer for a new edition.

Contributions in any form would be greatly appreciated. (eg. pictures, anecdotes, cartoons, contact persons, information lists).

I can be reached at (604) 962-6750.

*Dan Boudreau,
General Manager, Sylvanus*

Mail Out

Camp Standards

Note: *This letter was sent to the Ministry of Health Inspections Branch.*

At the July 26th meeting of this association's directors, the matter of camp standards came up for discussion. At the time of introduction, these standards were welcomed by members of the association. They brought about immediate improvement in services provided for employees in our industry and levelled a playing field that had become perilously uneven. They are reasonable given the nomadic nature of field operations in silviculture and careful adherence does serve the health interests of the work force.

However, our members are expressing two concerns; first, observations and reports of slack adherence and violations are increasing; second, inspection, if not rare, is sporadic and casual. Situations cited in the first concern naturally follow from the second. To coin a metaphor, without consistent officiating, rough play will soon produce a rutted, uneven playing field.

It is our interest to ensure that camp standards are consistently maintained throughout the industry. The current arrangements for camp inspection are pretty loose. Currently, among personnel responsible for contract supervision, there is a noticeable tendency to make light of the task and view it as a peripheral concern having little to do with the practice of forestry. Occasions when contract administration is carried out by MOF personnel are becoming increasingly rare owing to contracting-out practices and the shifting of full responsibility for silviculture to licensees.

As an association, we would like to be able to say that we can uphold these regulations throughout the industry; unfortunately, we cannot. There are still a number of contractors who choose not to become members, and in a very competitive industry, the temptation to trim costs by shaving services is ever present.

Therefore, in the interest of heading off a sliding decline in compliance, the association's directors have resolved to try to have the Ministry of Forests, Silviculture Branch, make it mandatory for contract administrators to inspect the camp facilities of silvicultural contractors, with some degree of frequency and regularity, and to have it stated in the silviculture regulations as a requirement to be met by all contract administrators.

As a first step, it was resolved that your aid and assistance should be sought in our effort to get this done. We consider this matter to be of considerable importance; hopefully we can enlist your aid in placing this request before appropriate persons in the MOF, Silviculture Branch.

In a conversation I had this morning with Ken Christian, Health Inspector, Kamloops Region, he made the point that in his view the frequency of workers in our industry reporting health problems is still inordinately high, particularly from the northern half of the province—an area which remains excessively competitive, perhaps unhealthily so!

Should you wish to explore mutual concerns, a representative of our association can be available to meet with you.

*Ross Styles,
Executive Director WSCA*

Planter well-being

Note: *This letter was sent to Minister of Forests Dave Parker.*

We request that the silviculture regulations include protection of the silviculture worker's health and well-being. Agreements reached over the past years with the MOF in contract operations should become requirements for the forest industry.

Silviculture camp regulations

A key element in effective silviculture camp regulations has been the MOF/MOH agreement that MOF and forest licensee contract administrators would inspect camps to ensure that they meet the Silviculture Camp Standards. Without the assurance that enforcement would be effected through this cooperative agreement, MOH wasn't willing to compromise its Industrial Camp Standards to accommodate the silviculture industry's mobile, short-term camp needs.

Now that the forest industry is assuming a direct responsibility for silviculture, the only means to maintain this arrangement is to make it a clause in the Silviculture Regulations.

In the fall of 1988, I presented this problem to a COFI meeting of 20 chief foresters and requested COFI's voluntary cooperation for enforcing the camp standards through their field administrators. Unanimously, they were unwilling to take responsibility for enforcing the camp standards.

Some foresters said they would require contractors to conform but all emphasized that they would leave enforcement up to MOH. They contracted out their silviculture work precisely to avoid such bureaucratic details.

There is not an adequate team of health officers in B.C. to visit a significant percentage of camps. Consequently, compliance will become voluntary and the competition for supplying silviculture services will not be

more Mail Out...

on "a level playing field." Some contractors will provide good camps, some poor camps or even no camps.

There were at least two cases in 1989 where virutally no camp facilities were provided. The WSCA requests your assistance in the enforcement of the Silviculture Camp Standards.

Notification of pesticides on seedlings

In 1982 MOF agreed with the Pesticide Control Branch, PRWA and WSCA that it would supply the contractor with notification of the pesticides used on the seedlings with each shipment. This has enabled planters to take protective action on shipments recently treated.

Since the new act, most licensees are not requiring these notices in their nursery contracts. This "right to know" agreement is important to the planters, and we request that it become a part of the silviculture regulations that planters continue to be notified.

Notification of herbicides on the worksite

For several years, the WSCA has been working with the Silviculture Branch for a similar notification procedure for herbicide treatment on the site. The WSCA would like all silviculture contracts be required to list herbicide/pesticide treatments within the past year on any area that silviculture workers will have to enter.

I am sure you will agree, it is in the best interests of the provincial silviculture program to maintain high standards in planter health and well-being.

We are counting on your support in this matter.

*Dirk Brinkman,
President WSCA*

COFI 1988 Forest Industry Report

Note: *This letter was sent to COFI President T.M. Apsey.*

Congratulations on COFI's clear and valuable Forest Industry 1988 Report.

I was pleased that the cover symbolises your industry's new reforestation responsibilities with a photo of an authentic contemporary tree planter.

The forest industry's role in silviculture is still misunderstood by the public. Now that your members are paying for silviculture, it is time to report the scope and magnitude of this activity.

In this environment conscious era of land use conflicts, it is especially important to highlight the public benefits of the forest industry's reforestation programs. No report on the forest industry's contribution to the public purse should be without it!

I hope that your 1989 report can include this information.

The data of the greatest importance is the annual value of industry Pre-Harvest Silviculture Plan commitment to free-growing plantations in relation to the number of hectares logged.

If you are interested in any collaboration on such information and its best representation, please contact me.

Let the nurturing pirates you put on the cover of your report help you dispell your industry's public image as a pillaging pirate.

*Dirk Brinkman,
President WSCA*

Vehicle Safety

Note: *This letter was sent to Angus Ree, B.C. Solicitor General*

At a recent meeting of the directors of the Western Silvicultural Contractors' Association it was resolved by a motion that appropriate authorities be contacted to express concern about the safety of crew transport vehicles in use on silviculture contracts, and to request surveillance during 1990.

A representative of this association would be pleased to meet or correspond with you to review the issues relating to this concern.

*Ross Styles,
Executive Director WSCA*

The Forest Industry in British Columbia 1988



Firefighting regulations

Ross Styles, Exec. Director WSCA

Note: *This a summary of points made by R. Styles on behalf of the WSCA at a meeting with the consultants hired by MOF to develop a revised set of fire regulations.*

As the livelihood of silvicultural contractors is forest restoration and enhancement, there is widespread acceptance of the need to be prepared for fires. Contractors, however, must also maintain highly mobile operations and control costs. The cost of acquiring the equipment called for in Schedule 'B' and the burden of transporting it from one location to the next is of great concern to them. The following points are provided as background to the firefighting issue in the treeplanting industry:

Field conditions in Silviculture

- The full extent of regulations is seldom enforced and there is a wide variation in the enforcement from region to region and as hazard levels change.

- The extent of the current regulations— and contractor liability— are generally not well understood.
- Risk of fire varies with type of activity (eg. planting vs. spacing).
- Current project sizes often require crews of 30+ persons and consequently Schedule B requires two pump units and one 4500 litre tanker unit (cost: \$15,000-\$20,000; weight: 5-6 tons). **Full compliance means substantial contractor costs and a significant impediment to mobility.**
- Although pump units are often requested, tanker units seldom are. Section 13 of the regulations allowing the regional manager to authorize exemptions is frequently applied informally in field practice.
- Formal certification of fire tools is an important step in reducing contractor liability. This is seldom done in writing and the process is becoming more difficult because of the scarcity of MOF field personnel. At least one licensee in the Kamloops region was not willing to meet an MOF request to provide certification.

Firefighting expertise & coordination

- The typical silvicultural worker

- has little or no firefighting experience or knowledge.
- There may or may not be radio systems nearby to call for help.
- Highly mobile assistance is more available now than when the regulations were drafted.

Field experience with fires

- The largest contractors report at least one of their crews having to render service on a fire each season— usually near where they are working rather than at their worksite.
- Small to medium size contractors report that they have seldom if ever had to contend with a fire.
- There may be a greater risk of contractor initiated fires in the camp than at field worksites.

Recommendations

- A set of clear standards for all contractors to meet at all times.
- Regular prompt inspection and certification.
- Requirements that reflect the different risk inherent in different types of operations.
- Respect for the need to maintain the mobility of planting crews. ▲

Our prices bring you in

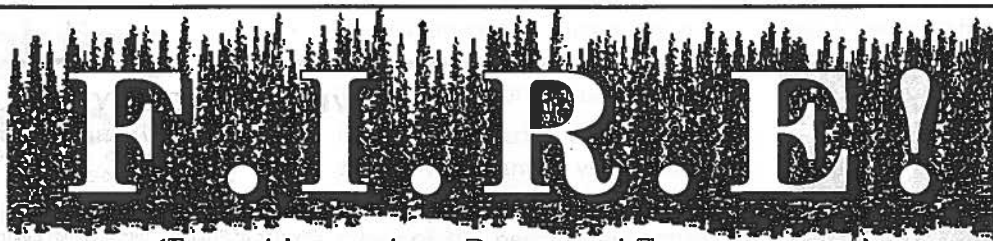
Our service brings you back



Printing • Xerox • Canon Color Laser • Bindery • Fax • etc.

BRER RABBIT COPYPRINT LTD.

406 SIXTH ST., N. WEST V3L 3B2 525-0307 • Fax: 525-8243



(Forest Inventory Renewal Emergency!)

Dirk Brinkman, WSCA President

Scouting a F.I.R.E!

Canada's forest legacy is being consumed by a F.I.R.E! (Forest Inventory Renewal Emergency). This F.I.R.E! is caused by our failure to renew our forests as fast as we are using them up. The last federal budget half emptied the "water bucket" (FRDA or Federal-Provincial Resource Development Agreement) that for the last five years has helped to keep the F.I.R.E! under control.

This F.I.R.E! will have a dramatic effect on the environmental and economic future of our country. Forests take decades to grow, so we must act now to ensure our children's future.

Healthy new forests have the ability to absorb large amounts of carbon dioxide (reducing the impact of the greenhouse effect), clean polluted air & water, and reduce erosion & drought. This F.I.R.E! will deteriorate Canada's environment and devastate our ability to help improve the global ecosystem.

The forest industry is the foundation of our national economy, our largest export earner and one of our largest employers. If this F.I.R.E! continues at the current rate, we would start running out of trees to cut in 20 to 25 years. In B.C. alone logging will have to be reduced over 20% and the F.I.R.E! will cause the loss of \$3 billion in forest products to our economy and export earnings.

The current FRDA agreement expires soon and the Federal government is unwilling to match the Provincial governments' commitment to our forests and our future. We need to tell the federal politicians that we want them to do their share to put out this F.I.R.E!

Over-consumption fans the F.I.R.E!

Over-consuming without adequate forest renewal makes the F.I.R.E! worse every year.

- Twenty-two million hectares of forest land harvested in the past remains unstocked.
- In most provinces, current harvesting is creating more unstocked area each year. B.C. is the only province reforesting all areas logged.
- Wildfires are burning vast areas in this unusual dry period.
- Forest volume on the shrinking forest land base is being harvested faster than it is growing.
- Forest health is declining.

This F.I.R.E! makes the public increasingly anxious to protect the remaining areas of unique forest land.

Federal-Provincial "water buckets" emptied

The most important "water buckets" for putting this F.I.R.E! out, the Federal-Provincial Forest Resource Development Agreements (FRDA's), came up nearly empty in the last Federal Budget.

Ottawa is unwilling to contribute 50% to quench the F.I.R.E! in provinces with balanced budgets (such as Ontario and B.C.).

Adequate federal commitment to funding for forest renewal will not come until the cry of "F.I.R.E!" is heard by the Prime Minister and the Minister of Finance.

Forests Canada Budget Cut

At the same time as creating an independent Forests Canada Ministry, the federal government reduced its budget from \$235,000,000 to \$207,000,000. To date, the Ministry has no independent budget for forest renewal. One step ahead, two backwards!

Regional Economic Development Slashed

Michael Wilson, Canada's Minister of Finance confirmed in a letter to the WSCA that regional economic development budgets are the only buckets into which FRDA agreements can legally dip. These budgets have been severely reduced (see below) and battles are taking place over "the many competing priorities to be accommodated within the resources for regional economic development."

Billion Dollar Agreements Proposed in B.C.

FRDA I in B.C. expires in 1990. The current five year agreement is for \$300 million with a federal commitment of \$150 million or \$30 million per year.

The Western Silviculture Contractors Association (WSCA) has called for a FRDA II of \$1 billion, followed by billion dollar FRDA III & FRDA IV agreements stretching until 2005.

Dave Parker, BC Forests Minister, proposed a FRDA II of \$700 million and Premier VanderZalm offered to match Federal funding up to \$1 billion.

Western Diversification Cut

The money for FRDA II in the west will come from the Western Diversification Fund. Wilson's 89-90 budget gives WDF \$242 million for the next five years, down from \$1.2 billion!

Based on population, B.C.'s share is about \$100 million. Even if 60% is available to FRDA (WDF has many other obligations), that leaves \$60 million over the next five years or \$12 million per year. This would be less than half the current level of FRDA funding.

Prairies Scorched

Alberta, Saskatchewan, and Manitoba, are all going to request assistance from the Federal Government to regenerate this year's extraordinary fires (over two million hectares) — fires at least partially caused by climatic anomalies of the greenhouse effect.

Fiddling as Ontario burns

Ontario's Co-FRDA comes up for renewal next year and Federal-Provincial negotiations look bleak. The federal component of the Ontario and Quebec Co-FRDAs are funded out of the Department of Industry, Science and Technology. A quick analysis of the five year budget for that department shows approximately \$75 million (\$15 million a year) available for Ontario, most of which is already committed to other programs. This leaves very little federal money for a new Co-FRDA agreement in Ontario.

The Ontario government has budgeted for its annual \$15 million share and added \$18 million from the softwood lumber tax fund for the 89-90 year. The federal government has not made any offers to match this money.

The province is showing little inclination to increase the percentage of their contribution. In fact, for the past four years Ontario has planted only 30% of the area logged. Ontario presently has 3 to 4 million hectares of Not Sufficiently Restocked (NSR) forest land and is adding more every year!

Maritimes Constrained

In the Maritimes, FRDA will be funded through the Atlantic Co-operative Opportunities Agency. The Agency faces what Wilson's budget summary describes as a "constrained budget."

Somehow, the government (and the

public that elected them) has forgotten the tremendous benefits of forests and forest renewal.

I am counting on you to remind them.

Immediate Economic Benefits

Jobs

The current FRDAs have already created many full time and seasonal jobs.

These jobs provide critical support to hundreds of forest industry based communities where timber shortages and mechanization threaten to create ghost towns. A strong FRDA II is the only "Ghost Town Insurance" available to these single industry towns.

A strong Silviculture Industry

Over the last five years, Canada has begun to build a strong silviculture industry. This world class industry is developing exportable expertise and products that will be in demand to help in the global deforestation crisis.

Forestry Research

The FRDA agreements have supported most of the forest research that make us more effective reforesters. One of the best returns on investment from FRDA is the significant improvements in silviculture resulting from research.

Long-term Economic Benefits

How much forest forever?

In 1988 B.C. harvested about 77.1 million cubic meters of wood from crown lands, another 9.7 million from private, federal, and native lands for a total of 86.8 million cubic meters. Projections of a sustainable AAC predict a 'fall-down' to 55 million cubic meters within ten to fifteen years if we don't invest more in silviculture on the backlog of unstocked forestland.

The WSCA estimates that a \$1 billion FRDA could increase the present level of harvest, a \$700 million dollar FRDA

would sustain it.

The Benefits of Sustaining the Forest Economy

These 86.8 million cubic meters of wood produced \$13.6 billion in shipped forest products. In B.C. alone, the forest industry and its people paid \$2.8 billion in taxes to all levels of government. If we continue to harvest and do not enhance the growth of young forests we will annually lose over \$3.2 billion in shipped goods and \$660 million in government revenues within a few years.

We can only cut the forest as fast as it grows and increased silviculture is necessary to increase the harvest on the areas being farmed for forests. FRDA funds for planting unstocked areas, thinning stagnant overstocked stands and tending seedling competition all accelerate forest growth.

Cost/Benefit of FRDA

B.C.'s proposed annual Federal FRDA investment of \$70 million could sustain \$3.2 billion in shipped goods (primarily for export) and \$660 million in government revenues.

Each Federal FRDA dollar spent directly creates over 45 export dollars of shipped goods and 9.4 direct tax dollars plus many more indirect taxable transactions per year from the revenue added to the economy.

With the recently proposed environmental restrictions on logging in the U.S., Canada's timber values are going to increase dramatically. Federal FRDA money creates an exponential value of taxable economic activity.

Forest Deficit vs. Federal Deficit

The F.I.R.E! that consumes our forest also consumes a foundation of our economy. Not supporting FRDA II will seriously cripple the forests ability to help reduce the deficit. Only action now can reduce the forest deficit.

continued following page...

F.I.R.E! continued...**Tourism and Recreational Benefits**

Tourism and recreation revenue in Canada is over \$5 billion, largely because of Canada's forest legacy. The lack of a federal-provincial commitment to forest renewal has put the forest industry into a timber supply crisis. This supply crisis has resulted in a desperate struggle for harvesting rights on lands the public wants to preserve for ecological and recreational use. Enhancing growth on our forest farms with FRDA funds will relieve land use conflicts by allowing increased volume harvests on smaller areas.

Clean Environment = Lower Health Costs.

Medical problems today are increasingly related to environmental causes. At least 35% of our taxes are going to support health programs. A Federal FRDA is an investment in clean water, clean air and a healthy environment that will keep the national health care bill down.

Environmental Benefits

Neither proposed nor past FRDA agreements have been acknowledged for their contribution to improving the nation's environment. The Federal Government is responsible for Canada's environment and future FRDA agreements could significantly aid in that responsibility.

Tending the Greenhouse Effect

Carbon dioxide emissions are a major factor in potentially disastrous global warming trends known as the "Greenhouse Effect."

In 1987, Canada's total emission of carbon was 129 million tons. Young and vigorous plantations (growing 5 cubic meters of wood per hectare per year) on Canada's 22 million hectares of unstocked forestland would absorb

over 45 million tons of carbon per year and release twice that much oxygen.

A well targeted mix of intensive stand tending, improved seedling quality, improving forest health and thinning could create enough new forest growth to absorb as much carbon dioxide as Canada presently releases.

Clean Air

Forests form massive air brushes, filtering out and absorbing all kinds of toxic pollution and air born particles. The forest's capacity for sequestering pollution can be greatly increased by establishing young vigorously growing forests on unstocked forestland.

Soil Conservation

Forested land forms vast multicellular reservoirs which hold rainfall and gradually release it into the ground water creating even-flow streams and preventing soil erosion and stream sedimentation.

Stable Climate

A significant percentage of rainfall that comes into an ecosystem is taken up by trees and transpired back into the atmosphere resulting in more rainfall. These forest fed micro-climates sustain global weather patterns. Through deforestation we are altering our climate, destabilizing the weather, resulting in crop losses and exacerbating the world food crisis.

Southern Ontario dries up

Southern Ontario is a prime example of a micro-climate drying up. The Rouge River (that now runs through the Toronto Zoo) was a transportation artery for large river boats in the previous century. The river was a major factor in establishing Toronto at its present location. The deforestation of southern Ontario has depressed net rainfall, reducing the flow and increasing sedimentation of the Rouge.

Clean Water

Water processed by trees is cleaned like no other filter can clean, as any-

one who drinks from a woodland stream knows. Clean water is becoming a priceless commodity—our forest filter gave Canada the largest quantity of the best water in the world. Water quality throughout Canada is deteriorating rapidly. Forest renewal and revitalization is essential to restore this resource.

Preservation of the Globe

We are all part of one ecosystem. When the lungs are hurt, the rest of the organism will feel the effects. We ignore the health of such a vital part of the world's ecosystem as Canada's vast forests at our peril.

Sustainable Development

A four billion dollar shared Federal-Provincial investment over five years, is a small price for:

- Sustaining the forest industry—the foundation of Canada's economy.
- Preserving tourism—Canada's fastest growing industry.
- Developing the silviculture industry—Canada's newest exportable expertise.
- Supporting forestry research to make Canada a world leader in forest renewal.
- Counter-balancing human carbon dioxide emissions and eliminating air contaminants.
- Purifying waterways, preserving soils, healing the environment—restoring our health.

Fighting this **F.I.R.E!** helps reduce the deficit and clean the environment—keeping Canada beautiful!

If you believe in your children's future, call or write your M.P., the Minister of Forests Canada, the Prime Minister, the Minister of Finance, your provincial Premier and Provincial Minister of Forests. Urge them to put out this **F.I.R.E!** before it's too late! ▲

Fighting the F.I.R.E! in B.C.

Dirk Brinkman

To fight the **F.I.R.E!** in B.C. the WSCA has recommended that FRDAII, FRDAIII and FRDAIV each be \$1 billion programs over five years. The following table (based on a FRDA shopping list prepared by MOF) shows the breakdown of proposed expenditures for the three agreements.

Notes:

- The FRDA planting program would be over 80 million seedlings a year more than double the program of the current FRDA agreement.
- The Accessible good & medium NSR figure is based on regenerating the currently designated amount (553,160 hectares) by the year 2000. An additional 226,580

hectares will be treated in FRDA IV (2000-2005) assuming it will have been added to that category due to changes in technology and economic viability.

- Additional research may be required into alternatives for prescribed burning due to that practices tremendous impact on the greenhouse effect (15% of B.C.'s carbon dioxide emissions are due to slash burning). ▲

Treatment	Total	FRDA II	FRDA III	FRDA IV
Basic Silviculture	Hectares	1990-1995	1995-2000	2000-2005
Manual Brushing	140,000	\$28,000,000	\$110,632,000	\$110,632,000
Plant Access. Good/Med NSR	829,740	\$414,870,000	\$381,680,400	\$381,680,400
Total Basic	969,740	\$442,870,000	\$492,312,400	\$492,312,400
Intensive Silviculture				
Space Stagnant Overstocked	1,100,000	\$293,333,333	\$293,333,333	\$293,333,333
Conifer Release	50,000	\$8,333,333	\$8,333,333	\$8,333,333
Juvenile Spacing	500,000	\$133,333,333	\$133,333,333	\$133,333,333
Fertilization	1,500,000	\$15,000,000	\$15,000,000	\$15,000,000
Pruning	10,000	\$3,000,000	\$3,000,000	\$3,000,000
Total Intensive	1,510,000	\$453,000,000	\$453,000,000	\$453,000,000
Research				
Backlog Research		\$10,000,000	\$10,000,000	\$10,000,000
Incremental Research		\$10,000,000	\$10,000,000	\$10,000,000
GIS		\$10,000,000	\$5,000,000	\$5,000,000
Other Research		\$20,000,000	\$20,000,000	\$20,000,000
Pest Training		\$2,000,000	\$2,000,000	\$2,000,000
Pest Control Programs		\$30,000,000	\$30,000,000	\$30,000,000
Prescribed Fire		\$2,000,000	\$2,000,000	\$2,000,000
Wild Fire		\$2,000,000	\$2,000,000	\$2,000,000
Hardwood		\$10,000,000	\$10,000,000	\$10,000,000
Research Total		\$96,000,000	\$91,000,000	\$91,000,000
Public Relations				
Transfer Research		\$10,000,000	\$10,000,000	\$10,000,000
Communications		\$5,000,000	\$5,000,000	\$5,000,000
Integrated Use		\$5,000,000	\$5,000,000	\$5,000,000
Education		\$2,000,000	\$2,000,000	\$2,000,000
PR Total		\$22,000,000	\$22,000,000	\$22,000,000
GRAND TOTALS	2,479,740	\$1,013,870,000	\$1,058,312,400	\$1,058,312,400

Fighting the F.I.R.E! in Ontario

Dirk Brinkman

I have proposed a five point comprehensive strategy for fighting the F.I.R.E! in Ontario:

1. **Regenerate 100% of areas currently harvested or burned.**
2. **Eliminate the NSR by 2010**
3. **Restock all Failed Artificially Regenerated Settings (FARS?) by the year 2000.**
4. **Reclaim Fallow Farm Land**
5. **Implement Urban Releaf Program**

1. Regenerate 100% of all areas currently harvested or burned

This is a provincial responsibility.

Ontario harvests approximately 220,000 hectares of forests per year. Artificial regeneration is required on 70% (over 154,000 hectares). About 15% of the artificially regenerated land will need re-treatment due to a predictable level of failure, adding another 23,000 hectares annually. Of the 177,000 hectares needing treatment annually, Ontario is currently artificially regenerating only 145,000 hectares.

Fifty percent of the regeneration is currently by planting (70,000 hectares). To regenerate all the area harvested annually the province needs to plant about 88,000 hectares (approximately 177 million seedlings @ 2000/hect.).

In Ontario approximately 190,000 hectares are burned annually by forest fires. About 25% of these areas (47,000 hectares) require artificial regeneration. Assuming fifty percent are planted, this adds another 24,000 hectares or approximately 47 million seedlings to the planting program.

Notes:

- Free-growing should be defined as free of competition. (Not 1 meter tall as presently used in Ontario.) Free of

competition requires varying heights in differing ecosystems.

- These figures are based on the same proportion of direct seeding to planting as currently make up the MNR program. The proportion of planting should probably be increased because direct seeding results in a five year regeneration delay.

2. Eliminate the NSR by 2010

This is a shared Federal Provincial responsibility.

There are between 3 and 4 million hectares of Not Sufficiently Restocked (NSR) land in Ontario. Priorizing the most productive 1,200,000 hectares (one-third) for treatment over the next fifteen years adds another 80,000 hectares of regeneration per year.

Assuming that 75% will be regenerated by planting (smart logging no longer being an option) means a planting program of 60,000 hectares (90 million seedlings @ 1500 trees per hectare) and a direct seeding program of 20,000 hectares.

These are reasonable CO-FRDAll regeneration targets.

3. Restock all Failed Artificially Regenerated Settings (FARS?) by the year 2000.

The SOARS report analysed the 575,000 hectares regenerated before 1977. The report reveals that 20% of the "plantations" entered into the forest inventory as successfully regenerated have not met density or free to grow criteria. The high seedling mortality shows that "plant them and leave them" doesn't work— plantations need tending (loving care).

Since 1977, approximately 900,000 hectares have been regenerated for a total of 1,475,000 artificially restocked areas. The same 20% failure rate means 300,000 hectares of failed settings (FARS) require treatment in

Ontario.

These sites should all be revisited by the year 2000.

A program to regenerate our past failures would involve treating 1/10th of the FARS area per year (30,000 hectares) until the year 2000. These failed settings should be fill-planted with the largest stock available. This would involve an additional 24 million seedlings per year.

A large percentage of this area also needs to be thinned or released from competition with unacceptable species.

4. Reclaim Fallow Farm Land

This is a Federal responsibility suitable for federal direct delivery. (These lands were cleared originally with the assistance of federal grants.)

Agricultural land in Ontario is increasingly allowed to lie fallow. I estimate that Ontario has at least 1,000,000 hectares of fallow farmland whose best use is forest production which is not currently classed as NSR.

This could be initiated with an program of 30,000,000 seedlings annually.

5. Implement Urban Releaf Program

Development is replacing much of our productive farmland and forestland with concrete and pavement (especially in southern Ontario). Cleaning our urban air and reviving the city living environment would have a great impact on our health costs. Trees can sequester up to 15 times as much carbon dioxide in urban settings. This program could involve a total of approximately 8,000,000 seedlings per year. This very visible program would help create public awareness of the value of trees.

(The American Forestry Foundation recently launched a similar program to plant 200,000,000 trees per year across the U.S.) ▲

WSCA Members

This list of the members of the WSCA will be published in each newsletter.

(A) Indicates associate member.

The list of members names and addresses is available to all members at no cost. This list is also sold to businesses that who wish to advertise their products or services through direct mailings.

Vancouver

All Phase Silviculture Ltd. (A)
Beaverfoot Resources
Brinkman & Assoc Reforestation
Bushwacker (A)
Cardinal Reforestation
Cascade Resources Ltd.
Coast Range Contracting Ltd.
Emerald Forest Corp. (A)
Forsite Contracting
Green Mountain Services
Highrigger Forest Mgmt.
Loki Reforestation
Lorax Group
Meadow Ridge
Mountain Reforestation
Oliver & Giltrap
Osprey Silviculture Operations
Skookum Reforestation (A)
Western Reforestation Co-op
Whiskeyjack Reforest. Ltd.
W.J. Green Forestry Services
Woodward Reforestation
Zanzibar Holdings

Cariboo Region

Blue Collar Reforestation
Cottonwood Reforestation
Lid's Reforestation
Loxton Treeplanting Co.

Kamloops Region

Nu Growth Industries Ltd.
Arland Reforestation Services
Crowpoint Enterprises Ltd.
Golden Raven Co-op
Grandy Reforestation
Hawkeye Reforestation
Mountain Pacific Forestry
Russo Reforestation
Southern Okanagan Silviculture

Prince George

C.A.G. Holdings Inc.
Celtic Reforestation Ltd.
D. Fraser Reforestation
Folklore Contracting
Integrated Silviculture Services
Kahan Enterprises
Mountain Top Reforestation
Mudslide Contracting Ltd.
Nechako Reforestation Services
Nomadic Silviculture
Seneca Enterprises Ltd.
Shannon Silviculture
Silvaram Holdings Ltd.
Sundance Reforestation
Tawa Reforestation Ent.
Triple 8 Enterprises
Twig Contracting Ltd.

Nelson Region

Arbolitis (A)
Caliburn Forestry
Cutler Contracting
Dark Star Forestry Ltd.
Evergreen Co-op
Fieldstone Resources Ltd.
Forestcover Resources Ltd.
Green Peaks Holding Ltd.
Jansma Reforestation
Mart Resources
Rothkop Contracting Ltd.
Siltech Reforestation Ltd.
Skyline Contracting Ltd. (A)
Talking Tree Forestry
Wildhorse Valley Treepl. Coop

Prince Rupert Region

Driftwood Reforestation
Roots Reforestation
Summit Reforestation Ltd.
Waterside Ventures Ltd.

Alberta

Next Generation
Reforestation(A)
Tsuga Forestry Contracting
Vin Law Resources

Ontario

Trees for Tomorrow Inc. (A)

W.S.C.A. Membership Form

Name _____
Company _____
Address _____

Post Code _____ Phone _____

Membership \$300 _____
(includes subscription)
Subscription \$25 _____
Donation \$? _____

Please send to:

W.S.C.A.

310 — 1070 W. Broadway
Vancouver, BC V6H 1E7

604-736-8660

Total Enclosed _____