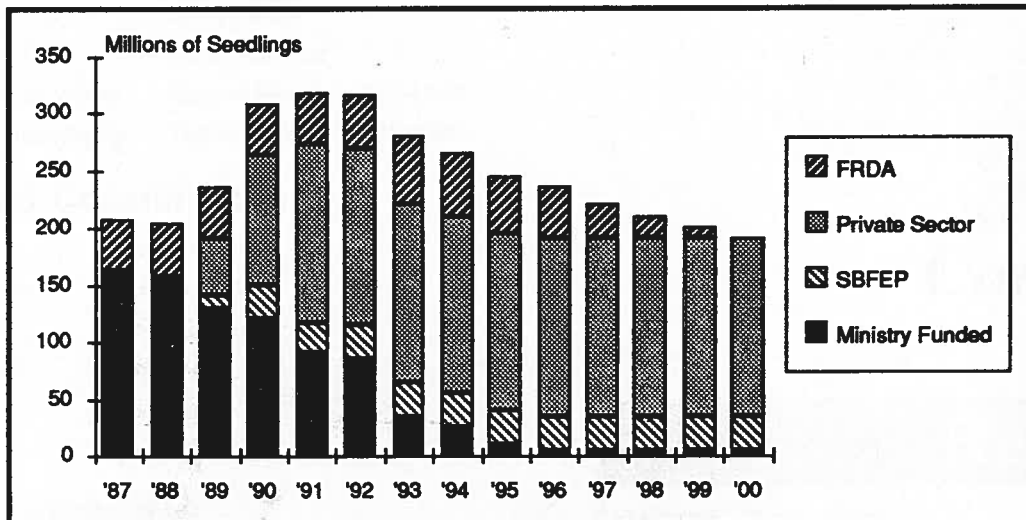


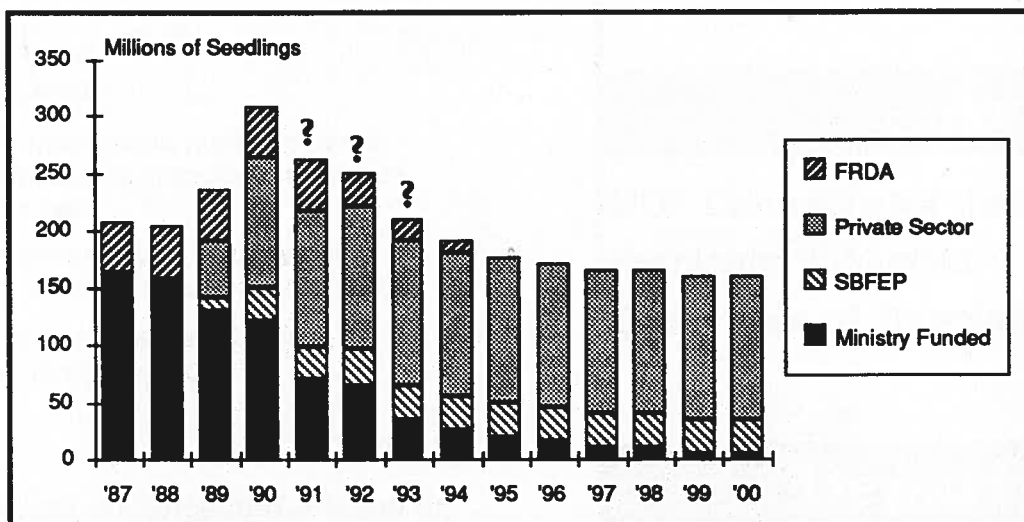
WSCA

Winter 1990

NEWSLETTER



**Planting levels predicted by MOF in 1988
in their Five Year Forest & Range Plan**



**Projected planting levels based on current seeding orders
and no FRDA II agreement**

Planting Decrease Comes Early?

Western Silviculture Contractors Association

Newsletter Winter 1990

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EDITORIAL

Silviculture Shifts

Dirk Brinkman

Funding for silviculture on public land has always been driven by public concern for the forest. Even forest industry funded projects on crown lands exist only as products of public legislation or, occasionally, public relations programs.

Politicians, who surf on the waves of public concern for the forests, have a new environmental wave to ride or be swallowed by.

The first wave of concern for the forests

headed the emerging public concern that 'the rate of logging not exceed the capacity of the forest to sustain it.'

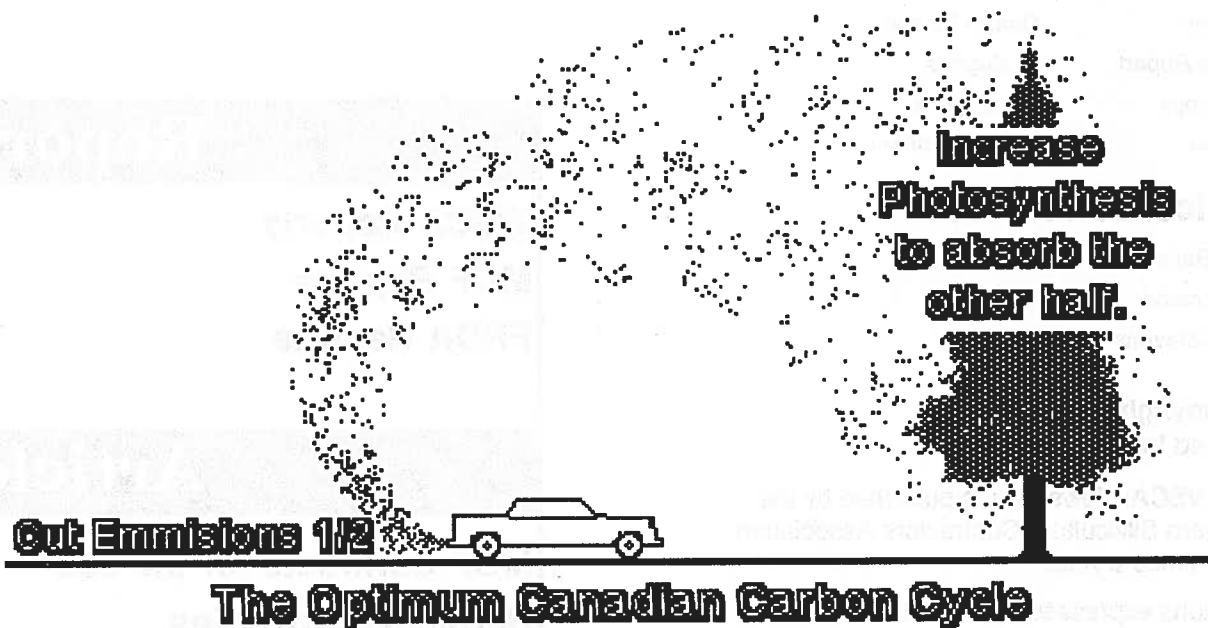
This resulted in the reforestation effort being complimented in the late eighties with an increasing focus on enhancing forest health and growth through intensive silviculture.

These past waves that have fetched from the winds of the natural development of public awareness are nothing compared to the *tsunami* that is going to break out of environmental issues.

trial levels of 280 ppm is responsible for keeping the earth 30° C warmer than a CO₂ free atmosphere would.

Doubling the level of CO₂ is conservatively projected to result in world-wide average temperature increase of 1.5°-4.5° C. The past decade included six of the hottest years since world temperatures have been recorded (92 yrs).

An increase of 4.5° C would mean that the northern hemisphere could experience an increase of over 10° C (source: Policy Options For Stabilizing



in the 70s was a linear concern of 'plant as many trees as you cut.'

In the early eighties that became 'reforesting all areas harvested.' In 1987 B.C. led Canada with precedent setting policy, making the necessity of reforesting all areas to free-growing a cost of logging. This reflected a new wave of emerging concern that the plantations must do more than survive, they must be free growing so they can become productive forest.

The 1987 U.N. Bruntland report vision of 'sustainable development' spear-

The epicentre of the environmental earthquake seems to be the Global Warming crisis. The principal agent in increasing world temperatures is CO₂.

Analysis of air bubbles in Antarctic ice cores indicates a pre-industrial CO₂ level 280 ppm. by volume compared to a 1987 level of 358 ppm. (the highest recorded). The Energy Ministers Task Force on the environment expect this to double by the year 2030 (*Reducing Greenhouse Gas Emissions*). Global models suggest the pre-indus-

Global Climate).

The consequences of such a major change are beyond the capacity of our present level of expertise and models to visualize.

When the Environmental Protection Agency made it report on global warming to congress during the summer drought of 1988 they prefaced their report with the fact that two years and millions of dollars of the best expertise failed to anticipate many of the problems that were occurring at

that moment (like the Mississippi being too low for the grain barges.)

CO₂ is released principally through burning forests and fossil fuels—the carbon reserves of earths present and past living biosphere. According to the Worldwatch Institute, two-thirds of the worlds forest volume has been liquidated since the early 1700s.

Currently, the Federal Provincial Territorial Task Force on Energy and the Environment has been charged with recommending how Canada can reduce its net contributions to atmospheric CO₂ to 80% of the level of 1988's emissions.

After analyzing energy use trends in all sectors it is clear that this would require all sources of CO₂ (such as vehicles) to reduce emissions by an average of 46%.

The net capital cost of converting our present technology to higher efficiency will involve billions of dollars and may include unacceptable options like increased dependence on 'clean' nuclear power.

One of the options is to increase the amount of photosynthesis currently sequestering atmospheric CO₂ in Canada.

That is, planting more trees and accelerate forest growth.

Trees through photosynthesis, absorb CO₂ from the air. In fact each cubic meter of is fibre built from .26 tonnes of carbon, equivalent to .86 tonnes of CO₂.

In an older forest, there is often as much decay as growth and the Carbon cycle is in balance.

In a young forest, the net absorption of CO₂ is far greater than the production of CO₂.

Once you begin to calculate the number of hectares of young trees required to absorb 50% of Canada's

projected CO₂ emission in 2005 it becomes apparent that the release of the environmental pressure building within the population will result in a natural resource management quake far over 7 on the Richter scale.

This is the **big one**—a concern for our forests that reaches to the roots of our survival.

It will only take another series of wild weather related catastrophes, and government will be compelled to mount mega-programs, in addition the consumer will be required to pay for the entire environmental cost of pollution.

President Bush declared that "those who fear the greenhouse effect should also remember the Whitehouse effect"; ie. the capacity to mount a multi-trillion dollar defense program in response to the cold war. This is the time to hammer our swords into plowshares.

Hydro, Oil companies, Automobile Manufacturers, Smelters etc. are all going to have to contribute.

How much Silviculture are we taking about? Can we sell some of the sequestering capacity of our forestland base to the U.S. or Japan, the worlds major polluters?

That depends on the quality of our plantations.

Sweden boasts that its Mean Annual Increment of growth (MAI) is over 8 cubic meters of industrial wood per year on average. Sweden is a country where there are a lot of young growing forests. (One cubic meter of industrial wood is equivalent to 1.6 cubic meters of biomass (add roots, branches, tops etc.). So forests are growing biomass at (1.6 X 8) 12 cubic meters per hectare per year.

Canada's forests are growing at an average rate of 1.7 cubic meters of industrial wood per year or 2.7 meters of biomass per hectare per year.

With good silviculture it is my opinion that we can get Canada's forest land top growing 5 cubic meters per hectare per year on averages using our current state of expertise.

Total emissions of CO₂ for the year 2005 are projected to be 627 million tonnes of carbon.

To absorb these emissions at an MAI of 4 Cu M/yr (currently projected as an achievable target by B.C. Silviculture Branch, we would have to plant over 400 million hectares across Canada, equivalent to 400 billion trees.

Do we have the forest land base?

If we don't act now we soon may have. 10°C increase in the northern hemisphere will result in pushing the forest line up 750 kilometres farther north.

This would add over 400 billion hectares of new forest land base.

Of course it may also destroy all of the forest south of the forest line due to the inability of the trees to adapt to so rapid a change in temperature.

Some researchers (no one knows to what degree they are politically motivated) are predicting an ice age. For example this year the George Marshall Institute in Washington actually predicted a colder next century. The White house greeted this possibility with visible relief. The prospect of mounting a warming war hot on the heels of a cold war is more than the Bush administrative is psychologically prepared for.

Since weather patterns are turbulent and unpredictable the CO₂ issue will remain a controversial and continually interesting story.

It remains clear that CO₂ absorption is but one of a complex of tightly interlocked environmental values that are soon going to create a *tsunami* of forest renewal concerns. ▲

MOF Contracts in the 90s

Dirk Brinkman

The larger the number of silviculture contracting alternatives available to MOF, the more appropriate the contract selected by the district can be for the particular work/problem/site.

This diversity can obviously increase the effectiveness of the reforestation program, both for industry, the MOF and the contracting community. Options exist in a number of areas.

Award

- 1] Low bid tender.
- 2] Select invitation.
- 3] Direct.
- 4] Request For Proposals.
- 5] Contractor Classification

The WSCA favours a mix of all of these options being delivered at each R.D..

Favouring any one of these options to the exclusion of the others would be perceived negatively.

Selection of the best option must be justifiable on the basis of obtaining the highest value per dollar spent.

1] Low bid tender.

While this will produce the best price during highly competitive periods of the industry, it does not acknowledge contractors who have delivered more value per dollar in the past.

When contractors are in high demand such as in 1990, open market will produce the highest prices.

2] Select invitation.

Exclusion of the open market from all of a district's work will result in political lobbying by contractors who feel unfairly excluded.

3] Direct.

Good option for small contracts.

4] RPFs

Appropriate for large and complex projects.

5] Contractor Classification

Suitable for limiting entry.

Contract Type

Multi-Activity

A number of activities within one contract on different settings.

The advantage of this is that the contractor can reduce mustering & set-up costs for a crew. The savings is offset initially by increased training costs.

This meets the goal of working towards long term silviculture worker employment opportunities and is especially suitable for local employment.

Larger contracts are preferred by contractors because the efficiencies gained, they include increased familiarity with an area, increased on site average productivity, simplified communications through working with one field administrator— all this results in higher earnings. (The inefficiencies of working with a poor administrator on a large contract can result in large losses.)

Multi-Phase

This exhibits the same features as a Multi-Activity contract except it permits the contractor and MOF the obvious additional advantages of integrating the phases on a setting to reduce the net cost of all the phases.

Multi-Year

This provides for the contractors long range planning, commitment of staff and crew, and some financial security.

Multi-year contracts save viewing costs—a ratio of 1 contract won to 20 viewed is not uncommon on MOF open tenders. Viewing costs, while they vary by project and contractor, range between \$100 and \$2500 per project. The cost saving of not having to win future open market contracts is reflected in long term contract pricing.

The biggest problem with multi-year contracts is predicting the future market price & future site difficulty types.

While future prices can be geared to the cost of living index this often does not reflect the planting market.

While in the last year the cost of living index was 3-4%, planting price increases were in the order of 10-30%.

Multi-Employer

This offers the advantage of combining work in the same drainage into one larger more efficient contract.

Planting Payment Method

Per Hectare Vs. Per Tree

Per tree contracts have evolved a checking system that adapts poorly to per hectare contracts. Randy Hart & Rick Slacko of Fletcher-Challenge have developed a checking system more suitable for area-base planting. This system should be adopted by MOF for area-base planting contracts.

Administration

Contracting Out the Checking

During the era of Silviculture through Section 88 there was a lot of grouching by the contracting community about a problem we called "Third Party Jeopardy".

This was very clearly experienced by the contracting community as an extraordinary cost for which the people of the province got no value and became one of our motivations for promoting Bill 70.

The problem has reappeared with contracting out the checking.

When the contract administrator does not have the authority to alter the planting specifications to suit the site or extreme weather conditions, the contractor is often obliged to perform absurd work.

Since the interpretation of the quality checking is grey, the contract checker has to "cover his/her ass" which means that the interpretation of the quality regulations has to be more severe, (known in the trade as "by the book") than any audit might be.

If Parkers declaration at the planting of the two billionth tree, that over the past five years survival has gone up from

69% to 73% is true, while the average price went up from 20¢ to 35¢ per tree due to increased quality demands, then it is time to bring this relationship and its extreme of 'Third Party Jeopardy,' to the attention of the finance department.

Contractor Supplies Quality Plots

This is the logical alternative to contracting the checking to a third party. Many contractors do more plots than any assessors.

Audits of the contractor plots will confirm the contractors interpretation. On-site changes can be worked out directly since the contractor is in direct communication with the authority to make changes.

End Results

This option avoids the zone of subjective interpretation of quality standards and 'third party jeopardy'. It puts the risk of failure on the contractor.

Smart initial planning and integration of the phases can reduce overall costs and increase plantation performance.

There will need to be interim payments for completion of the phases of the PHSP.

Awards by RFP can go to the best PHSP with the lowest cost— ie. the highest value per dollar.

Initial broad terms of reference for the end-results contract have been clearly defined in the silviculture regulations. the National Forest Sector Strategy tabled in 1987, recommended that "the forest sector work towards awarding contracts for silviculture work on an end-results basis."

Bill 70 was a good initiative. We look forward to further MOF end-results initiatives.

Herbicides Alternatives

While there has been a lot of lip service to alternatives to herbicides by MOF and some associations (cit, Integrated Vegetative Management Association.) There needs to be some practical parameters designed for contractors who offer alternative services— for example Girdling a Hack & Squirt area.

Cost of the Chemical

If a contractor offers to girdle the same stand, the cost of chemicals being supplied by MOF should be deducted from the non-chemical service to determine award.

Cost of Insurance

The province, in its wisdom, is supplying the insurance coverage on all herbicide application contracts by assuming the risk of any liability.

The open-market price for such insurance should be deducted from the bid of a contractor offering to supply an alternative manual service.

Cost of Applications & Appeals

The actual cost of the pesticide application and appeal process, incorporating all the MOF administrative time and opportunity cost should also be deducted from the cost of a contractor supplying an alternative manual of mechanical alternative. ▲

Note: More information on the subsidization of herbicide treatments with public money on the following page.

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Herbicide Subsidies

Dirk Brinkman

Note: *This information is part of the request for an end to the subsidies sent to Director Peter Ackhurst.*

Herbicide applications contracted by MOF are subsidized in the following ways:

- 1] On many contracts MOF supplies the herbicides.
- 2] MOF supplies liability coverage for spills and side effects of the chemicals.
- 3] The rapidly escalating costs of applications, appeals, public notices, application area posting and public hearings are paid by MOF.

Contractors offering an alternative to herbicides are expected to underbid the herbicide contractors' subsidized price even though manual alternatives do not involve any of the above costs.

Instituting equal opportunity for manual vegetative management options would require that the herbicide application price have the cost of these subsidies added back in when comparing bids.

This could be done as follows:

- 1] Adding back in the cost of the herbicides. While the herbicide costs are an estimate before application, this cost is easy to quantify.
- 2] Adding back in the open market cost of liability insurance. The cost of the liability insurance is also easy to quantify.
- 3] Adding back in the costs of administering applications, appeals etc..

Quantifying the costs of posting signs, applying for permits, and handling the normal extra procedural costs for administering a herbicide application are more difficult to quantify.

In the case of a planned vegetation management contract, the applications are probably in place before a contractor offering a manual alternative puts in a bid.

This makes off-setting the cost of the administration associated with the herbicide application a more artificial adjustment.

Nevertheless, to give manual alternatives an equal opportunity to develop, this adjustment must become an aspect of the tendering process.

Quantifying the appeal and public hearing costs is even more difficult.

While province-wide only 6% of the applications were appealed last year, in some districts every application is being appealed.

Some districts face such public pressure that herbicides are no longer an option due to the administrative time necessary to persuade the public that herbicides are safe. Other districts are somewhere in between this extreme and hassle-free.

One of the features of the administrative costs of managing public anxiety is that it usually involves upper management—up to and including the Minister.

In addition, many MOF personnel find themselves, in the course of day to day duties in other areas, defending the need for herbicides in forest management to members of the public, forest industry and colleagues. While it is natural for controversial policy to carry a 'distraction cost' (which can occasionally be a benefit, because a controversial policy tends to be well understood) this is a factor that over-worked MOF staff cannot afford to ignore.

The public's concern about the hazards of herbicides is grounded in the pattern of their approval and use until incidents, further tests, or other new developments prove them unsafe. Consequently, the "public anxiety management costs" are unlikely to ever go away and must be quantified and included in comparing herbicide bids with manual alternatives.

The difficulty will be in a) quantifying these costs and b) allocating them appropriately to each district.

I suggest that Silviculture Branch quantify the regional, Branch and overall Ministry cost and give each district manager a methodology for setting local district costs. We understand that implementation of procedures to take into account all of the features of subsidy #3 will take longer than the rest of our request. ▲

Peter Ackhurst
Director
Silviculture Branch

Jan. 7, 1990

Re: MOF Subsidy of Herbicides.

Dear Peter,

Thank you for agreeing to end the period of subsidy for herbicide use in the forests.

For those of us who have been trying to develop manual alternatives to herbicide based vegetative management, the herbicide subsidy has been a serious disincentive.

I realize that the MOF policies and practices that have amounted to subsidizing herbicides, were not intended as subsidies.

At our December 7, 1989 meeting we requested that within one month you implement the administrative changes required to put manual alternatives on an equal footing with herbicides.

We look forward to the labour intensive manual alternative (with its obvious benefits to local employment) becoming an equal forest management option in B.C. for 1990 and we look forward to a progress report at our AGM.

Sincerely,
Dirk Brinkman
Pres. WSCA

The Ergonomics of Tree Planting

Eric Bannister, David Trites, and Dan Robinson

It has been estimated that forest-based industries provide, directly or indirectly one job in every ten in Canada and earn for Canada between 12-15 billion dollars annually in the world trade.

Continuing provision of this "forest of gold" can no longer rely on natural regeneration of the forests. "More wood must be grown than Nature alone can provide" (Hart 1981). At the Canadian Forest Congress in Toronto (September 1980) it was estimated (Birch 1981) that by the year 2020 the forest harvest in Canada could be more than double the present economically accessible, Allowable Annual Cut (AAC) (fig.1). Indeed given the World's exponential increase in consumption of paper and paper board (fig.2, World Food and Agricultural Organization) and Canada's predominant position in the world market such an increase in the AAC seems meagre measured against the burgeoning demand.

Much more intensive forest management is an obvious goal despite the substantial cost (some \$500 million annually estimated in 1980) involved for (i) regenerating land after logging, (ii) stand tending and (iii) replanting some of the huge backlog reforestation estimated at 70 million acres across the country.

Central to the success of such a goal is the tree planter whose numbers in B.C. alone, estimated by the Pacific Reforestation Workers' Association (PRWA), reached between 5,000-7,000 full-time employees and an equivalent number working part-time in 1985.

Until comparatively recently we had little objective understanding of the physical effort of tree planting. There were plenty of subjective observations and feelings of course, but nothing objective-substantive. Smith and his co-workers initially drew attention to the strenuous nature of the job in a com-

prehensive paper on tree planting work (1986). These investigators studied the ergonomics (i.e. the worker friendliness of the job, the ease of use of tools designed for the job, the working environment generally) and the health and safety aspects of the work. They reported results from a health questionnaire survey of workers on the frequency, type, and severity of their health concerns. Reports were also made on the energy demands of the job and on the productivity achieved by the typical worker. The conclusions of that report, where it was found for example that 8 hours per day were spent doing very exhaustive work (60% of maximum capacity), were sufficiently disturbing to warrant further research confirming and expanding the investigation.

Thus the work first begun at Simon Fraser University by Smith and his co-workers in 1986 is being continued and expanded by Dr. E. Bannister, David Trites and Dan Robinson at S.F.U. under a grant from the Provincial and Federal governments, Ministry of Forests initially negotiated by Dr. Smith.

The present work has focussed:

- i. on determining health hazards in tree planting attributable to handling chemically treated seedlings
- ii. upon comparing the relative energy expenditure, reflected in the heart rate elevation during work, of different tree planters. Concurrent video filming of experienced and inexperienced workers is helping us to understand the skills and physical attributes needed by an efficient worker. It is also identifying the wide gulf separating the current state of the art of reforestation from that required to meet harvesting projections of the future described in the 1980 Forest Congress Report. It is difficult to appreciate for example how an

adequate density of planned reforestation can take place in areas where 75% of the available forest surface is obscured by logging debris.

- iii. on seeking for any evidence contributing to an understanding of the phenomenon termed "burn out" among tree planters and the time course of its development by analyzing blood samples, obtained from planters, for "stress chemicals" in the body called adrenalin and noradrenalin.

Identifying Pesticides Hazards

Physical symptoms developing in humans due to exposure to such pesticides as diazinon and benomyl, are irritation of eyes, skin, nose, and respiratory pathways, nausea, vomiting, diarrhea, muscle weakness/twitching, headache, sleep disorders, etc.. These are typically those reported in various degrees in health questionnaires completed by planters in the current study. Chemical analysis of blood for an important regulatory enzyme of body functioning called cholinesterase (normal levels 4-5 umol/min/ml of blood) has been used by us to track anti-cholinesterase activity that may be due to pesticide exposure. (Toxic anti-cholinesterase effects are shown by a depression of cholinesterase levels.)

Successive (serial) measurement of cholinesterase in the blood were made for a planter with symptoms similar to those outlined above. During the period of study his cholinesterase levels were being depleted. On the other hand few health symptoms were recorded during the same period on the health questionnaire in another, relatively unaffected planter of the same crew who showed little anti-cholinesterase effects

Group data of the whole crew on whom these serial measurements were made also showed little variation from normal despite a wide variety of recorded health complaints. This emphasizes that the dose/response effects on individuals within a group of people may be quite variable and the average response is not a good indicator of the real hazard to an individual. Any conclusions from these data must remain preliminary since the time span of the study was short. Interestingly the symptoms recorded above in the affected planter with declining blood cholinesterases parallel, very well, the symptoms showing up in a Fort St. John crew in July 1988 planting trees sprayed only three weeks previously with the pesticides Captan and Benomyl.

Energy Demands on Tree Planters

Using newly available heart rate monitors we have been able to track the heart rate elevation of planters every minute for up to 15 hours. Continuous records of heart rate during a working day for an experienced and inexperienced worker were matched with video film accounts for some of the distinguishing features between these records. The experienced planter makes economical movements, moving quickly from site to site sizing up where the next plant will be while finishing planting the present seedling or while on the move to a new site. The heart rate elevation while certainly well above normal is much less than that of the inexperienced planter and the experienced planter's work day is marked by well defined rest pauses enabling recovery. Everything the experienced planter does well the inexperienced does not.

Representative Heart rates of experienced and inexperienced planters on the same terrain throughout one day show the planned expenditure of effort by the experienced planter with rest pauses compared with the continuous and more variable expenditure of effort with little rest pause in the

untrained.

In the inexperienced worker, heart rate is elevated considerably more, up to 60% of maximum. Whether this is simply due to relative unfitness or to uneconomical expenditure of energy is not presently determined but it is noticeable that there are no well defined recuperative intervals in the inexperienced planter's day. Video analysis confirms the sometimes aimless and indecisive judgement by the inexperienced worker on where to place the next seedling or move through difficult terrain.

From this kind of analysis it would seem good practice to try and retain the more experienced planter from year to year, developing a stable and increasingly competent work force. This might be accomplished by providing optimal working conditions in a variety of ways ranging from camp comfort, salaried work, job security and well designed tools to protection from as much environmental and chemical hazard as possible. Considerable research remains to be done on suitable tools, clothing, mobile camp design, site preparation, etc. before employment is attractive enough to entice more than the casual worker and thereby develop the real professionalism of experienced workers in sufficient numbers to implement both the density and quality of planting so vital to our future of the forest industry.

Burn Out

"Burn out" is a term used to describe the increasing fatigue, apathy, non-specific illness etc. contributing to an overall disinclination to continue and accident proneness on the part of a worker. The condition considerably reduces the size of the planting force available during a possible planting season of 8 months. In 1984 the PRWA estimated a 50% turnover rate existed in the industry each year. Increasingly, more accidents are being reported.

Evidence for the extensive physical stress of planting, organized as it usually is in a 5:1 cycle, (i.e. 5 planting

days with one off, repeated for the duration of the contract), has been seen in the continuous high heart rates of both experienced and inexperienced workers. Evidence from the elevation of a serum enzyme in the blood caused by the physical effort. Commonly, muscles that are severely used "leak" enzymes through the muscle membranes into the blood. This is a significant sign of stress termed elevated serum enzyme activity, ESEA for short. It is noticeable that the muscle gradually adapts to this stress, and ESEA, after first elevating dramatically eases back to a level which is still well above base line but much less than the peak. ESEA remained at this lower, elevated level in the group of workers until the finish of the work contract when recovery to base line took place soon after May 25th, shown by "recovery". Blood analyses for only 3 points in the cycle for some other workers shows clearly why making serial measurements is important to determining the pattern of physiological response to work. The pattern of adaptation shown to be developing is much clearer. Athletes exhibit similar ESEA adaptation profiles to strenuous training as shown here in planters. The continuing strain on less adaptive systems may however contribute significantly "burn out".

Another significant measure of the accumulating fatigue of tree planting is evident from the blood levels of two forms of stress chemicals called catecholamines. One is well known since we often quote that "the adrenaline was flowing" indicating that we were considerably aroused. Adrenaline and noradrenaline (also called epinephrine and norepinephrine) are stress, arousal, fight or flight chemicals that prepare the body for action. They raise the heart rate, elevate the blood pressure, mobilize food for oxidation and energy expenditure etc.. Recurrent daily repetition of such a response necessitated by the work schedule of the planter and his/her exposure to the wind, temperature, and other irritants (flying, terrain, etc.), leads to a chronic condition. A similar chronic elevation

of catecholamines in athletes has been associated with the staleness caused by over-training. An athlete's exposure to the elements and the continuous duration of heavy activity is certainly a lot less per day than that of the tree planter.

The chronic elevation of group averages for noradrenalin and adrenalin after only a month of working a 5:1 cycle is evident in a group of tree planters. A diminishing ability to recover overnight is progressively shown. Adrenaline has been associated with mental stress and noradrenalin with cardiovascular (exercise) stress. For instance, hockey goal keepers have more adrenalin and less noradrenalin in their blood after a game than players in all the other positions. Obviously their anxiety state is much higher than their exercised one.

A clinical state called "adrenal exhaustion syndrome", indicating an

inability to continue at this aroused level, has been reported in people working for a period of months in hot, windy climates where considerable temperature regulation during work is required. In patients suffering the condition similar symptoms to those exhibited in "burn out" have been recorded, i.e. weakness, apathy, hypotension, lassitude, etc. which were only alleviated by rest and shelter from the environment.

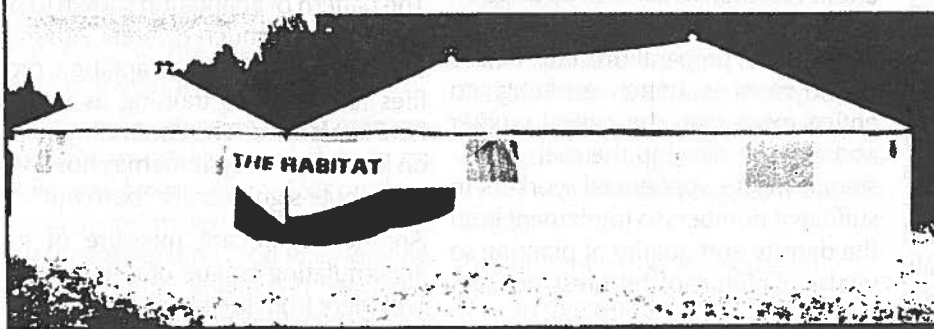
Obviously the "burn out" syndrome is incompatible with an extended planting season. Thus, other combinations of work/rest cycles and work intensity need to be investigated to match the physical recuperative powers of the planter in order to optimize and enhanced productivity gained from working a longer season. This may be favourably compared with the case where a spuriously high productivity, which results from an initially high working rate, ultimately causes a de-

clining working capacity. This will lead to a lowered productivity and an abbreviated planting season. Its rather like starting the race full of energy at a high speed (i.e. working 5 days out of 6) but failing to stay the course (i.e. 8 months of planting). Better in this case to be a tortoise than a hare.

Tool Design

Although not part of the present contract we have begun to investigate the vibrational effects of digging, screeding and scarifying tools. Suffice it to say that currently used tools do not offer optimal protection to the worker from vibrational effects of impact of shovels against the ground or motor driven chain belts in cutting and scarifying tools. The Japanese have gone much further in attempting (and succeeding) to eradicate white finger disease in workers exposed to hand/arm vibratory tools. ▲

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WSCA Reports

New Regulations to prevent Wild Fires

Ross Styles, Executive Director

Note: *This is the WSCA response to a report on forest fire prevention being prepared for MOF.*

Many of the proposed changes to the regulations relating to forest fires are held to be positive by our Association. Classifying planting operations as C-risk activity is one that will be welcomed by planting contractors. The proposal to exempt C-risk activity from "early shift" requirements is another.

However, most contractors are very apprehensive about the proposed requirements for water delivery systems. The prospect of small forestry crews using saws for slashing, brushing, or spacing, having to provide two (or even one) of the proposed water delivery systems is staggering in terms of costs and logistics. The prospect for planting crews is not a lot better, particularly if a crew of workers is deployed onto or 4 geographically separate units.

Having pumping capacity available is not a major problem. Ensuring the availability of water in the quantity proposed and being able to deploy a delivery system within 15 minutes adds up to huge problems considering that crews may be working on 100 Ha. units with 25-40% slopes with the stream at the bottom, if there at all. Add the prospect of winter roads, and wonder what the cost is for additional equipment and lost mobility to do jobs which are geographically widely separated and short term—running for a few days or weeks.

Licensees or their logging contractors regularly deploy massive pulling power onto their work sites. Therefore,

toting heavy-weight equipment is no problem for them. Silviculture contractors go with crew hauling capacity and little else. Having to move 5 tons of water about would become a major drag on their operations, and add significantly to the cost of employing their service.

It is a widely held view among silviculture contractors that they have a responsibility to maintain a state of preparedness to contend with wild fire on forest land. After all, they work at forest enhancement and through their presence in the forest they provide a ready source of nearby manpower. However, requiring them to maintain a capacity to function as a full-fledged fire fighting force would be too great a burden.

The commonly held view is that initial attack capability using hand tools and back pack sprayers, and a capacity to pump on site water is a reasonable expectation. If need be, this can be backed up with project specific, approved fire management plans setting forth arrangements and procedures to be used to call in water delivery equipment available through the Ministry or on hand with licensees or logging contractors when additional readiness is warranted.

WSCA Policy & Procedure Manual

Executive Director Ross Styles has compiled a WSCA policy and procedures manual. It includes all the relevant motions passed by Annual General Meetings, the Board of Directors and the Executive Committee since the inception of the WSCA. This historic document has been tabled with the recommendation that it be updated and published annually following the AGM. The first edition will be mailed to all members.

Claude Richmond New Minister

Dirk Brinkman

Note: *This is the WSCA response to the appointment of Claude Richmond as the new Minister of Forests.*

Congratulations on your new appointment to this old ministry with its many outstanding problems.

At your first convenience, I would appreciate an opportunity to sit down informally and brief you on the circumstance of our industry and some of our problems.

Our concern that FRDA II is negotiated at a level that is adequate to supply the long-range demands placed on the forests is foremost in our minds.

In support of a strong FRDA, we have mounted a campaign that we call F.I.R.E.! (Forest Inventory Renewal Emergency!) to dramatize the need for forest renewal funding. In this report, we invoke the environmental values of forest renewal, which have historically not been a part of the FRDA objectives. These values, in fact, offer an opportunity to fund FRDA through blending the goals of separate Ministries—mainly the Ministry of Energy, the Ministry of Environment and the Ministry of Fisheries and Oceans.

Against the background of this urgent need (FIRE!), we are developing a forest renewal strategy for British Columbia which would represent the optimum level of forest renewal required to offset all the pressures the forests are under.

Internally, the silviculture industry response to the increased number of seedlings being planted in 1990 stands somewhat at risk to a number of pressures. Good planters are becoming harder to find with the rate of unem-

ployment being the lowest in quite a few years and the seasonal and part-time labour market no longer having access to women who are largely employed in career jobs. Better wages are required to attract good planters in the current labour market.

Beside these normal growing pains, there is also a silviculture industry wide concern that the Silviculture Regulations will not be compromised when or if the forest industry enters a period. Under the current legislation, these regulations are going to require a strong minister and could become political issues. Only the establishment of a trust fund into which an amount required to regenerate the area logged is placed before the area is logged would alleviate our fears that the regulations will be compromised in a recession.

Finally some of the regulations that were once enforced through Section 88 by MOF are in doubt under the new Forest Act, mainly:

- 1) the obligation to notify planters of pesticides on seedlings
- 2) the requirement that silviculture camps meet the silviculture camp regulations.

Forest companies are not enforcing either of these. Consequently, we would like to see these become requirements in the Silviculture Regulation.

These and other issues would form the content of a meeting. We are available at your convenience.

We look forward to solving the problems of forest management in B.C. together.

Arbitration Regulation

Dirk Brinkman

Note: *This request for inclusion of silviculture contracts in the arbitration clause was made to Claude Richmond.*

Since the passage of Bill 70 and the new Silviculture Regulations, the WSCA has been working towards having a Standardized Arbitration Clause in our contracts with the Forest Industry. It appears this can be achieved by the amendment of Section 158 (2), which is not restricted to particular type of contract.

On behalf of our members and all silviculture contractors, the WSCA requests that all Silviculture Contracts be included by specific reference to them in the Arbitration Regulation.

The following points are of concern to our members:

a) Put the work required in the contract in writing

It is not a common problem for there to be no written contract. It is a common problem that the contractor is fined for poor quality work. A large percentage of "poor quality penalties" occur due to a misunderstanding about the quality requirements on particular settings. Reference to silviculture contracts in the regulation encourages companies to define their requirements & thereby reduce confusion & unnecessary costs.

b) Include a Conflict Resolution Clause.

The fines that apply for poor quality often include a clause calling for no payment if less than 85% of the work is acceptable. This can mean 84% good quality results in non-payment. Many quality factors have little to do with the probability of the plantation meeting the free-growing standards in the silviculture regulations. During tough times this could tempt forest companies to reduce their reforestation costs through harsh quality checking. Without an arbitration procedure there would be no protection from this, short of the judicial system.

c) Refer Failed Resolutions to the Commercial Arbitration Act

The judicial system is not designed to accommodate the complex nature of silviculture. With "end results" contracts, the risks assumed by the contractor are potentially very high. Higher risks will require more effective conflict resolution mechanisms.

d) Provide for Contract Renewal subject to performance

While it is of important to many contractors to stabilize their business with more long-term contracts, because our industry is young and has many new contractors, it may be premature to require a renewal clause in the contract. The risk of companies dangling long-term opportunities to get a cheap tree today makes this a mixed blessing. ▲

A Beginner's Guide To Treeplanting

As an aid to first time treeplanters, the P.R.W.A. publishes "A Beginner's Guide To Treeplanting."

The booklet contains an introduction to payment practices, questions to ask prospective employers, advice on grievance procedures, gear purchase, tax-saving tips, and addresses of the Ministry of Forests regional offices, Employment Standards Branch offices, and Workers' Compensation Board offices.

To purchase by mail, send \$3 to:

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Vancouver, B.C. V6B 3Y3

North Island College

Comox Valley Ctr, 407-5th St Courtenay, BC V9N 1J7

FORESTRY / SILVICULTURE CREWPERSON

This program teaches students the theory and practical skills required for employment in the silviculture section of the forest industry. Students will learn forest regeneration and stand tending operations and they will acquire skills for power saw handling for thinning and spacing, use hand tools for pruning and planting and use brush saws for clearing and spacing. Tree identification and recognition of common insects, diseases and undesirable species are also part of this intensive program.

Course date: January 15—April 13, 1990

Tuition: \$300 Text: \$90

Ph: (604) 334-8911

MOF Reports

MOF Checks Employment Standards

F.A. Baxter, MOF Regional Manager

The Contract form used by the Ministry for silviculture specifies that there be no subcontracting or transferal without the written consent of the Province. However, it has come to my attention that this provision may not be being adhered to in all instances.

Some contractors are apparently considering their workers as self-employed thus avoiding having to make contributions for Canada Pension and perhaps WCB. Also, they may be avoiding requirements of the provincial labour laws including overtime, minimum wage, holiday pay etc. I am advised that this practice is in contravention of Employment Standards Legislation.

Consequently, such contractors can offer lower bids, which is unfair competition to legitimate contractors who operate according to the letter of the law. The "level playing field" is negated.

Be advised that where in the course of their contract administration Ministry staff become aware of apparent infractions of other Acts or Regulations such as WCB or Employment Standards, the contractor will be advised of the apparent infraction and be requested to comply. In addition, infractions will be reported to the appropriate regulating agency. The Ministry of Forests is prepared to co-operate with the regulating agency to the point of invoking contract cancellation (and security deposit forfeiture) procedures on the basis of non-compliance with the Silviculture contract conditions, or refusal to award future works until such time as the Ministry is assured to its satisfaction that such infractions are curtailed.

The support of your Association is requested in informing and encouraging members to adhere to the various Acts and Regulations particularly those pertaining to Employment standards. I acknowledge that Employment Standard requirements has been a major agenda topic at Association meetings during recent years.

Efforts by the W.S.C.A. in advising member companies of the Ministries intent and assisting to ensure compliance with respect to the sub-contracting clause will be appreciated.

Marr Farewell

Ben E. Marr, Deputy Minister of Forests

You may be aware, through the media, that I am leaving the Ministry of Forests. I do so with mixed feelings. I have enjoyed the challenge of the past three years and the people I have met and worked with, tremendously. At the same time, I look forward to accepting new responsibilities as the Regional Manager of the Greater Vancouver Regional District, effective January 4, 1990.

I leave the Ministry of Forests confident that the major policy changes with which I have been involved are now established as the forest sector shifts to a new era which will prove equally challenging to my successor.

An acting Deputy Minister of Forests will be in place when I leave in late November or early December.

I have enjoyed our association and thank you for your cooperation during some difficult periods of adjustment.

To you and your members, go my best wishes on your future endeavours as you seek to work toward new directions in the management of our most dynamic natural resource, the forests of British Columbia.

Forest Enterprise Program

The Forest Service has established a joint government-industry committee to look at ways to strengthen the small Business Forest Enterprise Program.

As a result of recent legislation and policy changes, this program has expanded considerably and taken on new directions. In particular, we have had major successes in encouraging the production or remanufactured and specialty forest products through our timber sales under this program. Some parties have suggested ways to strengthen and improve the program even further.

The 'bid proposal sales committee,' to be chaired by Assistant Deputy Minister Wes Cheston, will review existing policies for sales under the program and propose changes to encourage greater production of remanufactured and specialty forest products.

The minister said he expects the committee to submit a report before year's end. Meanwhile, timber sales will continue to be handled under existing policies and procedures.

In addition to the Forest Service, three forest companies producing value added products, and a representative from the Independent Lumber Manufacturers Association, The Truck Loggers' Association, the Council of Crest Industries, the Cariboo Lumber Manufacturers' Association, the Interior Lumber Manufacturers' Association, and the Northern Interior Lumber Sector have been invited to sit on the committee.

Reforestation: Fact or Fiction?

**John Cuthbert, Chief
Forester**

Recently, the Sierra Club disputed the quality of British Columbia's future coastal forests.

I must question the source for the allegations: a report, written by a former log-scaler, a former tree-planting contractor & a conservation advocate. It is based entirely on opinions & selected quotes from government reports.

The authors claim our coastal forest plantations are failing. This is fiction.

The fact is, we've improved reforestation in our province phenomenally in recent years—both quality & quantity.

This year, we planted the two billionth tree under our reforestation programs. It took 50 years to plant the first billionth seedling; seven years for the second billionth; and now, within four planting seasons we will plant another billion trees—of 10 species.

But we don't stop after we've planted the tree in the ground.

Since growing quality trees is our main objective, we monitor and tend the new forests to ensure that our trees reach the free-growing stage. And, we continue to conduct research on how to grow better trees.

Our efforts, of course, have not been 100 per cent successful in the past. We've made mistakes, such as planting Douglas-fir on a limited number of sites where it grows too fast, leading to a distorted form.

Through research, we've identified the problems with particular species in some areas. We've also come up with solutions to resolve these problems.

Today, we are implementing one of the foremost systems in the world to determine the best way to harvest and then prepare and reforest the harvested sites. It was developed by our own research ecologists.

This ecologically-based management system, unparalleled in scope and

usefulness, provides management strategies for all forest ecosystems based on the characteristics of the site.

Our highly trained ecologists worked for more than 10 years to classify the soils, vegetation and climate into distinct management units.

Today, foresters are using this system to make sound ecological decisions for every treatment they prescribe: from locating roads to selecting the right seedlings for a site.

Since the early 1980s, we've based our planting program on ecologically based species selection. Most of the plantations now showing distorted growth were planted before these guidelines were developed.

Research into the distorted growth of Douglas-fir indicates that it grows too rapidly on some wetter and richer ecosystems, even though it was the original species on the site.

The report, cited by the Sierra Club, states: "there are hundreds of thousands of hectares of distorted & stunted growth on the coast; provincially there are perhaps millions of hectares."

Distorted growth is a natural occurrence and exists to some degree in every coastal Douglas-fir forest. Severe distortion is evident on less than 2,000 hectares. In stands with a higher level of distortion only 20 per cent of the stems are affected and these trees will be removed through spacing or thinning operations.

We do know, however, that where the problem is significant is limited to sites on Vancouver Island's extreme west coast and some mid-coast areas, where the land is flat and very wet.

Before we developed the ecologically based species selection system, we reforested according to the value of the trees. At that time, Douglas-fir was the species chosen because of its high value. At present, our ecologically based system indicates a range of species that are suited to the site and those are the species planted.

The statement that "the most recent report shows that the value of these

trees are 43 per cent of anticipated value" refers to a study that looked at two sites that showed the most severe expression of undesirable form traits found in Douglas-fir on the coast.

The authors also claim that "foresters are privately calling large parts of Vancouver Island silviculture slums."

This statement makes great headlines, but I challenge the authors to identify which foresters? How many? Exactly how large and where are these areas?

The average survival rate on plantations in British Columbia for the past 10 years is 73%. Survival is 84% for more recent plantations. Research will continue to improve survival.

We have virtually no backlog of unstocked Crown forest land on Vancouver Island.

The authors also refer to forest soil degradation from forestry activities.

We recognize the need for good forest soil management. We have implemented soil disturbance guidelines to minimize degradation. We are conducting numerous research projects throughout the province on this issue. And, we are training people to improve soil management. Any harvesting activity will result in some soil disturbance. Our goal is to keep the disturbance to an acceptable level.

Today, we are planting 65 per cent of the areas harvested and preparing sites for natural regeneration on the remaining 35 per cent. We are monitoring all these sites until they reach the free-growing stage.

Next year we will plant 300 million, quality seedlings with better survival and growth than ever before. With our continuing research program, we will do better with each successive year.

We are continuing our research to improve the quality of our new forests. We are also continuing our efforts to provide accurate information to the public about our forest resource.

The article cited by the Sierra Club does a great disservice to the many dedicated Forest Service and forest industry staff involved with British Columbia's reforestation program. ▲

FRDA Reports

Update on Agreements Across Canada

Maritimes

P.E.I. has signed an agreement.

New Brunswick is close to an agreement— somewhere around the \$100 million mark. The exact structure of programs is currently being worked on; it is not known when the agreement will be signed.

Nova Scotia has received monies, a large chunk of which was earmarked for cleaning up the Halifax harbour. The Province wants additional funding for forestry; however, the prognosis for receiving same is not known.

Quebec and Ontario

Nothing is on the horizon which would add to the momentum of their last agreement.

Prairies

WDO is waiting for Cabinet to sort out the FRDA funding process.

B.C.

An issue paper to Cabinet is proposed, it will include what is being asked for in the first year of a FRDA II. There has been broad political discussion, but no negotiations have been initiated.

From the provincial side, the activity level under FRDA I is proceeding on the assumption that there will be a FRDA II.

In response to the Advisory Committee's belief that there will be a FRDA II, B.C.'s chief forester John Cuthbert, advised that nothing should be taken for granted. Asked if there were any groups lobbying against FRDA, he advised that there aren't; however, there have been some letters registering concerns.

Apathy is probably the worst enemy proponents of FRDA must fight.

It was suggested that a delegation of representatives from pertinent agencies should be formed to go to Ottawa.

Fisheries & Wildlife Concerns with FRDA-II

David W. Narver,

Director,

Fisheries Branch

James H.C. Walker,

Director Wildlife Branch

In anticipation of a FRDA II agreement, for \$700 million over the 1990-95 period, the Ministry of Environment is presenting an initial statement of requirements for framing an environmental review process consistent with meeting the objectives of the Crown with respect to environmental quality, water, fish and wildlife.

1. FRDA II Improvements Required

In FRDA I, the Ministry of Environment received funding for environmental review in years four and five, for a total of \$600 thousand (or 0.2%) over the 1985-90 period. Also, the FRDA I mid-term evaluation did not consider environmental issues.

Notwithstanding Section 9 of the FRDA I agreement which states, "the intent of both the Environmental Review Process and the Provincial Impact Assessment Policy shall be followed for all projects under this agreement", from the Ministry of Environment perspective certain improvements are essential in a FRDA II agreement, as follows:

- a) Section 9 should be redrafted to provide strategic direction to the proposed Habitat/Silviculture/Protection committee; proposed as a working group under the FRDA Management Committee.
- b) The objectives of the FRDA I agreement should be broadened from not just minimizing Potentially negative environmental

impacts of funded FRDA activities to pro-active manipulation of forests (for example) such as pre-commercial thinning to encourage forage production later into the forest rotation or to enhance growth of streamside trees with positive habitat value for fish and wildlife. Especially here compatible with silvicultural objectives, these options have considerable merit for achieving integrated resource management.

- c) Direct allocation of funds to Environment for environmental review is preferred to the existing administrative management.
- d) In keeping with the new knowledge of alternative silvicultural systems emerging out of old growth research in the Pacific Northwest, the scope of FRDA research should be expanded. The application of this new knowledge has potential for many direct benefits, including forest productivity, pest management and fish and wildlife habitat.

2. General Comments on the Ministry of Forests "Grocery List"

FRDA II must be an integrated agreement that includes all forestry resources. Presently only item #9 addresses resource integration. Another major concern with intensive silviculture is the potential for a large scale reduction in environmental diversity and quality. For example, the definition of N.S.R. should be reviewed, as should the criteria for "free to grow." If species such as aspen are classified commercial, the conflict over wildlife forage would be reduced in many areas.

FRDA Reports continued...

Issue #1 Plantation Maintenance:

The redefinition of "free to grow" is required in the context of an objective to achieve ecological and genetic diversity. Similarly, stand treatments also need to be reviewed. It is suggested that statements like as manyatics as necessary to ensure free growing status' can be interpreted as inflexible rules and be counter-productive to responsible and sound integrated resource management.

Issue #2 Backlog Reforestation:

Fish and wildlife values need to be surveyed and assessed during the inventory of backlog H.S.R. areas. Does the denuded" refer only to previously logged areas?

Issue #3 Incremental Forestry (the intent being to reduce supply short falls):

Practices such as thinning, fertilization, pruning can all be beneficial to wildlife and provide increased forage at points during the forest rotation. Similarly, shortfall concerns can be alleviated by commercial thinning which also increases the potential for forage. It should be emphasized that these types of projects should be rationalized on the productivity potential of the land base, not solely on timber supply needs, as implied.

Issue #4 Program communications:

These activities need to include non-timber resources and to be presented using terminology supportive of integrated resource management.

Issues #6 and 6 Research and Development:

A significant increase in research on the other forest resources is needed. Narrowly interpreting FRDA I to forest renewal enabled only a small number of the proposed integrated resource research projects to proceed. A percentage up to 10% to include these

items for direct allocation to the Ministry of Environment is suggested.

Issue #7 Pest Management:

Planning and management of sites with the ecological potential to initiate pest outbreaks should be included.

Issue #8 Fire Management:

A FRDA II with a broad definition of forest resources would include the use of prescribed burning as a tool for habitat and range enhancement within the context of fuel management.

Issue #9 Influence of Non-Timber Resources:

Increased emphasis on planning of FRDA II projects is needed. Integration requires the inventory of non-timber resources. In areas lacking information, the onus should be placed on the proponent to supply adequate inventory.

Issue #10 Forest Education:

This topic must emphasize the spectrum of forest resources and the processes and procedures by which their management is considered; from inventory, evaluation, planning, integration and monitoring.

Issue #11 Geographic Information Systems:

GIS is one tool for integrating resource use. development of GIS within the Ministry of Environment therefore is essential if FRDA II projects are to be state of the art".

Issue #12 Hardwood Forest Management:

Should be expanded to include the riparian (streamside) zone where such of the hardwood is located.

3. A Sound Integrated Resource Management Process is Required in FRDA II

Currently MOE has a provincial network of 17 small offices whose primary responsibility is to manage the impact of many development activities on fish and wildlife habitat. For these staff to cope with major increases in workload, like FRDA II over 5 years, requires not only a well conceived and implemented process for reviewing FRDA plans, but also increased staff support.

When combined with a silvicultural needs assessment survey, an "Integrated Resource Management Weeds Assessment Survey" could form the base line for a sound integrated resource management process of inventory, management planning and monitoring. In other words, where do FRDA II projects and fish and wildlife habitat values overlap, and how best can everyone's needs be met?

Our suggestions to accommodate the needs of integrated resource management in FRDA II in the negotiations are:

- a) Include integrated resource management in the review of FRDA I.
- b) Provide strategic direction for IRM in the agreement.
- c) **Allocate 3% of FRDA funds for IRM; of this 3% allocate 10% for research and 90% for operations.**
- d) Formally incorporate the Habitat/Silviculture/Protection Committee as a Working Group, reporting to the FRDA Management Committee.

FRDA Reports continued...

Pacific Forestry Centre

**John Drew, Director
General, Forestry Canada
Pacific & Yukon Region**

Forestry Canada (you may know us in B.C. as the Canadian Forestry Service or the "Burnside Lab") will soon attain official departmental status when the new federal Forests Act is passed by Parliament. These new challenges are being viewed seriously. We recognize that to deliver these new responsibilities our work must become more relevant to forestry issues and responsive to clients' needs.

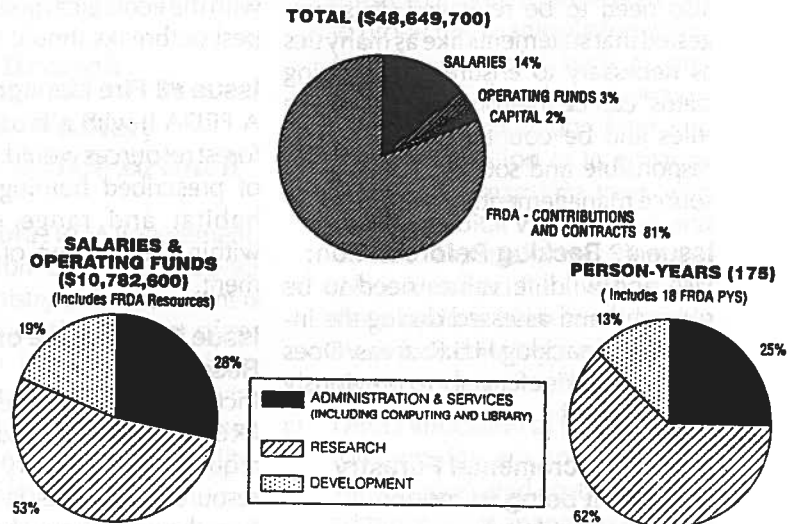
At the Pacific Forestry Centre, we are currently developing a strategic plan to focus the goals of our research and development programs as a basis for directing future activities. Our overall objective is to provide hard answers to client and business related issues.

Through the development of our strategic plan and with your collaboration, we think we will be in a better position to respond to your needs.

The major responsibilities are the negotiation and implementation of Forestry Canada forest development initiatives, which currently focus on the \$300 million, 5-year Canada/B.C. FRDA and the \$24 million, eight-year South Moresby Replacement Fund.

A key point to note is that resources for the Canada-British Columbia Forest Resource Development Agreement (FRDA) currently make up 81% of our total resources. Excluding FRDA, our annual budget is approximately \$10 million, with salaries accounting for 80% of this figure. In our Development Program, resource allocations result from commitments for successfully implementing FRDA. The resources available to our Research Program come as either funds allocated at the discretion of Pacific Forestry Centre's management or funds from Forestry Canada Headquarters committed to specified research.

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No Comment

Further to your Association's correspondence of August 8, 1989 regarding payment schemes for planting contracts and of August 23, 1989 regarding silviculture camp standards, please be advised that both matters are presently being examined. You shall be advised of the results in the near future.

Thank you for expressing your concerns.

P. W. Ackhurst, R.P.F.,
Director Silviculture
Branch

Tony Declines

At last years directors meeting following the annual general meeting I was elected vice president. One of the expectations of the position was that it would lead to my accepting the role of president for 1990. Since this commitment was made the demands on my personal life have been increased substantially with the arrival of my second child. This combined with an expansion of Zanzibar Holdings Ltd. has left me very limited time available for any extra duties related to the WSCA. I feel that accepting the office of president in 1990 would compromise the association as well as commitments to my family.

Taking these circumstances into account I cannot accept the office of president for 1990. I will remain as a director for the end of my term and finish the association projects already started, given that this is acceptable to the other directors.

I apologize for any inconvenience this may cause and request the membership bring suggestions for possible candidates to the A.G.M.

Tony Harrison

Mr. Dirk Brinkman:

I would like to express my concern about the article, "Round-Up Toxicity," (Fall, 1989). I believe it could be highly misleading to your readers. The article consists of a letter that I wrote you in response to a specific question you addressed to me.

You requested information about a rumour that the surfactant in Round-Up had caused widespread sterility. My reply to you pertained exclusively to this query. And yet, you chose to print my letter under the title "Round-Up Toxicity." The reader would naturally think that he was getting a full review of all aspects of toxicity of this herbicide. My letter to you was never intended to be such a document.

Each statement I made can only be interpreted in the context of the sterility rumour. Taken out of context, some of my remarks could be misleading. For instance, the statement about the lack of toxicity information on polyoxyethyleneamine (POEA), Round-Up and Vision is only true in the limited area which I was examining: namely, human reproductive effects of POEA. Since readers could not possibly have been aware of the purpose of my letter to you, they could misunderstand my comments. In fact, there is a great deal of data available in the literature on various aspects of the toxicity of Round-Up.

At no time did you tell me that you were planning to publish my letter. It is my understanding that normal journalistic practice is to inform the author of plans to publish. This would have allowed me to comment on and, at the very least, proofread the manuscript before it went to press.

It is highly regrettable that my letter to you was used without my permission in a manner that could cause serious misunderstandings about Round-Up. I request that this letter be published in the next issue of the WSCA newsletter.

Arlene Higgs,
BC Research

Cariboo Silviculture Training

Silviculture Contractors:

The purpose of this letter is to inform you about the new nine month Silviculture Worker Training Program proposed by Cariboo College and solicit your support.

As you are aware, the demand for will qualified silviculture workers is increasing at a dramatic rate. Workers who have the necessary field skills, and can function on their own without constant supervision are not easy to find.

The Silviculture Worker Training Program provides entry level training for people who want to work in the forest industry. It has been specifically designed by professional foresters, forest technicians, silvicultural contractors and consulting educators to fill training needs in the province's interior.

If you feel you can support the nine month training program, please take the time to write to:

The Honorable Bruce Strachan
Minister of Advanced Education and Job Training
Parliament Buildings
Victoria, B.C. V8V 1X4

The Ministry would pay particular attention to your comments concerning:

1. The suitability of the Thompson/Shuswap/Cariboo region for forestry training (ie: our diverse biogeoclimatic zones).
2. The need for silviculture training.
3. The increasingly high profile that silviculture is taking within the forestry industry.

In general, we are seeing a trend to move forestry training to the Prince George area. This would be unfortunate in view of the advantages our region offers. If you feel forestry programs should be offered in Kamloops, in particular silviculture programs, please take the time to put pencil to paper and express your point of view.

Donna Mason, Program
Coordinator

Stashing & the Employment Standards Act

Please clarify the employers obligation when an employee, (tree planter) who is being paid piecework to plant trees, is found to have not planted, but stashed (buried, thrown in the garbage, thrown off a bridge, under a stump etc.) those trees.

Do we have to pay them for the stashed seedlings? Are we obliged to pay them minimum wage during the period that they stashed the seedlings? Do we have other obligations?

Thank you for your attention to this detail.

Dirk Brinkman

Stash Reponse

Generally, an employer is required to pay an employee for work performed. If an employee is hired to plant trees and the employer agrees to pay an amount for each tree planted, then the employer is required to pay that amount for each tree planted.

If an employee has performed work but it is not possible to determine the number of trees planted or rate of pay, the officer would rely on the minimum requirements when requesting an adjustment.

I will contact you early in the New Year as branch officials would like to meet with your executive to discuss matters of common concern.

Mark Grady
Regional Manager, ESB

COFI on the effect of the GST

You recently expressed concern that the 9 per cent GST would act as a disincentive for forest companies to contract out their silviculture operations.

Dick Bryan, COFI's economist, has checked with the Department of Finance to confirm that the 9 per cent GST invoiced to a client company as a result of contracted silviculture services is a refundable input credit to the company. In a reporting period, the company would simply subtract the input tax credit from any GST which it collected during that period in order to determine the company's net tax remittance or refund. Refunds, apparently, are to be paid within 21 days of the company's tax return being re-

ceived by Revenue Canada, after which date interest will be payable.

The nature of the silvicultural service is not a concern in this regard, ie. that the eventual product of the service, a mature tree, will not be available for harvesting for many years. The invoiced GST represents a refundable tax credit when it is received by a client company. In effect, the only cost applicable to a client company from your Associations point of view appears to be one of timing.

If you have any further questions, please do not hesitate to contact me.

Mike Apsey
President, COFI





Husqvarna 254 - 33 cu. in. 54cc —
The new standard of excellence in the 50cc class. Excellent power-to-weight ratio. Inertia activated chain brake.

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The 244RX is packed with design innovations. Low in vibration, quiet, and efficient on the entire range of clearing jobs. Adjustable quick-release double harness. The 244RX delivers professional performance from start to finish.

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Mountain Reforestation Ltd.
Oliver & Giltrap Reforestation Ltd.
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(A) = Associate Member

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Weldwood of Canada (A)

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MEA CULPA

The last two issues of the newsletter had outdated membership lists. The WSCA apologises for any embarrassment or hardship caused.

This is the latest paid-up list of WSCA members. If you are not listed here talk to your banker, (or your courier company if the cheque did not reach us in time).

If you are not a member you will have plenty of opportunity and encouragement to sign up at the AGM, so don't delay.

W.S.C.A. Membership Form

Name _____
Company _____
Address _____

Post Code _____ Phone _____

Membership \$300 _____
(includes subscription)
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Total Enclosed _____

Please send to:

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