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Renewal

Volume I Number I Fall 1986

The quarterly newsletter of the Canada-British Columbia Forest Resource Development Agreement

FRDA tackles B.C.'s backlog NSR lands

Well over 200 000 ha of British Columbia's backlog NSR (Not-Satisfactorily Restocked) lands have received attention during the past year.

The goals set for the first year of FRDA (the Canada-British Columbia Forest Resource Development Agreement) were met or exceeded (see stories on pages 4-5).

The \$300-million, five-year agreement's main objective is to

replant at least 150 000 ha of B.C.'s estimated 738 000 ha of good and medium-site backlog NSR lands. The agreement covers the period from April 1, 1985, to March 31, 1990.

The \$300-million FRDA budget is allocated to three major program areas: \$200 million for backlog reforestation, \$86 million for intensive forest management, and \$14 million for implementation, communications and evaluation (see fig. 1, pages 4-5, for more detail).

These funds are in addition to existing B.C. Ministry of Forests' ongoing or regular programs and the Canadian Forestry Service's research programs. Each of the two levels of government are providing \$150 million.

The most important program, backlog reforestation, will receive most of the funding and, in turn, most of that will be directed at procuring seeds and seedlings, conducting site preparation, and planting. Other subprograms in backlog reforestation include: NSR surveys and prescriptions; and forestry extension, demonstration, research and development (basically improving our forestry understanding and technology).

The intensive forest management program will stress juvenile spacing, fertilization, and brushing, weeding and pest control. Other subprograms include conifer release, and, again, extension, demonstration, research and development.

The third program is implementation, communications and evaluation. This program aims at effectively managing the agree-



New red and white FRDA site sign designates a juvenile spacing project near Vernon. Larry Atherton, Ministry of Forests' manager of silviculture visited the site during a recent FRDA management field trip.

ment and communicating the results to the general public.

"Cost shared" projects will be paid for equally by the federal and provincial governments, while other projects will be handled directly by the MOF (B.C. Ministry of Forests) or CFS (Canadian Forestry Service) as separate components. Cost-shared projects account for \$240 million, while the federal and provincial components account for the remaining \$60 million.

The provincial component will concentrate on seeds and seedlings — mainly on increasing nursery capacity — and on practical research and development. The federal component covers every subprogram but with the emphasis on private lands, federal crown lands and Indian reserve lands as opposed to the cost-shared emphasis on provincial crown land.

Articles on individual subprograms are included on pages 2-3 of this newsletter.

'Renewal' tracks FRDA progress

Renewing British Columbia's backlog NSR (Not-Satisfactorily Restocked) lands is the main purpose of FRDA (the Canada-British Columbia Forest Resource Development Agreement). *Renewal* will be following the agreement's progress quarterly, starting with this issue.

Renewal is intended for everyone with an interest in maintaining the importance and economic viability of B.C.'s forests and in making sure we regenerate all our available forestlands.

We welcome your letters and suggestions. Please write to: The Editor, *Renewal*, at the address shown on page 2.

As we go to press

This first issue of *Renewal* was researched & written prior to Al MacPherson's retirement on August 31 as Deputy Minister of Forests. A new deputy minister for the B.C. Ministry of Forests and Lands, Robert W. Flitton, has been appointed.



Research focuses on backlog sites

PROGRAMS

Knowledge gaps in reforestation techniques for *backlog* sites — previously harvested sites that have been left unmanaged — are to be tackled with new research during the five-year agreement.

Since reforestation practices and supporting research has to date focussed on *current* sites — sites that have just been harvested — part of the main FRDA program (backlog reforestation) has been established to correct some of these deficiencies.

This E, D, R and D (Extension, Demonstration, Research and Development) subprogram of the backlog reforestation program has three main objectives:

- to ensure all relevant and current information concerning backlog reforestation technology is received by foresters in the field;
- to conduct research into brush and weed control techniques, and into improving planting stock;
- and to develop improved backlog reforestation systems that will include information on the best combination of rehabilitation methods, planting stock requirements, and appropriate brushing and weeding treatments.

Deciding priorities for necessary projects will be the duty of three regional TACs (Technical Advisory Committees). Each TAC will be composed of representatives from the CFS (Canadian Forestry Service), MOF (B.C. Ministry of Forests), the UBC Faculty of Forestry, and private industry.


The three TAC regions consist of:

Coastal: The MOF's Vancouver Forest Region and the coastal portion of the Prince Rupert Forest Region;

Northern Interior: The Prince George Forest Region, the Interior portion of the Prince Rupert Forest Region, and the Quesnel TSA (Timber Supply Area) portion of the Cariboo Forest Region;

Southern Interior: The Kamloops and Nelson Forest Regions and the remainder of the Cariboo Forest Region.

If you would like further information concerning research projects in your area, contact the appropriate TAC chairman: Coastal, Dr. George Krumlik, 387-3025 (Victoria); Southern Interior, Alan Vyse, 828-4150 (Kamloops); Northern Interior, Dr. Dan Lousier, 387-3338 (Victoria).

The complete five-year plan of this E, D, R & D subprogram may be obtained by writing to the CFS publications office at the address on page 6. 

Root rot studied on Island site

New research into root rot will be welcome news for Coastal foresters.

Root diseases account for over half of all timber losses (see box) in the Vancouver Forest Region and by far the major root disease is *Phellinus weirii* (pronounced *fell-line-us* weary-eye)

which possibly accounts for 70 to 80 per cent of the problem.

Under the federal component of FRDA, work has been completed on a heavily infested nine-hectare site donated by MacMillan Bloedel Ltd.

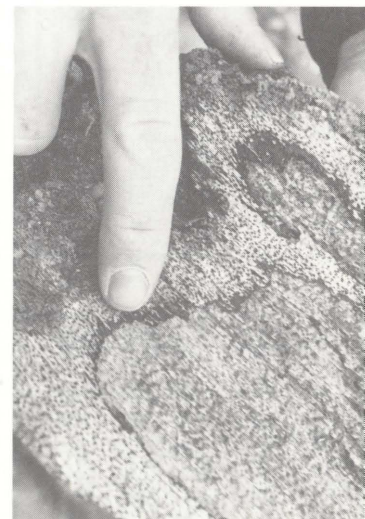
The part-research, part-demonstration site provides a testing ground for accumulated CFS research into the disease. It has already produced some preliminary data on different methods of removing diseased stumps through work carried out last fall.

A quarter of the site was left unstumped as a control and the whole area was replanted with various Coastal and Interior species this spring.

Studies being conducted include:

- site impact of stumping
- infested material residue analysis
- tree species trials
- effectiveness of stumping as a control for *phellinus weirii*.

A natural pocket of maple demonstrates the immunity of living deciduous trees to root-rot



Even in a burned root, the fungus still lives. Kelly Fink points to a moisture protection barrier created by the fungus.

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Root rot tops list

Annual losses to disease, insects, pests and fire in the Vancouver Forest Region amount to 2.5 million m³. The causes, with respective percentages of the problem, are:

root disease	52%
defoliating insects	24%
dwarf mistletoe	18%
wild fires	6%
bark beetles	0.04%

Percentages do not total 100 due to rounding.

diseases. Depending on the size of infected roots, the disease can remain after clearing for up to 80 years. Eventually, however, the fungus will die when all available roots have been eaten.

A 17-minute video explaining the project and discussing the stumping trials is available from Kelly Finck at the address shown on page 6. Further information may be obtained from Dr. Bill Bloomberg, project leader, at the same address.

The demonstration site is adjacent to the Cowichan Valley demonstration forest near Duncan on Vancouver Island. ▲

New greenhouses boost research

Four new greenhouses at Red Rock research station, just south of Prince George, are perfect places for controlling a seedling's environment... and that's just what researchers want.

The computer-controlled environments allow researchers to create specific combinations of temperature and moisture in their experiments to find fast-growing, vigorous seedlings.

These facilities will enable them to use their research into seedling nutrition, seed source and genetic make-up to match nursery tree seedlings to the site where they will eventually be planted.

In addition to the greenhouses, a service building and laboratory will be completed this year for a total two-year cost of \$390,000. The funding was provided under the provincial component of program 1.6 (see fig. 1 on page 5 for program breakdown).

Dr. Dale Draper, the Ministry of Forests' project leader for white spruce reforestation research says an important role for these facilities will be to bring together nursery and field technologies required for successful backlog reforestation. ▲

Forestry 'piece' completes mosaic

For the Musgamagw (pronounced *moose-ka-ma*) Tribal Council in Alert Bay, FRDA is providing the last piece of a jigsaw they started over two years ago.

Their mosaic is an integrated resource management plan that covers fisheries, tourism, wildlife... and forestry, explains project coordinator Bill Wasden.

Under the Canadian Forestry Service's Indian forest lands program, the Musgamagw have outlined a three-phase program to manage their forested lands. They are already well into the first phase of inventory and prescription for the combined 1 245 ha of their reserve lands.

Although the word musgamagw means "four tribes," the tribal council now consists of five bands and includes approximately 2 500 people, 14 of whom worked with a forestry consultant as field crew on the first phase.

Bill expects another 20 to 30 band members will be employed on the second phase of rehabilitation. The third phase will be the development of a comprehensive

business plan to maintain forestry as an essential component of their overall resource plan.

The Indian forest lands program has a \$7-million budget for the five years. So far, 25 proposals have been approved, covering approximately 54 000 hectares. ▲

Woodlot owners gear up for forestry

A start has been made on managing the estimated 500 000 ha of private forest lands in B.C. that are suitable for forestry.

The federal subprogram for private forest lands has already approved 24 projects for the current fiscal year (April 1, 1986, to March 31, 1987), the budgets for which amount to \$176,600. This covers the development of management plans for, and the surveying of 7 200 ha, and the silvicultural treatment of a further 275 hectares.

In the first year of this program — to March 31, 1986 — \$263,500 was spent on five projects, including projects by the North Cowichan municipality and the Greater Victoria Water District.

The majority of the program's estimated five-year, \$7-million budget is allocated for use in the final three years of the agreement from April 1987, to March 1990.

Owners of a minimum of 20 ha may be eligible for assistance under this program to a maximum \$80,000. These funds are available for such projects as forest inventories, management plans, backlog reforestation or intensive forest management.

This program may provide up to 80 per cent of total costs, provided the woodlot owner guarantees a minimum of 15 years of continuous forest management on the property.

For further information, contact John Burch at the CFS address on page 6. ▲

NSR lands capture majority of funding

As the NSR land lies, so goes the funding to solve the problem. Both leaders of FRDA management stress the fact that this federal-provincial agreement was primarily intended to regenerate the backlog of NSR lands. Ross Macdonald, Director General of the Canadian Forestry Service's Pacific and Yukon region, says the Prince George forest region has the bulk of the NSR problem in B.C. and will consequently receive a proportionately larger share of the funding.

And as provincial Deputy Minister of Forests, Al MacPherson says, he and Macdonald will stick to the main purpose of the agreement, namely to create productive forests on the good and medium site backlog NSR lands.

The numbers are still being collected from the B.C. Ministry of Forests' six regions and 46 districts for the first complete year of the agreement ending March 31, 1986.

But the estimated expenditures show the correlation between NSR and FRDA funding.

As shown in fig. 3 below, the Prince George region has 66 per cent of the province's estimated 738 000 ha of good and medium site NSR and received 50 per cent of the cost-shared 1985/86 budgets allocated for on-site treatments.

Every forest region has its own

	(\$millions)
B.C.	300
Quebec	300
Ontario	150
Nova Scotia	78.9
New Brunswick	77.4
Newfoundland	48
Saskatchewan	28
Manitoba	27.2
Alberta	23
PEI	20.1

Duration and cost shareable portions vary from agreement to agreement.

Fig. 2 The Federal Government contributes \$540 million and the Provincial Governments \$503.6 million across Canada.

forest management requirements: some need more accurate inventories, others need extensive brushing and weeding, while still others may primarily require planting programs.

For example, most of the funds in the Prince George region were spent on site preparation and rehabilitation and on planting, while relatively little was spent on surveys and prescriptions.

On the other hand, most of the funds in the Vancouver region were spent on juvenile spacing and brushing and weeding.

In the Cariboo region, budgets were divided fairly equally amongst four programs with juvenile spacing getting the most, followed by site preparation and rehabilitation, then

planting and finally surveys and prescriptions. An \$11,000 rehabilitation program collected 22 hectolitres (hl) of cones.

Site preparation and rehabilitation received most of the budgets in both the Kamloops and Nelson regions, closely followed by planting, while surveys trailed in third place. Nelson also had a small brushing and weeding program.

Juvenile spacing was given priority in the Prince Rupert region, receiving approximately one third of the region's budget. Other programs included site preparation, planting, and surveys.

As a clearer picture of the whole situation emerges, budget allocations will change to correct problems or to take advantage of opportunities.

Macdonald and MacPherson say the bulk of the funding will be spent in the final three years of the agreement after the programs and subprograms have geared up during the first two years.

In addition to the \$27 million budgeted for on-site regional funding during the current fiscal year, a further \$8.2 million will be invested in projects that are provincial in scope, such as improvements to seedling nurseries and research facilities, and in numerous cost-shared research and development programs.

Federal and provincial components will account for another \$4.4 million each on such projects as noted in the separate stories on pages 2-3 of this newsletter.

Prescribed fires more effective?

The use of prescribed fires for burning logging slash should be more effective in future, thanks to the new "Field handbook for prescribed fire assessments in British Columbia."

Prescribed fires can serve many purposes, including site preparation for planting, removing logging slash that poses a fire hazard, and for controlling in-

	Fed	Prov	Cost-Shared	Totals
1. BACKLOG REFORESTATION				
1.1 Surveys and Prescriptions	0.5		1.5	1.5
1.2 Seeds and Seedlings	2.0	21.0	21.3	65.6
1.3 Site Preparation	4.0		26.6	26.6
1.4 Planting	3.0		20.6	20.6
1.5 Implementation	5.0			5.0
1.6 Extension, Demonstration and R&D	4.0	6.0	7.0	7.0
	18.5	27.0	77.0	77.0
2. INTENSIVE FOREST MANAGEMENT				
2.1 Brushing, Weeding and Pest Control	2.0	1.0	4.0	4.0
2.2 Conifer Release	1.0		2.0	2.0
2.3 Juvenile Spacing	4.5		20.0	20.0
2.4 Fertilization	0.5		10.0	10.0
2.5 Implementation	2.0			2.0
2.6 Extension, Demonstration and R&D	1.0	2.0		3.0
	11.0	3.0	36.0	36.0
3. IMPLEMENTATION, COMMUNICATIONS AND EVALUATION				
3.1 Implementation Contracts, Monitoring and Evaluation	0.5		6.0	6.0
			1.0	1.0
3.2 Communications	0.5		7.0	7.0
				2.0
TOTALS	30.0	30.0	120.0	120.0
				300.0

Fig. 1 Backlog reforestation is the main focus of FRDA funding and the intensive forest management program will help achieve FRDA's overall objective of securing and expanding B.C.'s supply of wood.

sects, disease and unwanted vegetation.

Funded under the FRDA program 1.6 (see fig. 1, pages 4-5), the free booklet has been designed specifically for operational use to document prescribed fire treatments and to assess the success or failure of specific prescriptions. This is the first step towards a computerized prescribed fire management information system that should result in improved fire prescriptions.

However, the fate of this planned information system depends on how much the handbook is used at this stage of information gathering.

The authors estimate that a pre-fire assessment can be completed by two people in one day while a post-fire assessment

should take two people about half a day to complete.

The handbook was tested in 1985 on prescribed burns at Woss Lake, Houston and Nelson and is being used to document 15 prescribed burns this year.

Instrumental in the compilation of the booklet were CFS fire researcher Brad Hawkes (388-0691), MOF Smithers regional research pedologist Rick Trowbridge (847-7434), research assistant Anne Macadam (847-7431), and MOF protection branch fire ecologist John Parminter (387-8736).

The booklets may be obtained from the MOF research branch in Victoria (387-3018).

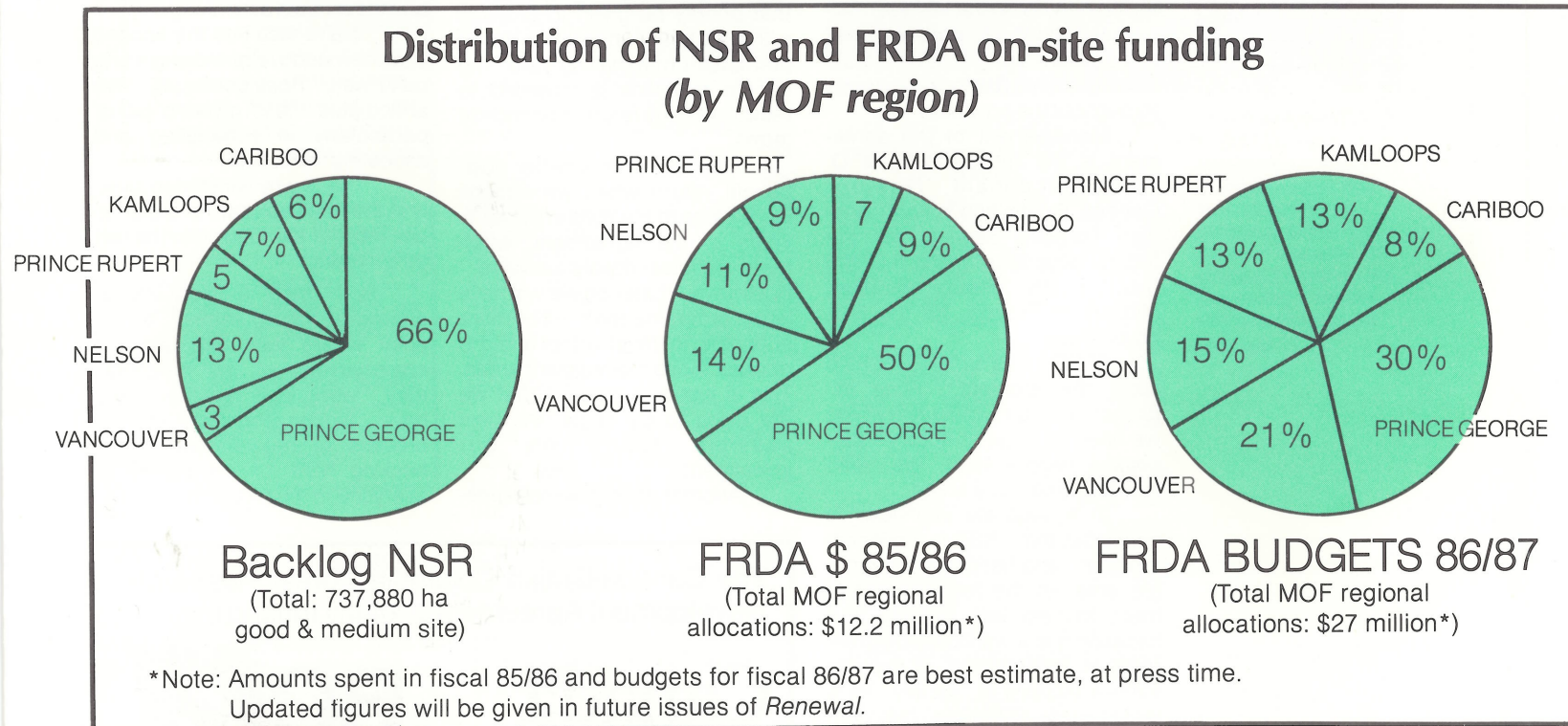


Fig. 3 Since Prince George Forest Region has the "bulk of the NSR problem... they'll get the larger part of the FRDA funding," says Ross Macdonald, the federal leader of FRDA management (see page 6 for profile).

Ross Macdonald / Al MacPherson

NSR regeneration is their concern

PROFILE



Al MacPherson, left, and Ross Macdonald represent the provincial and federal governments in the management of FRDA.

Both men agree: the main thrust of the Canada-British Columbia Forest Resource Development Agreement is to tackle the "extremely difficult problem" of regenerating NSR (Not-Satisfactorily Restocked) lands throughout the province.

Management of the agreement is the responsibility of D. Ross Macdonald, Director General, Pacific and Yukon, Canadian Forestry Service, for the federal government, and A.C. (Al) MacPherson, deputy minister, Ministry of Forests, for the B.C. government.

"FRDA was designed to help solve the problem," Ross explains. "We don't know everything we need to know to achieve successful regeneration. We need research into many areas."

In a separate interview, Al points out that "NSR is a national problem" and hence an appropriate area for the federal government to help with funding. But because it is a well-funded agreement at \$300 million, Al expects various factions to "jockey" for a larger share of the pie. "My con-

cern is to maintain the NSR focus in the face of competing interests."

Ross says the "bulk of the NSR problem is in the Prince George area and consequently they will have to have a larger part of the funding" under the backlog reforestation program.

The other major program in the agreement is intensive forest management. "We're allocating most of that funding elsewhere," Ross says.

"For example, foresters in the Southern Interior feel NSR is not their problem — in fact *overstocking* is something they have to contend with — and therefore they'll likely get more of the intensive forest management budgets."

One requirement of FRDA is that priority be given to projects within 40 km of an existing mill or permanent marshalling yard. The 40 km guideline is intended to realize an early return in economic terms.

"We will have a better cost-benefit return when we restock lands close to the mills in the early years of the Agreement, when there are fewer dollars available," Ross says. "Later on we will have larger programs and it will be more economic to travel further afield to reforest those more distant areas. This is just one process that we are using to try to get the best possible return on our investment."

Another aspect of the Agree-


ment is to help alleviate unemployment. "Intensive forest management projects can be turned on and off more easily than restocking programs," Ross explains, "hence they give us flexibility to distribute funds more widely to counter unemployment."

The long-term, major goals for FRDA were well thought out, Al says. "They're still good, although the internal programs need some redistribution."

Ross agrees: "Any redistribution will be minor in nature but in a program of this size it's impossible to foresee all the details. If circumstances change or new opportunities arise we might need to make some changes between forest regions or even between specific programs such as, say the amount of fertilization we do and the amount of thinning."

"We're well into the second year now and we're moving along quite well," Ross continues. "We anticipated these growing pains, particularly in scheduling and allocating the dollars.

"That's why we started slowly in the first two years and plan to use most of the funding in the last three years."

Both men are equally in charge of the agreement, to the point where they alternate the chairmanship of the meetings; they "work well together" and have "similar concerns" in the process of regenerating B.C.'s backlog NSR for the benefit of everyone in the province. 

The Canada-British Columbia Forest Resource Development Agreement is jointly funded by:

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