

Kenewal

Vol. 1 No. 3 Spring 1987

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

Planners see FRDA work continuing

What happens to the silviculture treatments started just before the 1990 termination of the Canada-British Columbia Forest Resource Development Agreement?

That is a concern expressed by Prince George resident John Casteel, Lakeland Mill's Manager, Forestry and Engineering, in a recent letter to Renewal (see sidebar, this article).

"Well," says Jack Biickert, Di-

rector, Industrial Development and Marketing Branch, MOFL (Ministry of Forests and Lands), "that concern assumes that FRDA stands alone in isolation — but before we ever get into such agreements, we go through a careful planning process.

"The current FRDA is itself a continuation of a previous five-year agreement. That \$50 million agreement was extended an extra year with an additional \$11 million until

we completed negotiations for the current \$300 million, five-year FRDA.

"We are now going into our third year of FRDA, and later this year or early next year we'll be doing our homework with the intention of putting together another agreement," Biickert says.

"The need for intensive backlog silviculture can be demonstrated. The situation is well documented. And we've still got over 600 000 hectares of backlog to go in B.C. Don't forget that we're

... see "On-Going," page 5

Reader asks the question: 'What next?'

I have a question concerning the continuity of NSR backlog rehabilitation. If one assumes the present agreement will terminate on March 31, 1990, and not be continued, then what will happen to those trees grown in 1988 and 1989? If the trees are to be planted in May and June of 1990 they would be ineligible for any funding under FRDA. Also my question concerns what would happen to those thousands of hectares of NSR that may be treated in 1989 and not be able to be planted until 1990 or 1991 due to the time lag of growing one and

two year old seedlings.

One final question involves silvicultural stand maintenance such as brushing and weeding. The reforestation of thousands of hectares under FRDA in 1985 through 1989 will require brushing and weeding from 1990 to 1995. Without this management program, the reforestation program may have largely been wasted. I wonder what plans are being made for insuring the continuity of backlog reforestation.

> John Casteel, RPF Prince George

Materials produced for forest week

National Forest Week activities (from May 3 through May 9) are becoming annual events in many B.C. communities and last year's total of 74 participating communities is expected to be exceeded this year.

Support materials such as placemats, balloons, buttons and bookmarks are in hot demand, says BCFA (British Columbia Forestry Association) president Bill Young. FRDA funding through the Canadian

Forestry Service and B.C. Ministry of Forests and Lands is helping.

"We at BCFA act as a coordinating centre for the communities interested in being involved," explains Young. "We, as a national organization, provide the theme, some support materials, and ideas and encouragement."

This year's theme is "Our forests — a shared resource", which will be picked up by the participating

... see "Forest Week," page 3

New brochure says forests for sharing

"British Columbia's forests - a shared resource" is the title of a new full-colour brochure being distributed by FRDA (the Canada-British Columbia Forest Resource Development Agreement).

The 16-page, six-by-nine-inch publication provides a general understanding of the state of our forests, their importance to our present and future well-being, and the contribution being made by FRDA's \$300 million, five-year program.

The theme of the brochure is carried in the headlines: Our forests - a shared resource. We can all benefit and still pursue our own interests . . . But we must strive to cooperatively protect our forests . . . And we must seek the best way to manage our resource . . . Then we will ensure . . . our forests are for all of us!

For copies of this brochure, please write to the publications office of the Canadian Forestry Service, Pacific Forestry Centre, 506 West Burnside Road, Victoria, B.C. V8Z 1M5. Telephone: 387-0600.

Games speed up 'slow' process

PROGRAMSIII

Melissa Hadley always understood why the general public found forestry a little boring — everything happens so slowly when you're growing trees.

"I was working at an interactive forestry display on Granville Island back in 1981 when I started trying to think of ways to collapse the long time frame that's invariably a part of forestry.

"That's when I came up with the idea of computer simulations of some of the processes — turn the slow process into fast, stimulating computer games," she explains.

Hadley earned her forestry degree at the University of British Columbia and also has a teaching degree. She is presently developing "social forestry" (the "people" aspect of forestry) for forestry consultants Reid Collins and Associates.

Her original proposal to develop the games met the approval of the Canadian Forestry Service in 1982. FRDA funding recently helped add

Renewal

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the finishing touches to produce the games in both English and French for national distribution.

"I wrote the scenarios and formulas and had someone else develop the computer programs," she says of the three programs.

"Dispatcher" gives you the job of scheduling the transportation of logs from stump to dump.

"Forest Management" gives you a chance to advise clients on the best way to manage 100 hectares to produce the most wood over 100 years — despite hazards such as fires, insect attacks and expropriations

"Integrated Resource Management" puts you in the hot seat of provincial premier. Your job is to balance the mining, forestry, wildlife and recreation values of one block of land — and your decisions are rated by voters at the end.

The games are intended for people from nine to 16 years old, Hadley says, but she points out that students on Simon Fraser University's masters program have found them interesting and informative.

Grouped under the title "Operation Green Gold", the games run on Apple II+, IIe, and IIc personal computers and will soon be available for the Commodore line.

They cost \$24.95 each and can be ordered from: School Services of Canada, 66 Portland Street, Toronto, Ontario M5V 2M8. Telephone (416) 366-0903.

Celebrities challenge Canadians

What do Jaguar chairman Sir John Egan, Australian author of *The Thornbirds* Colleen McCullough, Japanese home builder Hajime Tsuboi, and Mexican architect Pedro Ramirez, have in common? They have all been appearing in

Canada's forests like green gold

Operation Green Gold is so named for a good reason.

Gold is nature's most widely recognized precious metal and it symbolizes wealth.

Our forests represent our most precious natural resource and can be a continuing source of wealth.

Canada's forests create more than 750 000 jobs coast to coast. More than 300 Canadian communities depend on them for their livelihood.

Our forests are like gold — green gold.

30-second television spots and two-page magazine ads since mid-January. Their message has been straightforward: We in Canada are leaders in the forest industry, but we must make sure we stay ahead of the competition.

The "Green Gold" national forest awareness campaign, sponsored by the Canadian Council of Forest Ministers, will wind down in April.

Profile (from back page) . . .

ment ends in 1990?

"The achievements being made under FRDA are needed; the research projects started are in demand," Cuthbert points out.

"Certainly the Crown has a big investment in these areas so we'll want to protect that investment by whatever means possible.

"So whether we continue this work with a FRDA 2 or whether we do it out of our own ministry budgets, it will be a priority for management," he concludes.

FRDA creates work for planters, others

Former Prince George silviculture officer Al Todd got started in his own business largely because of FRDA (the Canada–British Columbia Forest Resource Development Agreement).

"In essence, FRDA created my business," Todd says of his company, Integrated Silviculture Services Ltd., which he started just prior to the beginning of FRDA in 1985.

"I was watching FRDA develop while still working in the Prince George Forest Region and saw an opportunity," he explains.

"Our interest lies specifically in silviculture and more excitingly in the whole backlog reforestation area. At the peak of the season we have 16 on staff, concentrating on

have 16 on staff, concentrating on such things as backlog silviculture prescriptions, surveys, and mechanical and chemical site preparation."

Todd, a Registered Professional Forester, adds his company is also getting other work from commercial nurseries such as technical and administrative management, quality monitoring and some research projects. He has even had some contracts to help private land owners

develop their properties for forestry under FRDA's federal private lands program.

While Rami Rothkop of Rothkop Contracting in Nelson started his tree planting business well before the start of FRDA, the federal—provincial agreement accounted for "about a quarter of my business in 1986," he says, "and I'm planting about 1.5 million trees a year."

Rothkop says he has been gearing up to increase his output because of all the increased interest in replanting backlog and other areas although he is only counting on planting the same number of trees again this year.

Carl Loland, president of Tawa Enterprises in Prince George, heads up a much larger operation, planting 10 to 13 million trees a year. Yet he says about 20 per cent of his planting is due to FRDA contracts.

"We plant in B.C., Alberta and Saskatchewan although we're only planting in B.C. this year. There's a large increase in trees available to plant here and we're just about at capacity already," he says, adding Tawa restricts itself to planting in the northern interior of the province.

As Rami Rothkop says: "FRDA has probably helped every tree planter and contractor in this province" and quite a few others as well.

Merrithew notes achievements

Over 2000 projects and more than 150 000 days of employment have been created in the first two years of the federal-provincial forestry agreement, FRDA.

The Honourable Gerald S. Merrithew, Minister of State (Forestry and Mines), noted these statistics when he presented the B.C. Minis-

try of Forests and Lands with a cheque for nearly \$13 million.

The cheque represents 75 per cent of the federal govenment's 1986/87 contribution to the cost-shared portion of the FRDA funding.

Merrithew was one of the guest speakers at the February 1987 annual meeting of the Association of British Columbia Professional Foresters held at Williams Lake.

Merrithew said approximately 300 000 hectares have been surveyed, 48 000 hectares have been site prepared, and almost 40 million trees have been planted on 32 000 hectares in the two years ending March 31.

In addition to those accomplishments under FRDA program 1 (see Fig. 1, pages 4–5), some 3 700 hectares have received brushing and weeding treatments, 9 700 hectares have been spaced, and 8 000 hectares fertilized under program 2.

Forest Week (continued from front page) . . .

communities. Merritt, for example, holds an annual parade; Prince George has an annual forestry exhibition with 80 to 90 companies directly involved. Other communities organize mall displays, dances, radio and media programs, field tours, and many other related programs, Young says.

Theme placemats proved popular last year with demand far exceeding the 25 000 printed. This year 225 000 are to be produced, as well as many other items designed to increase the public's awareness of the importance of forestry.

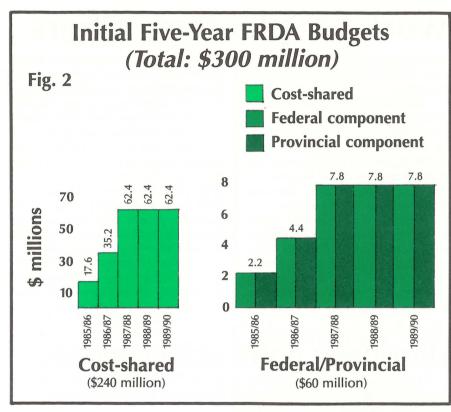
Contact Bill Young at 683-7591 (Vancouver) for more information.

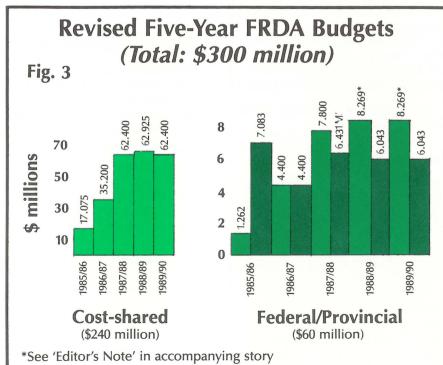
First report out

The first FRDA annual report has been released. It covers the first year of the agreement from the signing in May, 1985, through March 31, 1986.

The 19-page document is available by writing to the Canadian Forestry Service or the Ministry of Forests and Lands at the addresses on page eight.

Changing requirements have effect of





Practicalities of running a program such as FRDA can be seen in changing budgets as the five-year federal-provincial agreement moves into its third year April 1.

The five-year budget of \$300 million is broken into three components — cost-shared projects and separate federal and provincial components — as shown in Fig. 2, this page. The program was designed to start slowly in the first year and build up to an annual budget of \$78 million.

Cost-shared projects account for 80 per cent (\$240 million) of the total funding. While the costs of these projects are shared equally by both governments, the actual work is implemented by the province. While the FRDA work is closely coordinated with regular forest service silviculture programs and procedures, all FRDA projects are identified separately and represent additional work that would not otherwise be done.

Federal and provincial components each account for a further 10-per cent (\$30 million) of the total.

Under these components, the province focuses on growth and yield-performance monitoring, seed supply and processing needs, technology development and transfer for seedling supply, applied research support, and pest-control activities.

The federal government, through the Canadian Forestry Service (CFS), focuses on forest management and development on federal, Indian and privately owned lands. It also undertakes scientific research, improved forestry education, technology development and transfer, and identification of economic development opportunities.

"Of course, all these projects are guided by the fundamental goals of the agreement — to replant part of the backlog areas of the province, to intensively manage selected forest stands, and to support forest research," points out

on program budgets

ISTATISTICS

Larry Atherton, member of the FRDA coordinating committee and manager, planning and cooperative programs, silviculture branch, B.C. Forest Service.

"The cost-shared FRDA spending built up slowly to allow a gradual start to the program," says Atherton. "It was originally intended that the federal and provincial components would follow suit. However, it soon became obvious that we'd have to reverse the provincial component budgets if we were to meet the major demand for seedlings that would come in the last two or three years of the agreement.

"Our first priority was to establish the nursery facilities for seeds and seedlings," he says. "That's why we spent over \$7 million in the first year, mainly on the new Surrey seed centre and on upgrading other nursery facilities."

Consequently, as shown in Fig. 3, page 4, the provincial component budgets for the last three years have been reduced from the original projections of \$7.8 million.

The federal component, on the other hand, came under budget in the first year by almost \$1 million. Both federal and provincial components are expected to be close to the projected \$4.4 million budgeted

	1985-9	50				
1.	BACKLOG REFORESTATION	Fed	Prov	Cost-S	Shared	Totals
	1.1 Surveys and Prescriptions	0.5		1.5	1.5	3.5
	1.2 Seeds and Seedlings	2.0	21.0	21.3	21.3	65.6
	1.3 Site Preparation	4.0		26.6	26.6	57.2
	1.4 Planting	3.0	-	20.6	20.6	44.2
	1.5 Implementation	5.0	-			5.0
	1.6 Extension, Demonstration and R&D	4.0	6.0	7.0	7.0	24.0
		18.5	27.0	77.0	77.0	199.5
2.	INTENSIVE FOREST MANAGEMENT					
	2.1 Brushing, Weeding and Pest Control	2.0	1.0	4.0	4.0	11.0
	2.2 Conifer Release	1.0	-	2.0	2.0	5.0
	2.3 Juvenile Spacing	4.5		20.0	20.0	44.5
	2.4 Fertilization	0.5	_	10.0	10.0	20.5
	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	86.0
3.	IMPLEMENTATION, COMMUNICATIONS AND EVALUATION					
	3.1 Implementation Contracts, Monitoring	0.5	9024	6.0	6.0	12.5
	and Evaluation	-	-	1.0	1.0	2.0
	3.2 Communications	0.5		7.0	7.0	14.5
	(\$millions) TOTALS	30.0	30.0	120.0	120.0	300.0

Fig. 1 Funding for FRDA projects is allocated according to this schedule.

in the second year ended March 31.

"A number of factors contributed to being under budget in the first year," explains Win Stokes, CFS implementation officer.

"Many of the federal-component projects are concerned with developing forestry management on private and Indian lands. This is a new kind of forest development in British Columbia and it took some time for applicants to understand the projects and prepare proposals.

"In addition, these projects start with surveys and silviculture plans of the existing forest — two activities that are relatively inexpensive. Just as the flow of applications was well underway in January, 1986, a federal year-end expenditure freeze intervened.

"However, we'll be hard pressed in the future to carry out all the works identified in the management plans now being completed. The Indian lands management plans alone could more than use up the budgets, if we were to implement them all," he points out.

[Editors Note: The final two years' federal component budgets in Fig. 3 have been increased in anticipation of possible rebudgeting of the first-year shortfall.]

On-going program justifiable (from front page) . . .

only tackling 150 000 hectares in the current FRDA."

While Biickert points out there are no absolute guarantees, everything points towards the establishment of continuing agreements.

"An on-going program can be easily justified. The current national forestry awareness campaign (see separate story, page two) is making people aware of the importance of our forest resource. There's enough documentation to prove its importance and to show how well-thought-out investments in this area

can be meaningful in terms of employment further down the road."

A further point to remember, Biickert adds, is that backlog reforestation is a Canada-wide problem and that the work being carried out under FRDA is in addition to the MOFL silviculture program. In other words, the backlog reforestation work started under FRDA will almost certainly be continued.

Further comments on this subject are made by B.C.'s chief forester, John Cuthbert, in the profile of FRDA management on page eight.

'Stecklings' offer promise for replanting

IRESEARCH | | |

A sudden surge in demand for genetically improved seedlings to satisfy the new replanting programs has led to promising research with Interior spruce cuttings.

A time lag in producing improved seeds from Interior white and englemann spruce means there will be no source for such



Research scientist John Russell will put his knowledge of these cedar cuttings to work to achieve similar results with spruce "stecklings."

seedlings available for planting until after 1994, and the projected demand for them cannot be met until the year 2009.

Enter spruce cuttings, and a research project led by research scientist John Russell at the Cowichan Research Station on Vancouver Island.

The northern TAC (technical advisory committee) recommended construction of a new greenhouse at Cowichan to facilitate this research under FRDA program 1.2 (see Fig. 1, pages 4–5).

Russell says by using cuttings rather than seeds, he expects to produce 100,000 genetically improved spruce "stecklings" for planting by 1990 and then rapidly increase that number to help meet eventual demand. Russell says the new word "steckling" means plantable, rooted cutting as opposed to "seedling" which more accurately describes a rooted seed. "Steck" is the German word for rooted cutting, he adds.

"With this method we can get these genetic gains out to the field quickly," he says.

"Interior spruce geneticist

Gyula Kiss has identified some good families of spruce," Russell says.

"The work he has done is timeconsuming and expensive, but now that he has identified these genetically improved families, I'm experimenting with reproducing them on a commercial scale using cuttings."

Russell has grown some seedlings from these improved families, under accelerated greenhouse conditions, to provide a source of young cuttings.

"We find t

"We find that cuttings taken from young trees will root much faster than those taken from mature trees," he explains. "I've been trimming these seedlings to make them bushy fast — and I've got 140 cuttings off one of these trees in only eight months. That will give you an indication of how fast we could multiply those numbers."

Russell says he knows from two years of experimenting that he can achieve 90 per cent rooting from such cuttings.

"What we have to do now is to demonstrate that these stecklings will perform as well in the field as seedlings."

FRDA helps re-establish forestry column

The popular newspaper column "Ask about the forest" is back again, thanks to FRDA funding.

The series of questions and answers concerning forestry issues is produced by the British Columbia Forestry Association (BCFA). Originally, it ran in many B.C. newspapers from 1976 through 1980, but fell victim to cutbacks during the recession.

Now, with new funding from the Canadian Forestry Service under FRDA program 3.2 (see Fig. 1, pages 4–5), the series is regaining its popularity. Started again in August last year, the weekly column

already appears in 35 B.C. newspapers.

"The questions come from our readers and cover all sorts of topics — even controversial ones," says BCFA president Bill Young.

"Obviously, some of the questions we receive aren't suitable for use in the column, but we reply to every letter we receive. If we don't have the answer ourselves, we'll pass the letter on to someone who does and then tell the writer what we've done."

Some of the topics already covered include forestry practices and ecological reserves, browsing

problems, job opportunities in silviculture, forestry education programs, and the use of satellite photography in forestry management.

Young says he checks each column's answers with the most authoritative person in the field to make sure the responses are accurate.

Sets of articles are sent monthly to all B.C. newspapers.

"More and more are using them each week and we're looking at ways to make it easier for other papers to pick them up," Young adds. For more information contact Bill Young at 683-7591 (Vancouver).

Demo site to determine best species

When Douglas-fir, planted on supposedly ideal west Vancouver Island sites, run into all sorts of growth deformity problems, it makes foresters realize how much they still have to learn about recommending which species for replanting on which sites.

In an attempt to address this problem, a 100 hectare demonstration site is being established about 60 km south of Port Alberni on Vancouver Island. It was planted about seven years ago with pacific silver fir, grand fir, western red cedar, western hemlock and Douglas-fir.

"They're all species recommended for the site according to the current guidelines that we have," explains Glen Dunsworth, ecophysiologist with MacMillan Bloedel's woodlands service in Nanaimo.

Dunsworth is developing a species demonstration comparison on a valley bottom at Nahmint Lake,

funded under the federal component of the FRDA backlog program.

"We don't have any good biological validation of the species recommendations that are in the MOFL guidelines," he says, "and the Douglas-fir example points that out

"On that site, the trees are showing all sorts of problems now, 15 to 20 years after they were planted. The sites are so lush that the trees are overgrowing themselves into problems — twisty layers, knots and multiple stems.

"That's not the problem at Nahmint Lake," Dunsworth points out, "but it's those kinds of things we want to find out about.

"We can get some information now and make some determinations on this early growth about species applicability for the site. We'll be looking at such things as height, volume and age and we'll do some assessments on form — the trees' branchiness, branch angle, insect and disease damage, snow breakage and so on."

Dunsworth says they will divide the area into 15 by 30 metre plots, each sign-posted with information about the species growing there, including graphs showing height, growth and development over time.

"We'll be destroying about 10 trees per block to do in-depth testing and to gain detailed growth and yield information. Those plots will be retained beyond FRDA so we can follow them through time."

The development schedule calls for the plots and trails to be in place and initial measurements taken this spring. In addition to the individual plot signs, there will be another sign on the Nahmint Lake main line logging road: "An easy 20-minute ride from Port Alberni," Dunsworth says.

For more information, call Dunsworth at 753-1112 (Nanaimo).

Tests to check mechanical planting viability

Mechanization in one form or another is common throughout the forest industry, with one exception — planting. But with possible shortages of planters and escalating costs, mechanical planting's time may be near.

"We're not going to try and replace hand planting on difficult sites. What we're looking at is mechanical planting on the easy, level sites," explains Lorne Bedford, site preparation specialist for the MOFL, silviculture branch.

Bedford is preparing to test three to five different mechanical planters during this year's planting season starting in May. The research is funded under the provincial component of FRDA program 1.6 (see Fig. 1, pages 4-5).

From preparatory research, he has homed in on two continuous slit and two intermittent slit models in addition to another continuous slit model that was originally tested in B.C. in 1980.

These planters look like twometre-square boxes on wheels that are hauled behind a tractor. They either cut a continuous slit in the ground in which the seedlings are planted or an interrupted slit. The machine then closes the trench.

The current average estimated hand planting cost can be up to 30 cents per seedling, Bedford points out, whereas in a mechanical tree planting program in Manitoba last year, the cost was only 17 cents per

seedling. While such comparisons may not always be valid, he adds, the research will provide for a proper evaluation.

The plan calls for test sites in the Cariboo, Prince George and Prince Rupert forest regions.

"The first year we'll do productivity studies and check the machines' cost effectiveness. Then we'll look at the biological factors—the survival rates and growth quality," Bedford says.

"If it then looks like the

machines have potential, we'll consider what modifications we can make to adapt them to our conditions in B.C.

Contact Lorne Bedford at 387-1191 (Victoria) for more information.

FRDA funding 'has significant impact'

PROFILE

British Columbia's chief forester, John Cuthbert, says FRDA funding has "enabled us to come a long way towards rehabilitating our backlog forest lands.

"It has also enabled us to reinstitute the provincial fertilization and intensive forest management programs that had to be terminated in the early 1980s," he said in an interview with Renewal.

Cuthbert, in addition to many other duties, is responsible for the management of FRDA. He shares that responsibility with his federal counterpart D. Ross Macdonald, Director General Pacific and Yukon, Canadian Forestry Service (see "Profile" in the fall 1986 issue of Renewal).

Other voting members of the FRDA management committee are C.M. (Charlie) Johnson, Director, Silviculture Branch, B.C. Forest Service, and John A. Edwards, Senior Program Director, Forest Development, Canadian Forestry Service.

Cuthbert points out that the \$76.63 million FRDA funds allocated for the 1987/88 fiscal year form a "significant portion" on top of the ministry's silviculture budget of approximately \$148 million.

"We're getting a lot of valuable



B.C.'s chief forester, John Cuthbert, is the province's top representative in the management of FRDA.

work done and I'm very positive about the achievements of FRDA."

Edwards, in a separate interview, says the agreement "is on track. If anything, we're a little ahead of where we thought we would be - the projections we made on the economic payback from the program are turning out better than expected.

"We're on target towards achieving 500 new permanent jobs that will continue beyond the end of the agreement in 1990. But we're about 10 to 15 per cent higher than expected in the number of short-term

jobs being created. We'll exceed the 15 000 short-term jobs projected for the term of the agreement."

Johnson says the FRDA management committee is responsible for the executive management of the agreement. It is their responsibility to establish guidelines for the working committees, to decide on the commitment of all FRDA funds, and to make sure policy decisions are carried out.

"While \$300 million appears to be a considerable amount of money, there never is enough to satisfy every demand," Edwards says. "Our management committee must deal with those priority prob-

Cuthbert says: "We need to constantly review the program to fine tune it, but right now I'm very pleased with the allocation of funding."

What happens when the agree-... see "Profile," page 2

Development Agreement

Regional

8

Economic



John Edwards (I) and Charlie Johnson share FRDA management committee duties representing the Canadian Forestry Service and the B.C. Forest Service.