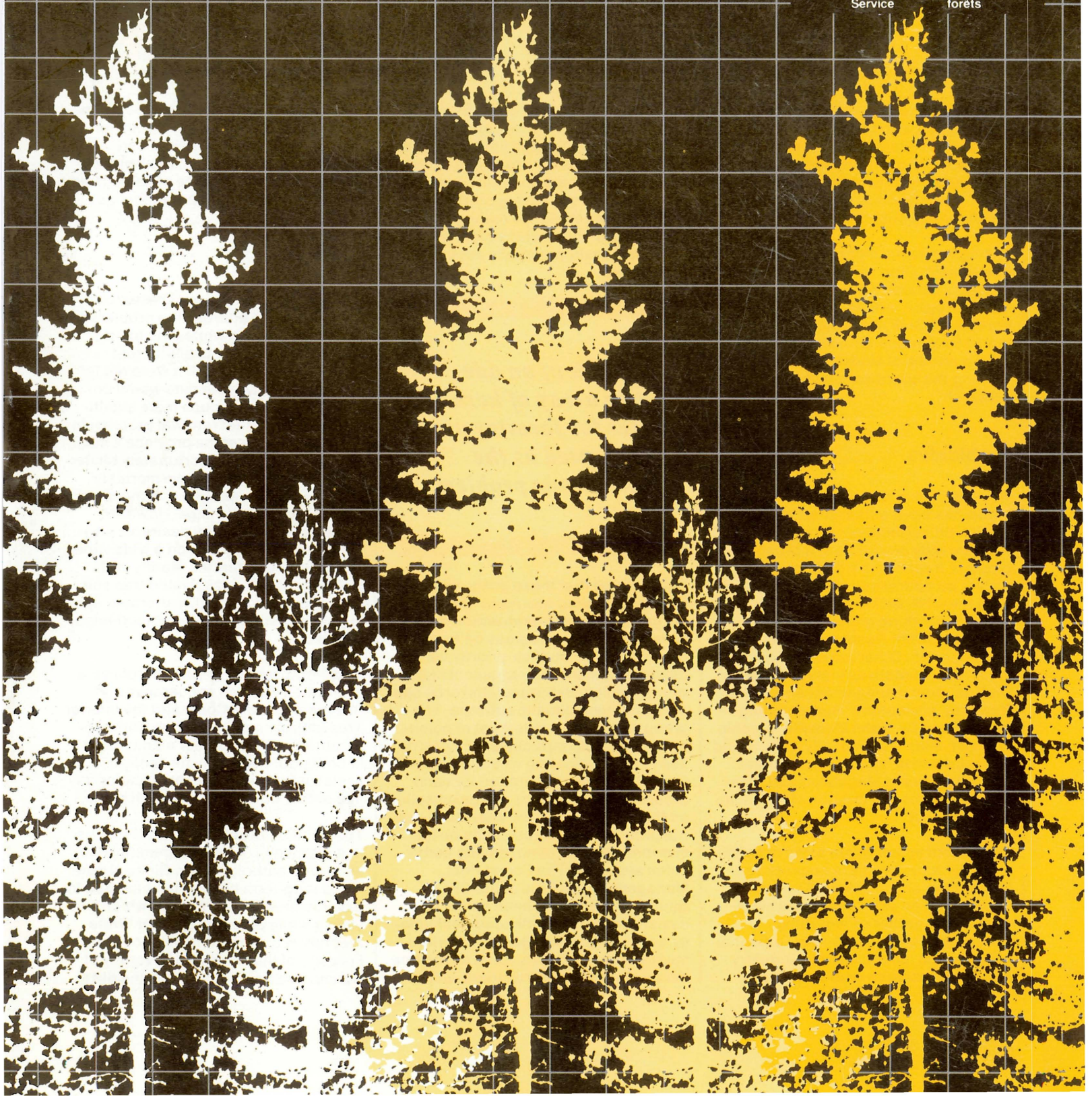
ISSN 0706-9413

INFORMATION FORESTRY

PACIFIC FOREST RESEARCH CENTRE VOL. 10 • NO. 3 • 1983

Environment Canada
Canadian Forestry Service

Environnement Canada
Service canadien des forêts



CFS and Province to Tackle Research on Herbicides and Western White Pine

Two new research agreements have been signed with the British Columbia Ministry of Forests (BCMF) to address the problems of herbicides in forest vegetation management and the breeding of western white pine for increased resistance to blister rust.

The agreements, signed by **Ross Macdonald**, Director of the Canadian Forestry Service (CFS), Pacific and Yukon Region, and **Bill Young**, Chief Forester, BCMF, were proposed under the 1981 Canada/British Columbia Memorandum of Understanding concerning the coordination of forest research.

Herbicides

A research and development working group has been established to focus attention on herbicides - recognizing they are only one class of a broad group of treatments which must ultimately be addressed. Representatives from the CFS, BCMF and industry comprise the working group. **Henry Benskin**, BCMF Research Branch, is the chairman. Other provincial government representatives include **Dr. Bob De Boo**, pest management and **Jacob Boateng**, silviculture. Representing the CFS are **Dr. John Manville**, organic chemist, **Alex Gardner**, silviculture and **Craig Edwards**, technology transfer. **Dave Handley** of MacMillan and Bloedel represents the Council of Forest Industries (COFI).

The lack of an adequate array of herbicides for forestry use is accepted as the number one problem. Background information on each candidate herbicide will be gathered regarding toxicology, residue half-lives, potential hazards, etc. as provided by industry and other research organizations. Laboratory toxicological experiments on target species will be conducted, followed by small scale field trials and operational trials for promising candidates. The ultimate goal will be to make recommendations for registration and use in forest vegetation management in British Columbia of the most efficacious and environmentally acceptable herbicides.

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Recognizing that these goals will not be accomplished overnight, the working group realize interim action must be taken to make progress on today's problems. High on their priority list is the development of a register of major weed species and associated crop species by biogeoclimatic subzone. The group will also compile a list of potentially desirable herbicides for forestry use in B.C. indicating where the specific bottleneck to registration for each presently lie. Statistics will be compiled on the magnitude of the vegetation control problem with calculations on the economic impact of not having herbicides available. The Forest Pest Management Institute of the CFS in Sault Ste. Marie has been asked to assist with spray application technology development. Longer term environmental impact studies, such as residue decay or impact on crop trees, will be conducted. High priority will be given to the development of a program for improving public knowledge and awareness of vegetation control problems and the importance of having herbicides available for operational use.

White pine

The other recently signed research agreement will address the problem of breeding western white pine for increased resistance to blister rust (Cronartium ribicola). If it were not for the blister rust, white pine would undoubtedly feature much more significantly in the forest renewal program of B.C., as it is one of the province's most valuable species. Unfortunately blister rust has caused extensive mortality and has made management uneconomic over much of its range. However, white pine has several desirable silvical properties. It grows on a wide variety of sites, regenerates readily, outyields most of its associated tree species and, is an attractive alternate species for Phellinus weirii (root rot) infected sites.

Tree improvement in British Columbia is directed through cooperatives. In this instance, the Coast and the Interior Tree Improvement Councils, with representatives from senior management in both public and private sectors, will assist in the setting of goals and priorities of this white pine research project.

The Pacific Forest Research Centre is in the process of hiring a geneticist to work with pathologist **Dr. Richard Hunt** in the long-term commitment needed to develop breeding strategies which will yield a white pine. **Dr. Eleanor White** recently returned from the Faculty of Forestry of the Swedish University of Agriculture Sciences where she did a

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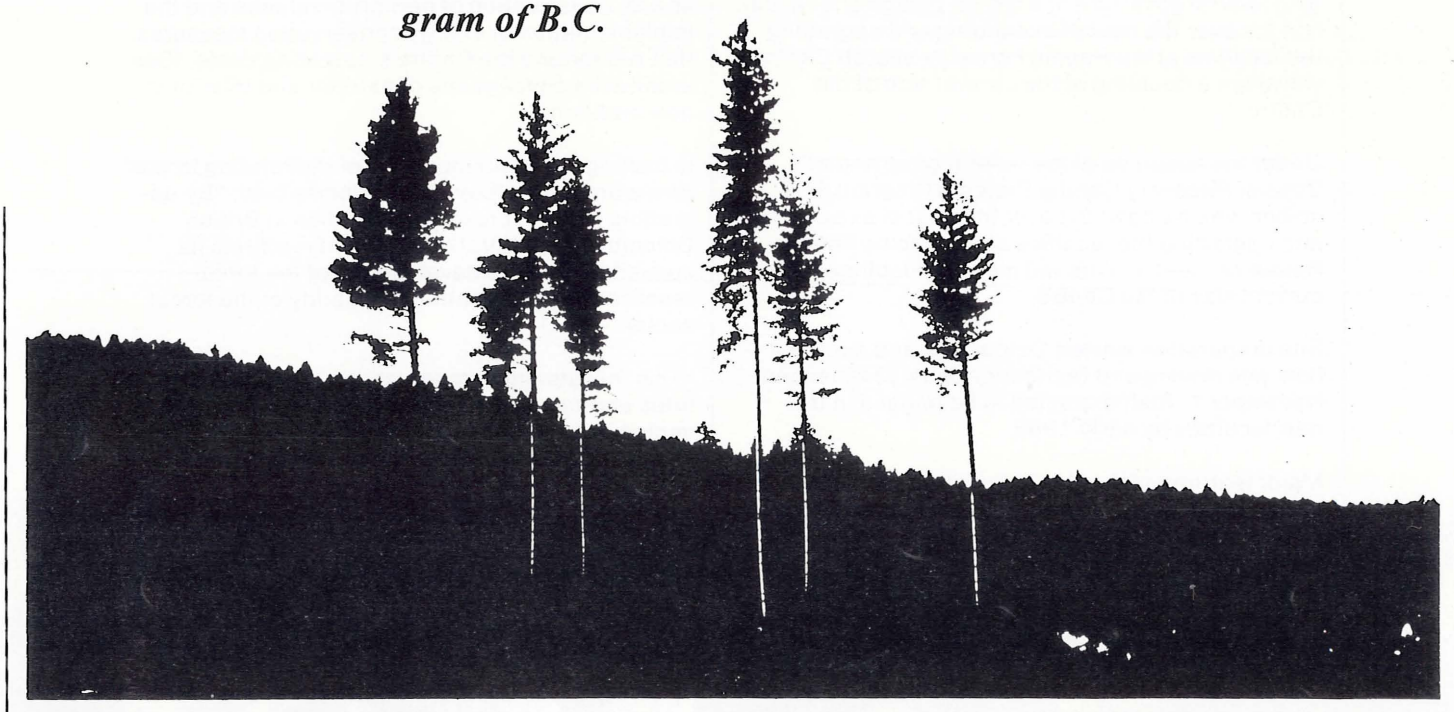


White pine blister rust cankers

Ph.D. thesis on the biochemical genetics of Pinus contorta. She will be associated with the team as well as **Dr. Leslie Mitchell**, a post doctoral fellow joining PFRC this fall.

The provincial forest service will provide assistance with some field aspects of the program and will be responsible for all production seed orchards which will be managed by the Silviculture Branch and/or forest companies.

In addition to the purely scientific aspects of this program, Dr. Hunt and the new geneticist will participate indirectly in planning, directing, coordinating and participating in all field work, e.g. parent tree selection; cone and scion collection; seed extraction and treatment; test site selection, preparation and layout, planting, maintenance and assessments; pollination and screening procedures. The two tree improvement councils will review program strategies and options as well as monitor progress of the research study. Activities on this project will get underway early in the new year.

Unfortunately blister rust has made management uneconomical over much of its range.

"We look forward to signing more agreements such as these two as needed to continue cooperative efforts in addressing the needs of the forest industry in this province," said Ross Macdonald.

$14 Million Extension to PFRC

The federal government's recent pledge of $14 million to cover the cost of expanding and upgrading the facilities at the Pacific Forest Research Centre will mean a doubling of the current size of the Centre.

Under the auspices of the federal government's Special Recovery Capital Projects Program $14 million was pledged to cover the cost of expanding and upgrading the facilities at the Pacific Forest Research Centre. This will mean a doubling of the current size of the Centre.

Site preparation started October 19 and excavation, pile driving and foundation work commenced November 1. Staff expected to be housed in the new facilities by early 1985.

Major features of the Centre's construction program include the provision of increased laboratory space, construction of new greenhouses and the implementation of energy conservation measures that will reduce the Centre's operating costs. (See architect's conceptions of exterior and interior in new addition.)

In making the announcement of the funding, former Environment Minister John Roberts said: "By upgrading its forest research facilities in British Columbia the federal government reaffirms its commitment to the development of the forest resource and the continued viability of the forest sector.

"This investment in research infrastructure constitutes another step by the federal government to implement its forest sector strategy for Canada, through an aggressive policy of research and development," said Mr. Roberts. ●

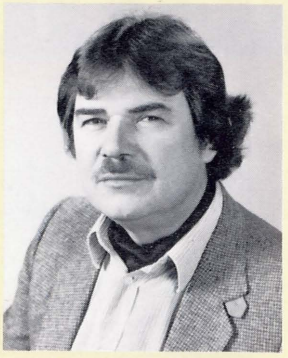
NEW PROGRAM NOW FULLY STAFFED

Just over a year ago the Canadian Forestry Service assumed responsibility for regional economic development from a forestry standpoint. This resulted in the creation of a Forestry Development and Relations program at the Pacific Forest Research Centre, headed by **John Edwards**, a former Manager of Program Implementation with the Department of Regional Economic Expansion.

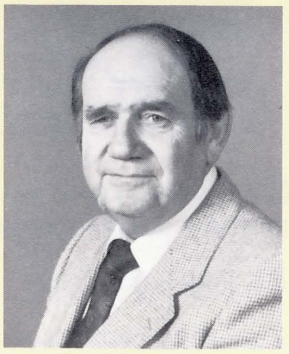
During the past year considerable time has been spent defining program objectives and developing the roles of new staff. The prime function of the program is to undertake the administration of the existing federal/provincial subsidiary agreement on intensive forest management which expires in March, 1984, as well as plan and develop new agreements. Staff also direct activities toward improving communications and relations with forestry sector clients in the region as well as providing for timely transfer of research and technology.

The six new professional staff members who were recruited to carry out this program were joined by existing forest economics project staff. They include:

John Edwards
Program Manager



Gordon Skinner
Senior Program Planner



Vic Ulrich
Senior Agreements Implementation Officer

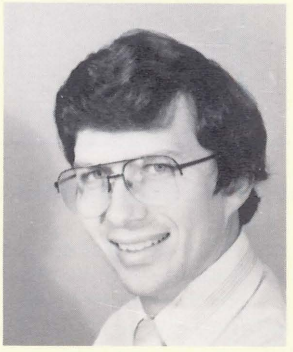
Jack de Lestard
Sr. Forestry Relations Officer

Dean Mills
Agreements Implementation Officer

Craig Edwards
Technology Transfer Officer

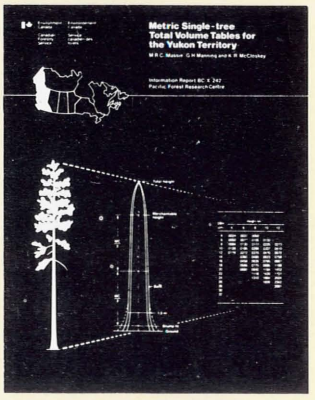
Glenn Manning
Sr. Economist

Sandy Fraser
Economist



William White
Economist

NEW PUBLICATIONS

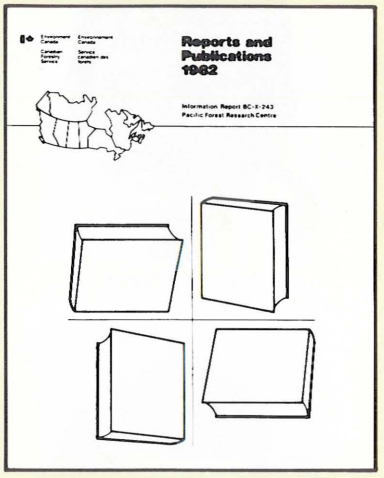


Metric single-tree total volume tables for the Yukon Territory

M.R.C. Massie, G.H. Manning and K.R. McCloskey

Metric single-tree volume tables are presented for the four major tree species in the Yukon Territory. Total inside-bark stem volume is shown as a function of total height and outside-bark diameter breast height.

BC-X-242.



Reports and Publications 1982

A bibliographic listing of scientific, technical and interpretive publications published by the Pacific Forest Research Centre during the calendar year 1982.

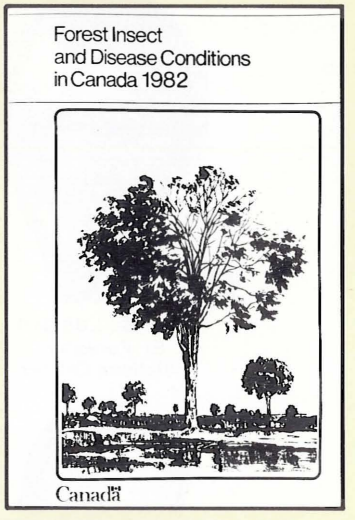
BC-X-243.

Common pests of Arbutus in British Columbia (revised)

R.S. Hunt and A. Funk

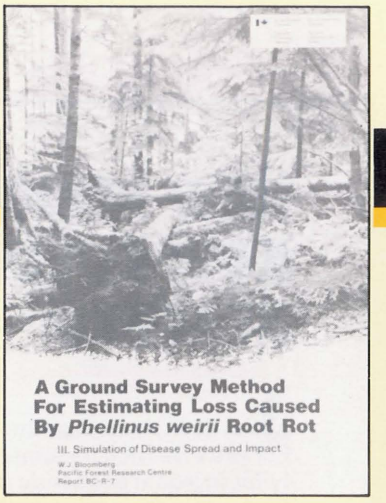
Basic descriptions of pests are provided to aid in recognition and control.

FPL 63



Forest Insect and Disease Conditions in Canada 1982

This document contains a national overview of major forest insects and diseases with special emphasis on those pests which are likely to significantly affect the forest economy or environment. Regional surveys of pest problems are also included.



A ground survey method for estimating loss caused by Phellinus weirii root rot. III. Simulation of disease spread and impact.

W.J. Bloomberg

Described here is a computer model called RREST (Root Rot Estimator) which will assist forest managers to calculate spread of infection.

BC-R-7.

A ground survey method for estimating loss caused by Phellinus weirii root rot. IV. Multiple-disease recording and stratification by infestation intensity.

W.J. Bloomberg

The final in a four-part series, this publication describes two modifications to the Pacific Forest Research Centre root disease ground-survey method.

BC-R-8

Program Review - 1982-83 - Pacific Forest Research Centre

This report on forest research and operations at the Pacific Forest Research Centre reflects the progress made during the fiscal year 1982-83 in achieving program objectives in British Columbia and the Yukon.

Copies of these publications may be obtained by filling out the enclosed card and returning it to the PFRC Information Office.

B.C. UNIVERSITIES AWARDED FORESTRY CONTRACTS, GRANTS

Federal Environment Minister **Charles Caccia** has announced the awarding of more than $220,000 in forestry research contracts over the next two years to the University of British Columbia and the University of Victoria, and over $200,000 in grants to U.B.C.'s faculty of forestry.

The contracts represent the province's share of the $1 million in federal funds committed last March for university research in forestry and forestry-related areas. The grants are part of a $1.28 million federal contribution in the form of block grants to six forestry schools across Canada.

In total $15.5 million was pledged to support, until 1986, four major elements of the human resources component of the 1981 "Forest Sector Strategy for Canada" policy paper. Besides increased funding for university contract research and increased block grants to forestry schools, the "strategy" calls for career-oriented summer employment for forestry students and funding of a Canadian Forestry Scholars program.

The Program of Research by Universities in Forestry (PRUF) is intended to make funding for contract research and development available not only to the forestry faculties, but also to researchers in forestry-related disciplines such as plant physiology, entomology, genetics, biochemistry, resource economics and forest products.

The announced contract awards are intended to extend and complement the Canadian Forestry Service's in-house program, Mr. Caccia explained.

The seven contracts awarded to the two B.C. universities cover projects to investigate the incidence and impact of root diseases in immature spruce stands in the central interior of the province; the effects of burning and mechanical site preparation on the nutrition of planted white spruce; and the study of spawning areas improvement. (see chart)

"One of the conclusions of the Forest Sector Strategy for Canada was that Canada's research in forestry and forest products has been inadequate." said Mr. Caccia. "The awarding of these seven contracts reflects the federal government's commitment to assure the continued viability of the Canadian forest resource."

Research Project Title	1983/84	1984/85	University and Individual Sponsor
Research of groundwater and subsurface water flow rates and pathways of the Carnation Creek Experimental Watershed as it relates to logging activity.	$ 16,000	$16,000	University of Victoria G.M. Aubertin
Collection of lodgepole pine wood, bark, foliage and stump-root systems for species characterization studies for improved utilization. (Canada/United States lodgepole pine/ mountain pine beetle management co-operative study.)	42,538		University of British Columbia R.W. Kennedy
Assessment of spawning area improvement using gabions in landslide-damage streams, Queen Charlotte Islands, B.C.	16,500		University of B.C. H.D. Klassen & T.D. Northcote
Patterns of nitrogen mobilization on interior B.C. cutovers.	13,372	21,192	University of B.C. F. Weetman
Effects of burning and mechanical site preparation on nutrition of planted white spruce.	25,000	25,000	University of B.C. T.M. Ballard
Brush competition in coastal B.C. plantations.	24,660	5,550	University of B.C. J.P. Kimmins
Incidence and impact of root diseases in immature spruce stands in the central interior of B.C.	15,051		University of B.C. Bart John vander Kamp
TOTAL	$153,121	$67,742	

CANADA & CHINA RENEW MEMORANDUM OF UNDERSTANDING

Mr. Zhong (left) and Mr. Roberts renew 1981 Memorandum of Understanding on technical cooperation in forestry.

Yang Zhong, Minister of Forestry, People's Republic of China, and a party of nine Chinese officials, made a two-week visit to Canada earlier this summer. This visit was in response to a standing invitation by former Environment Minister **John Roberts** when he visited the People's Republic of China in 1981 at which time he signed a Memorandum of Understanding on technical cooperation in forestry.

The delegation began their visit in British Columbia and spent six days here meeting with government, industry and business representatives. The Canadian Forestry Service organized a three-day field trip on Vancouver Island, which included a visit to the Pacific Forest Research Centre as well as viewing logging, sawmill and silviculture operations.

The delegation also visited Ontario and Quebec and wound up their stay in Ottawa where Mr. Zhong and Mr. Roberts discussed future areas of forestry scientific exchange and renewed the Memorandum of Understanding. ●

NEW MINISTER FOR ENVIRONMENT CANADA

In a recent restructuring of the federal cabinet, the Hon. **Charles Caccia** has been appointed Minister of Environment Canada, replacing the Hon. **John Roberts** who became the Minister of Employment and Immigration.

In his new position Mr. Caccia is responsible for the Canadian Forestry Service, one of six services which comprise Environment Canada. Prior to his election to the House of Commons in 1968 he was a businessman. He is a graduate of the University of Vienna with a degree in Economics of Forestry. ●

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Published quarterly by:

Pacific Forest Research Centre
Canadian Forestry Service
Environment Canada
506 West Burnside Road
Victoria, B.C. V8Z 1M5
388-3811 Loc. 119

Editor: Elaine Teske
Design: John Wiens
Distribution: Blanche Page

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