

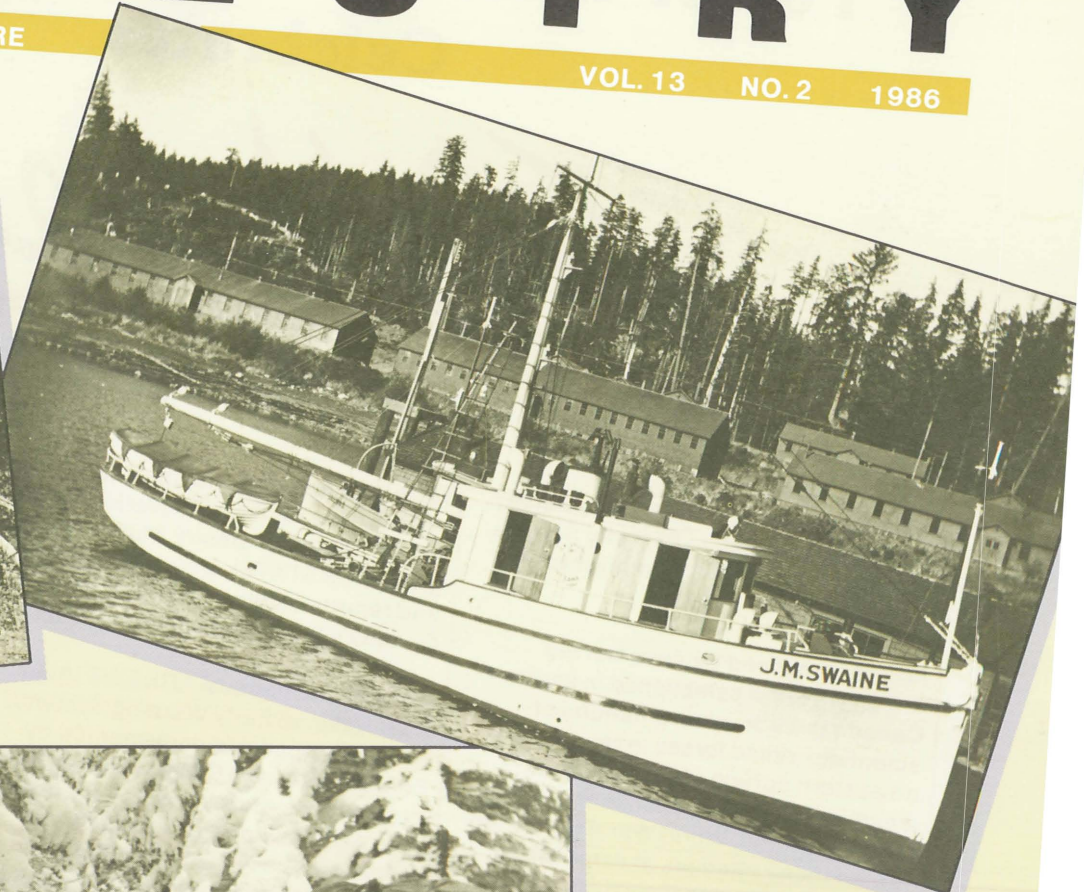
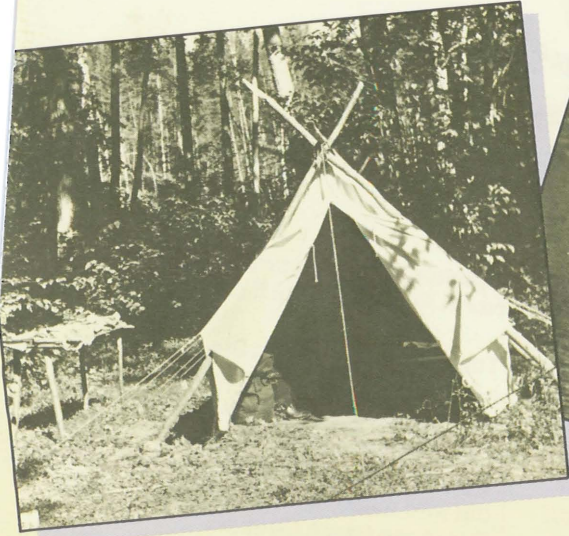
Information

ISSN 0706-9413

FORESTRY

PACIFIC FORESTRY CENTRE

VOL. 13 NO. 2 1986



**FOREST
INSECT
AND
DISEASE
SURVEY**

50 Years



Government
of Canada

Gouvernement
du Canada

Canadian
Forestry
Service

Service
canadien des
forêts

Forest Insect and Disease Survey Celebrates

50 Years of Service

The Forest Insect and Disease Survey, a unit of the Canadian Forestry Service, is celebrating its fiftieth anniversary this year.

Forest Insect and Disease Survey (FIDS) was first established in eastern Canada in 1936 when a handful of scientists joined forces in response to an eastern spruce sawfly outbreak which was destroying millions of cubic metres of wood. World War II then interrupted these attempts at establishing an organized national service to monitor forest insect activities. Following the war, the unit again became active and gradually grew to what is now some 90 Canadian Forestry Service insect and disease specialists combining their expertise to maintain strict surveillance of insect and disease conditions in Canada's most important natural resource.

The Forest Insect and Disease Survey has expanded over the years to include more than its name implies. In addition

to its obvious mandate, the unit is also responsible for forest depletion studies for the national Forestry Statistics program (FORSTATS), which collects data and reports on the overall condition of Canada's forests on an ongoing basis.

In 1984, the national ARNEWS (Acid Rain National Early Warning System) was developed and implemented by Forest Insect and Disease Survey experts at CFS-Maritimes in Fredericton. This ARNEWS project monitors and reports on the visible effects of acid rain on Canada's forests as a response to increased public concern over the environmental effects of acid rain. ARNEWS is the most comprehensive,

advanced warning system of its kind in North America at the moment.

The Forest Insect and Disease Survey has gained an international reputation for its expertise in forest plant protection. This includes involvement in plant quarantines such as the one recently put into place against the spread of the European Larch Canker.

Through continued cooperation with provincial governments and industry, the Survey experts to further expand its ability to respond to increased public concern over the future of Canada's forest resource. ■



FIDS in the Pacific & Yukon Region



Allan Van Sickle
Head, Forest Insect & Disease Survey



Colin Wood
Chief Ranger

At the Pacific Forestry Centre (PFC), there are 23 positions within the FIDS organization headed by **Dr. Allan Van Sickle**. The 11 FIDS Rangers are supervised by Chief Ranger **Colin Wood**. From mid-May until late September the Rangers work from field stations throughout the six forest regions in B.C. and in the Yukon. Their regular

reports are based on aerial and ground observations, pheromone traps, egg counts, plantation examinations, contacts with forestry workers, stand cruises, sketch maps, photographs, etc., most of which are supported by samples submitted for identification of the damaging agent.

Verification of the damaging agents is done by Herbarium and Insectary staff. Collections of diseases with 26 000 specimens representing 3300 organisms as well as 66 000 insects representing 6000 different species together with their associated records are essential for the correct identification of pests causing damage in B.C. and the Yukon. **Dr. John Hopkins**, the pathologist in charge of the Herbarium and **Daphne Lowe**, Herbarium technician, provide identification services to clients of the CFS. The Insectary staff, headed by **Lee Humble** who is assisted by **Erika Pass** and **Bob Duncan** provide insect rearing as well as diagnostic and taxonomic services.

A Pest Survey Sampling Officer, supervises, evaluates and develops statistically valid pest population and damage

assessment methods used by the FIDS rangers. This includes study of the relationships of pest populations and subsequent forest damage to improve methods and forecasts. **Dr. Walter Stanek** has recently joined the group on a part-time assignment to improve the mensurational aspects of the pest surveys.

Equally vital is the work of the damage appraisal project headed by **Dr. Rene Alfaro** and assisted by **Emil Wegwitz** and **George Brown**. Working in close cooperation with FIDS the research group is responsible for identifying types of injuries and determining the relationships between levels and duration of pest activity and the resulting tree and stand loss in increment mortality, form, etc. The detection and general overview surveys conducted by the FIDS rangers are basic to loss studies. The linkages between visible symptoms and loss must be derived. In turn these factors can be applied to annual survey results to estimate regional and national losses caused by forest pests. ■



Joan Strobbe
Secretary



Lee Humble
Research Scientist
Insectary



Bob Duncan
Technician
Insectary



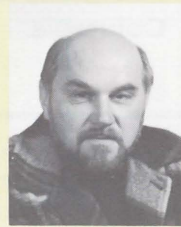
Erika Pass
Technician
Insectary



John Hopkins
Biologist
Herbarium



Daphne Lowe
Technician
Herbarium



Walter Stanek
Research Officer



Rene Alfaro
Research Scientist
Damage Appraisal



Emil Wegwitz
Technician



George Brown
Technician



Dick Andrews
Ranger
Williams Lake



Bob Erickson
Ranger
Kamloops



Bob Ferris
Ranger
Comox



Rod Garbutt
Ranger
Prince George



Nick Humphreys
Ranger
Agassiz



Peter Koot
Ranger
Wasa Lake



Jim Loranger
Ranger
Summerland



Alan Stewart
Ranger
Terrace



Rod Turnquist
Ranger
Prince George

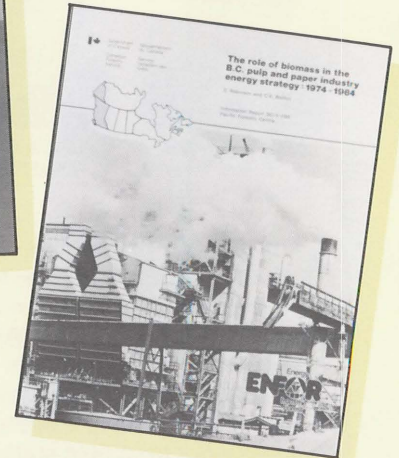
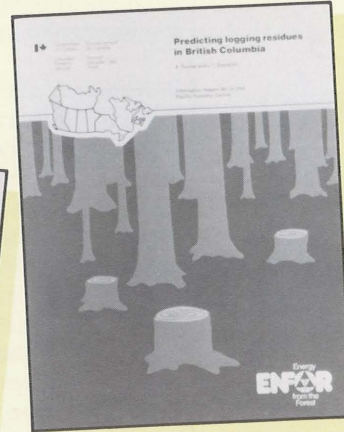
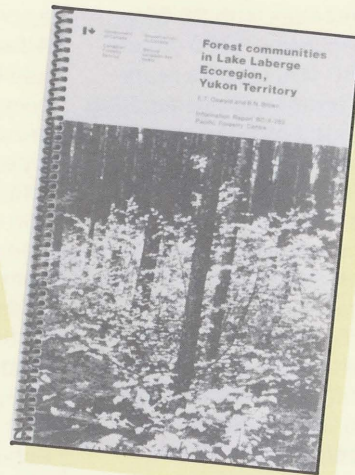
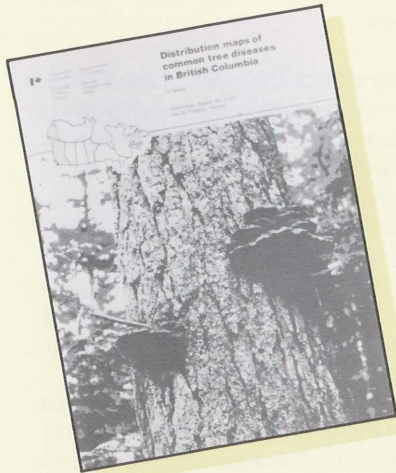


Leo Unger
Ranger
Smithers



John Vallentgoed
Ranger
New Denver

Recent Publications



Distribution maps of common tree diseases in British Columbia

C. Wood

Based on Forest Insect Disease Survey data, the distributions of common tree diseases in B.C. are summarized. This report, which supersedes BC-X-71 (1972) is intended to provide background information for forest managers, forest agency personnel and educational institutions.

BC-X-281

Forest communities in Lake Laberge Ecoregion, Yukon Territory

E.T. Oswald and B.N. Brown

Fifty-six forested plant communities in the Lake Laberge Ecoregion are described in terms of appearance, characteristic and associated species, landform, soils, successional status and productivity.

BC-X-282

Predicting logging residues in British Columbia

A. Tunner and J.T. Standish

A computer simulation model is presented which allows the calculation of residual biomass following conventional harvesting. The model is applicable to British Columbia, however, it can be used to give estimates for any forest stand that a user may specify.

BC-X-284

Stump infection of *Fomes annosus* in spaced stands in the Prince Rupert Region of British Columbia

D.J. Morrison, M.D. Larock and A.J. Waters

The objectives of this study were to determine the incidence of stump colonization by *F. annosus* in spaced stands in the Prince Rupert Forest Region; to measure spread from colo-

nized spacing stumps to residual trees; and, to assess the need to control spore infection of stumps.

BC-X-285

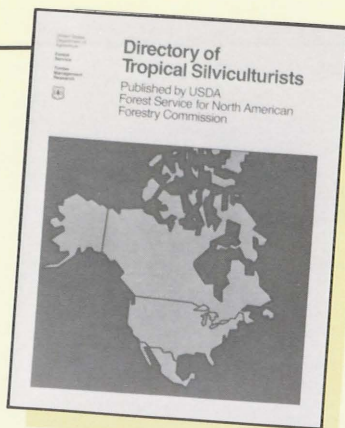
The role of biomass in the B.C. pulp and paper industry energy strategy: 1974-1984

G. Robinson and C.E. Wetton

Sixteen mills, comprising 80% of the provincial pulp and paper capacity, participated in this study. Their responses suggest an annual fossil fuel saving equivalent to about 3.5 million barrels of oil since 1974, however, a great variation among mills was noted as each implemented the mix of energy projects best suited to its particular needs.

BC-X-286

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



Special Publications

Directory of Tropical Silviculturists

Prepared by the North American Study Group on Silviculturists, this directory includes the names and addresses of institutions, professional societies, laboratories, libraries, experimental areas and specialists.

USDA Forest Service for North American Forestry Commission



Forestry FORUM newsletter

Published by the Canadian Forestry Service for The Canadian Council of Forest Ministers

This tabloid summarizes the subject matter of the Canadian Forestry Forums and the National Forest Congress and the very positive recommendations that emerged from these events.

FORUM

Oldies but Goodies

Annotated checklist of insects associated with native pines in British Columbia

David Evans — 1983

Derived from Forest Insect and Disease Survey data, this checklist contains approximately 1230 insect species associated with native pines in B.C., as recorded from 1949-1982. They are catalogued alphabetically by genus under family and order, and an index is provided.

BC-X-244

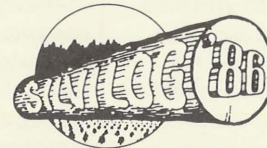
Diseases and insect pests in British Columbia Forest Nurseries

Jack R. Sutherland and Evert Van Eerden

This bulletin was prepared in 1980 to assist nursery personnel in identifying and controlling diseases and insect problems in B.C. forest nurseries. Popular demand has resulted in a reprinting funded under the Canada-British Columbia Forest Resource Development Agreement (FRDA) as the subject matter directly supports the primary objective of this Agreement.

Jt. Rept. 12

Woodlot Owners, Foresters & Consultants,
Extension Specialists, Association Members
— Come and Experience —



October 3, 4, 5, 1986
A MAJOR FORESTRY EXHIBITION
FEATURING SILVICULTURALLY SOUND WOODLOT
MANAGEMENT AND SPECIALIZED HARVESTING

Felling and Forwarding
Demonstrations of smaller-scale machinery
— simple to sophisticated —

Woodlot Management
Silvicultural logging systems
• Sugar bush operation
• Seminars

Product Utilization
• Portable sawmills
• Fuelwood handling
• Energy from forest residue

Over 50 exhibitors on a
100 ha site of typical
mixed forest and
plantations
at the

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Canadian Forestry Service / Service canadien des forêts

Canada

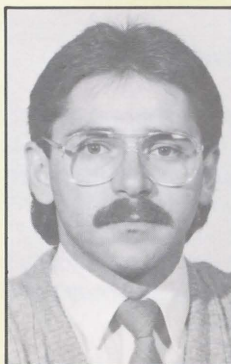
Recent Appointments



Mike Bonner



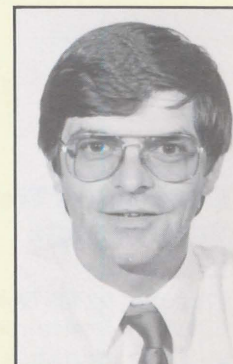
Charles Dorworth



Walter Matosevic



Leslie Ann Mitchell



David Winston

Ross Macdonald, Regional Director-General, Pacific & Yukon Region, is pleased to announce the following recent appointments:

Dr. Mike Bonner has joined the staff of PFC to lead the forest growth and measurement project. He is on a 3½ year secondment from the Petawawa National Forestry Institute, replacing **Dr. Terry Honer** who is on leave working with T.M. Thomson & Associates on a CIDA contract in Kuala Lumpur. Dr. Bonner will undertake new studies in cooperation with other forest agencies, particularly the newly established Forest Productivity Council and will also ensure the Yukon forest inventory is completed.

Dr. Charles Dorworth has been appointed research pathologist and will work with the forest weed project. His present assignment involves the designation of specific forest plants that compete with desired forest crop species. He will identify, isolate, and culture or maintain pathogens specific to those forest weeds, test the pathogens to demonstrate pathogenicity and measure virulence, modify pathogen virulence as appropriate, test the pathogens in mock-up control experiments and develop suitable biological control agents as quickly as possible toward

operational development. Prior to joining PFC Dr. Dorworth was pathology project leader at the Great Lakes Forestry Centre, Sault Ste. Marie.

Walter Matosevic has been appointed Forestry Development Officer and will assume the duties of District Coordinator at the newly opened CFS District Office in Prince George (see story on page 8), effective October 1. Mr. Matosevic and district staff will serve the clients of the CFS, especially those involved in both cost-shared and federally funded projects of the Canada-British Columbia Forest Resource Development Agreement (FRDA). Prior to his recent appointment he was project leader of Job Development within the Development and Relations program at Pacific Forestry Centre.

Dr. Leslie Ann Mitchell has been appointed research scientist working with the white pine project. Her chief research will focus on the molecular biology of western white pine (*Pinus monticola*) resistance to blister rust (*Cronartium ribicola*) and analyses of genetic diversity in both host and pathogen. Prior to this appointment Dr.

Mitchell was a Natural Science and Engineering Research Council (NSERC) Visiting Fellow at this Centre for two years. Dr. Mitchell is a recent arrival from the medical research field where she acquired considerable experience in protein biochemistry, hybridoma technology and immunochemistry.

David Winston has been appointed Program Director, Forest Environment, succeeding **Dr. Doug Lacate** who retired in January, 1986. Mr. Winston will be responsible for managing and directing research in forest fire ecology, environmental impacts of forestry practices, forest insect and disease survey (FIDS) and the effects of insects and diseases on forest growth.

Prior to his recent appointment Mr. Winston was the Scientific Coordinator of CFS forest renewal research and was based at CFS Headquarters in Ottawa. Earlier in his career Mr. Winston conducted scientific research in silviculture and ecology at Great Lakes Forestry Centre (1969-78) and Petawawa National Forestry Institute (1978-81). ■

A FRDA Status Report

Backlog reforestation and intensive forest management programs were carried out on nearly a quarter of a million hectares (233 317) in B.C. during the first year of the Canada-British Columbia Forest Resource Development Agreement (FRDA).

The total expenditure in 1985/86 was \$22 million, including an investment of \$12 million on backlog reforestation (\$9 million on field projects, \$2 million on seeds and seedlings and \$1 million on research); \$2 million on intensive forest management; and \$318 739 on implementation contracts.

During this first year the Agreement provided over 56 000 employment days, mostly for small silviculture contracting firms.

The work included surveying or reforestation preparation on some 188 798 hectares. Another 16 276 hectares were planted. Under the intensive management program 4278 were brushed or spaced to ensure better survival growth and 23 965 were assessed for a variety of other forest renewal programs under contracts with small firms and consulting foresters.

Current year

Some \$44 million has been allocated during 1986/87 which includes: \$26.2 million for backlog reforestation, including research and growing 45 million trees; \$6.9 million for intensive forest management projects; and, \$2 million for field implementation, communications and evaluation.

Regionally the money will be split thus: \$5.7 million-Vancouver region; \$3.3 million — Prince Rupert region; \$8.2 million — Prince George region; \$3.5 million - Kamloops region; \$4.6 million — Nelson region; and, \$2.9 million — Cariboo region.

The FRDA budget calls for a much larger spending in the final three years for biological and administrative reasons. Most of the substantial labour-intensive groundwork, indicated by the current surveying and prescription phases, will be undertaken during these years. ■

During this first year the Agreement provided over 56 000 employment days, mostly for small silviculture contracting firms.

INDIAN FOREST LANDS PROGRAM

Approximately \$7 million of federal money under the Canada-British Columbia Forest Resource Development (FRDA), has been set aside to provide funding for forest management activities on Indian lands.

In British Columbia there are 196 Indian Bands with close to 61 000 Status Indians. Approximately 1600 reserves are located on the 338 378 hectares of Indian lands — 60% of which is forested.

An Indian Advisory Board has been established to review proposals and make recommendations to the CFS FRDA Management Committee. The Advisory Board is composed of five Native people, two CFS representatives and two Indian Affairs and Northern Development representatives.

Band councils owning a minimum of 20 contiguous hectares of potentially productive forest land

are eligible for up to 80% financial assistance. Priority is given to proposals for developing forest inventories and management plans, followed by silviculture projects identified in the management plan.

In the first year the Advisory Board reviewed a total of 25 proposals representing 40 bands and recommended 24 for approval to the CFS Management Committee.

The first project to be completed under this program is that of the Musgamagw Tribal Council which is comprised of the Kwa-wa-aineuk, Kwicksutaineuk, Nimpkish, Tswataineuk and Tlowitsis-Mumtagila Bands. The project involved conducting a forest inventory on 45 reserves totalling 1245.8 ha and developing preliminary management and operating plans for the bands.

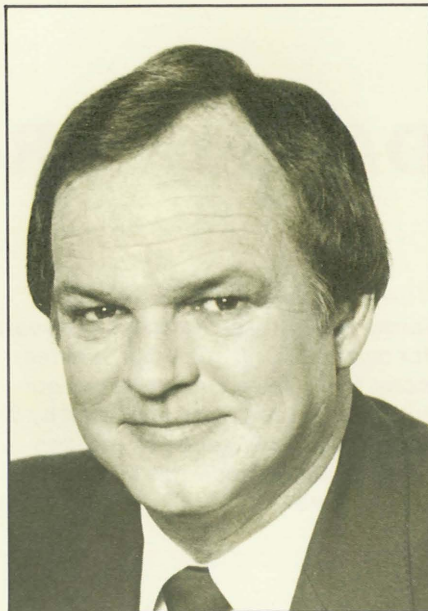
Anyone wishing additional information on the Indian Forest Lands Program should contact **Mark Atherton**, Forestry Development Officer at (604) 388-0600. ■

Minister takes on new responsibilities

In a recent federal government Cabinet shuffle the Prime Minister announced that the Honourable **Gerald S. Merrithew**, Minister of State (Forestry) would add Mines to his portfolio.

The combined contribution of the forestry and mining sectors to the Canadian economy is enormous — some \$47 billion in output generating some \$21 billion in trade surpluses, sustaining 475 Canadian communities and providing 1,175,000 direct and indirect jobs.

Mr. Merrithew's title is now Minister of State (Forestry and Mines). ■



Gerald S. Merrithew

Centre to Host Biofor Meeting

The Pacific Forestry Centre will host BIOFOR II — the second annual BIOFOR meeting — November 18-20, 1986.

The purpose of BIOFOR is to link industry, university researchers and government labs in a network leading to the exploitation of biotechnology for forest-based industries.

The second annual meeting will address frontier biotechnologies for forest improvement, micropropagation of conifers, and lignocellulase enzymology.

Speakers will address such issues as: "Disease problems and forest management in the 20th Century"; "What can be achieved with monoclonal antibodies?"; "Genetic engineering of woody plants"; "Micropropagation of Canadian conifers"; and, "Identifying new viral pesticides".

Further information may be obtained by writing: Dr. L.P. Visentin, Coordinator, Biotechnology Program, National Research Council of Canada, Montreal Road, Bldg. M-58, Room W-216, Ottawa, Ontario K1A 0R6. ■

Prince George Office Opens

Effective October 1, 1986, a new CFS District Office at Prince George will be open to service clients in that Region.

The Honourable **Gerald S. Merrithew**, Minister of State (Forestry and Mines), was on hand to officially open the new office located at Suite 514, 550 Victoria Street.

Representatives of industry and forestry associations, along with federal, provincial and municipal government personnel were invited to the opening.

The CFS has long served this Region through the services of our Forest Insect and Disease Survey Rangers. Many research projects have been

conducted in this region over the years including some still ongoing involving bark beetles and site preparation trials.

The projected five-year expenditure under FRDA in this region is expected to be in excess of \$60 million and the establishment of this office is a reflection of the CFS commitment to the importance of this resource to the Prince George region.

Walter Matosevic, Forestry Development Officer, will be the District Coordinator (see page 6). He can be reached at the above address or by calling 562-6908. ■

Information
FORESTRY

Published by:

**Pacific Forestry Centre
Canadian Forestry Service**

**506 West Burnside Road
Victoria, B.C. V8Z 1M5
388-0600 Loc. 610**

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

Canada