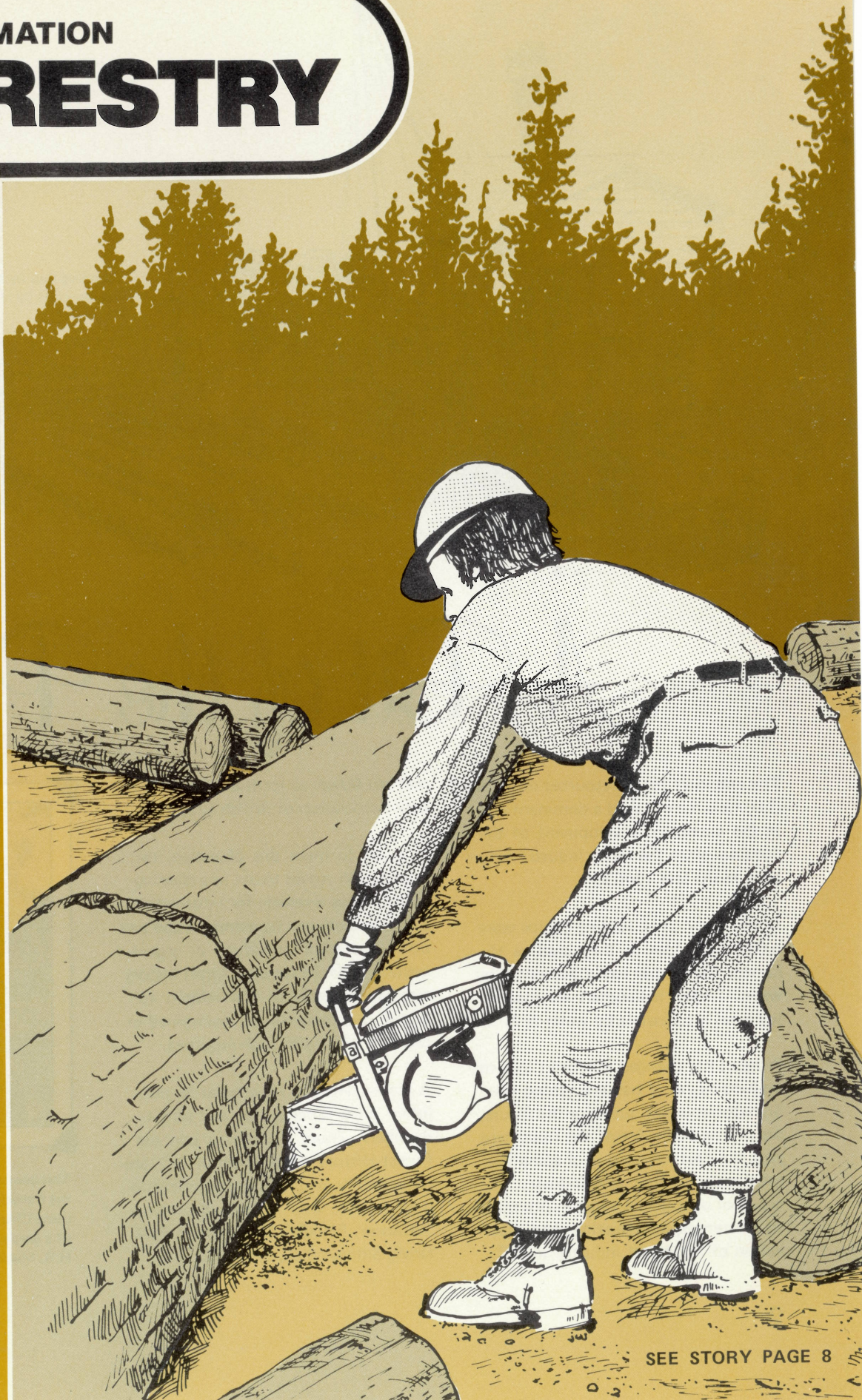


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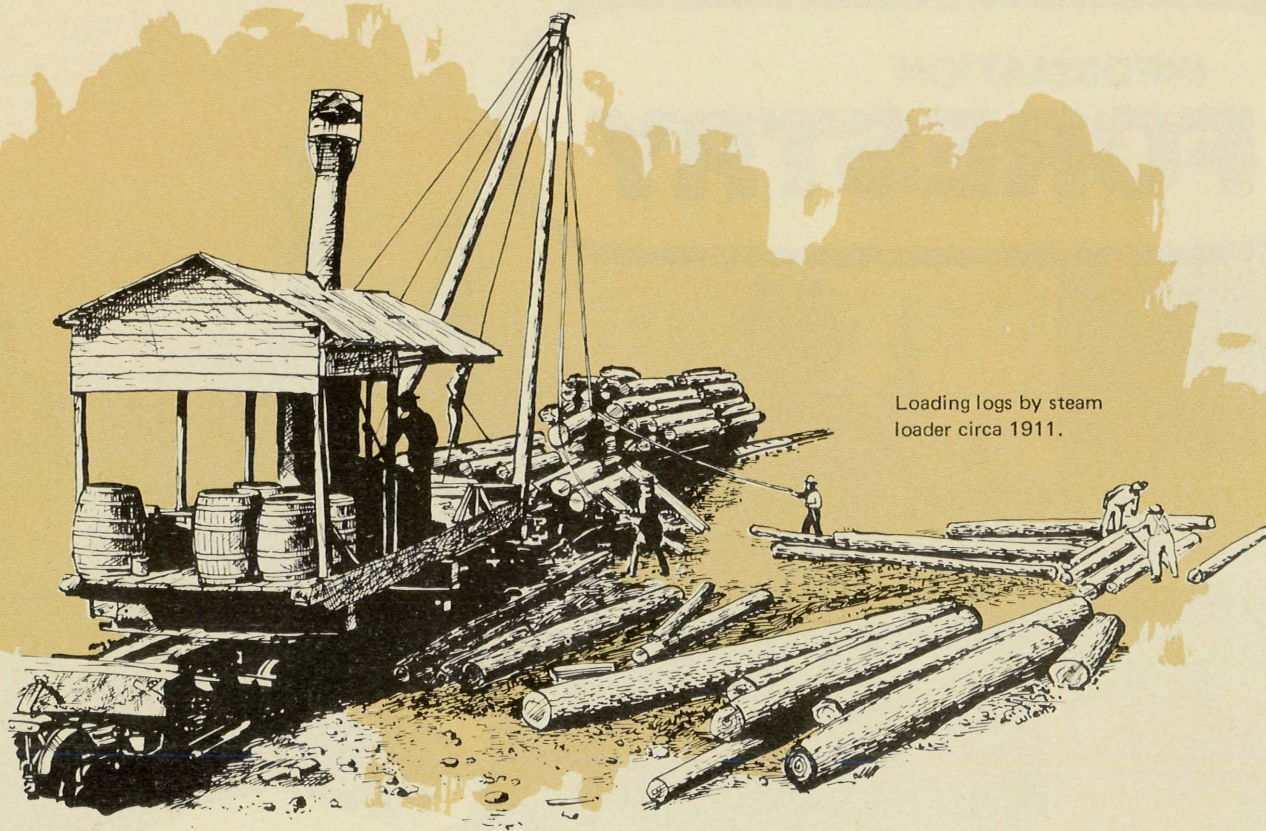
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Pacific Forest Research Centre

Vol. 10, No. 1, 1983

SEE STORY PAGE 8



Loading logs by steam loader circa 1911.

A Bit of the Past

The extensive forest resources of British Columbia have played a dominant role in the economic development of the province since the forest industry began back in the late 1840's.

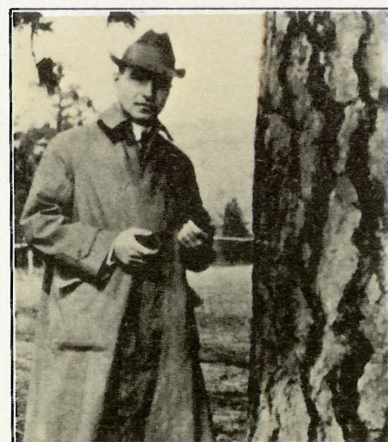
In the early days, logging camps were established close to the coastline to harvest the timber easily accessible by water. Today, helicopters are used to log areas inaccessible by water or land.

Progress has changed the forest industry immensely, as it has everything else. Sometimes in our quest for the future, we all too easily forget the important part the past has paid in shaping the province's number one industry. A group of people interested in promoting an awareness, appreciation, and preservation of the forest industry in B.C.

met last March to form the Forest History Association of British Columbia.

In order to meet this objective, the Association strives to act as a clearing-house and as a vehicle for information exchange between its members and any other interested individuals or organizations. A list of ongoing forest history research projects in and related to British Columbia will be maintained in order to assist with such inquiries.

A Forest History Newsletter is published three times a year and sent to members. Those wishing to join the Forest History Association of B.C. are requested to send \$5 as membership dues to: Mr. Edo Nyland, Secretary-Treasurer, FHABC, 8793 Forest Park Drive, Sidney, B.C., V8L 4E8.



This gentleman started his forestry career with the Canadian Forestry Service. He later became Chief Forester of B.C. and finally founder of a leading forestry company. His name—H.R. MacMillan of MacMillan-Bloedel Ltd.



Logging at Pitt Lake, B.C., 1904.



Being a forest ranger in the early 1900's left little time to do your laundry. Top right photo shows some coastal fire rangers on their fire-fighting barge. Bottom right shows a 1916 Cache Creek Ranger Station.



More Resources for Biological Control

Les Reed, Assistant Deputy Minister of the Canadian Forestry Service (CFS), announced the Service will increase its resources in biological control research from the present 20 percent of its forest protection budget to 25 to 30 percent over the next two years.

Biological control using living organisms is one of five recognized approaches to forest pest management. The others involve quarantine to exclude exotic pests or restrict movement of native pests, planting desirable or pest-resistant trees, silvicultural practices and the use of chemicals including pesticides.

Chemicals have provided the most effective and economical means of short-term pest control in the past. While effective, they have limitations—control after each application is short-term, there may be several undesirable side effects, and social acceptability has been poor. Furthermore, as protection strategies change from merely keeping trees alive to maintaining incremental growth, more chemicals will be required.

"It is important that present CFS research in the use of chemicals be continued to help provide vital short-term protection; however, significant research should be devoted by CFS to alternatives that reduce present reliance on extensive use of chemical pesticides," said Mr. Reed.

Biological control has been used in both short- and long-term control strategies. It can be effective, reasonable in cost especially when the control agent is self-perpetuating, and can harmonize with the environment.

During the 1930s, the European spruce sawfly (*Gilpinia hercyniae*) threatened the entire spruce population of eastern Canada—a problem similar in magnitude to today's spruce budworm outbreak. Half of the marketable spruce was destroyed in some areas before the outbreak was permanently controlled by introducing a virus and several insect parasites. The program cost \$300 000.

Another European pest, the winter moth (*Oper-*

ophtera brumata) threatened many hardwoods in the Maritime provinces and was controlled in the 1960s by introducing two insect parasites. Losses through destruction of red oak alone exceeded \$7 million; unchecked, losses would have reached \$38 million. The program cost \$500 000.

Here in western Canada, the Douglas-fir tussock moth (*Orgyia pseudotsugata*) is a serious pest of Douglas-fir. A virus has been produced that will destroy the pest before widespread damage occurs.

The bacterium *Bacillus thuringiensis* has been commercially available for some time. It is notably effective against the larvae of many butterflies and moths that attack both trees and agricultural crops.

A biological control team led by **Dr. Mike Hulme** was recently formed at PFRC, comprising **Drs. John Harris, Henry Moeck, Imre Otvos, Roy Shepherd, Al Thomson** and **Stu Whitney**. Key target pests for scrutiny include bark beetles, the spruce weevil, and defoliators such as western spruce budworm, larch casebearer, and winter moth. Various predatory and parasitic natural enemies including insect diseases will be examined and application methods tailored to suit specific pest environments.

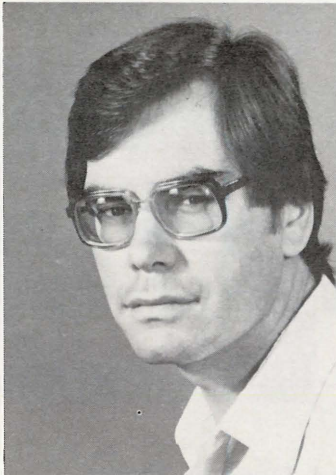
Dr. Mike Hulme recently completed a review of biological control research in CFS to define future plans

for such research within the national organization. As well as containing 43 accepted recommendations for strengthening the CFS biological control program, his report also contains brief chapters on biological control as an integrated component of pest control, the economics of biological control, recent assessments of biological control research by outside agencies, global success and potential of biological control, and current CFS work in biological control. For copies of this publication, write Environment Canada, Distribution Centre, 151 Jean-Proulx, Hull, Quebec K1A 1C7 and quote publication no. DPC-X-11.



New Appointments

Ross Macdonald, Director of the Canadian Forestry Service, Pacific and Yukon Region, today announced the appointments of three senior managers at the Pacific Forest Research Centre.



Dr. Allan Auclair has been appointed Program Manager, Forest Resources—Research and Service. He is responsible for managing and directing research into regeneration methods and silviculture practices, land classification studies, tree and seed improvement, thinning and fertilization and computer services.

Dr. Auclair joined the staff of the Pacific Forest Research Centre in September 1981 as a research scientist working in the area of fire ecology and fire effects. He was born in Montreal, Quebec, and received his B.Sc. degree from McGill University, Montreal, and his Ph.D. in 1968 from the University of Wisconsin. Dr. Auclair was an Assistant Professor from 1969 to 1974 at McGill University and an Associate Professor at the same university from 1974 to 1979. Immediately prior to joining the staff at PFRC, Dr. Auclair was Associate Professor and Centre Director at George Mason University in Washington, D.C.



Dr. Thomas E. Sterner has been appointed Program Manager, Forest Protection—Research and Services, replacing Dr. Douglas Miller who recently retired after 35 years service with the federal government in agriculture and forestry. Dr. Sterner is responsible for managing and directing research projects involving bark and wood-boring insects, defoliating insects, root and stem decays, pest impacts, losses in regeneration and the development of biological controls of forest pests.

Dr. Sterner joined the Canadian Forestry Service in 1966 at the Maritimes Forest Research Centre in Fredericton, N.B., working in forest pathology research and forest insect and disease survey. He moved to CFS Headquarters in 1977 where he was National Director of the Forest Insect and Disease Survey program until his recent appointment. Dr. Sterner is a member of the management team for the Canada-U.S.A. Spruce Budworms Research Agreement and Secretary of the federal Plant Quarantine Advisory Board.

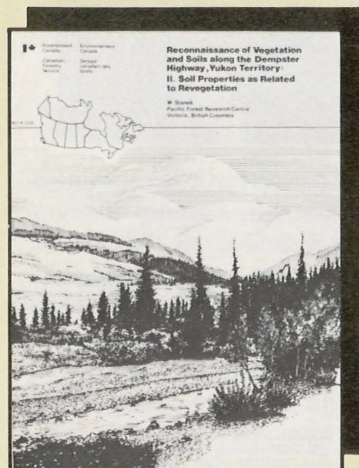


John A. Edwards has been appointed Program Manager, Forestry Development and Relations. Mr. Edwards is responsible for the planning, development, negotiation and implementation of a program of forestry sector agreements within the Pacific and Yukon Region. This is a new program at PFRC resulting from the transfer to the Canadian Forestry Service from the Department of Regional Economic Expansion (DREE) of the Canada-British Columbia Subsidiary Agreement on Intensive Forest Management.

Prior to this appointment at PFRC, Mr. Edwards was the DREE Manager of Program Implementation in B.C. and was responsible for a number of major federal-provincial agreements including Intensive Forest Management, which he co-managed with provincial counterparts. His branch was involved in the identification of opportunities for economic development, initiating new programs and monitoring program follow-through.

Mr. Edwards brings to this new position over 25 years of federal and provincial government experience in senior management positions in areas of tourism and industrial development, including planning, implementation, administration and promotion of major development programs in British Columbia, Manitoba, Ontario, New Brunswick, Nova Scotia and Prince Edward Island. He was formerly the DREE Director in Manitoba before moving to Victoria.

New Publications

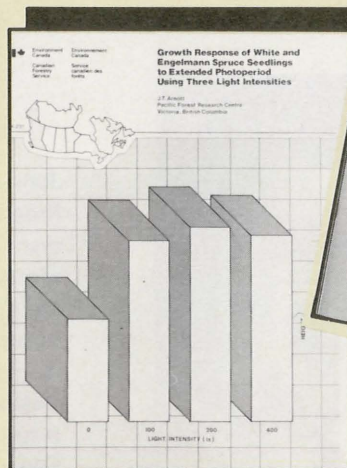


Reconnaissance of Vegetation and Soils Along the Dempster Highway, Yukon Territory: II. Soil Properties As Related To Revegetation

W. Stanek

This report complements the reconnaissance of vegetation (Stanek *et al.* 1981) along 450 km of the Dempster Highway and contains data on some soil properties as related to vegetation and is aimed primarily at providing information for revegetation projects and ecological inventories.

BC-X-236

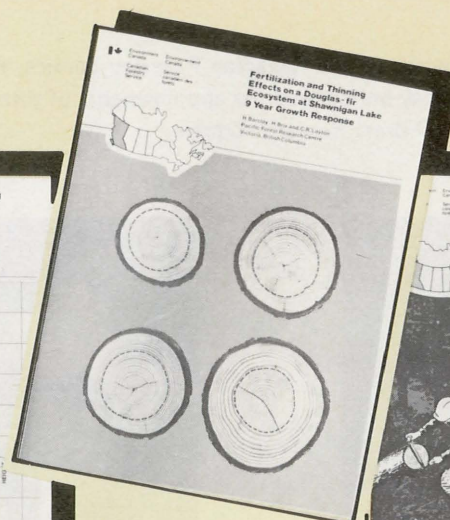


Growth Response of White and Engelmann Spruce Seedlings to Extended Photoperiod Using Three Light Intensities

J.T. Arnott

Four seedlots of white spruce and three of Engelmann, covering a range of 10° of latitude and a range of altitudes were subjected to different intensities of lighting and results recorded.

BC-X-237

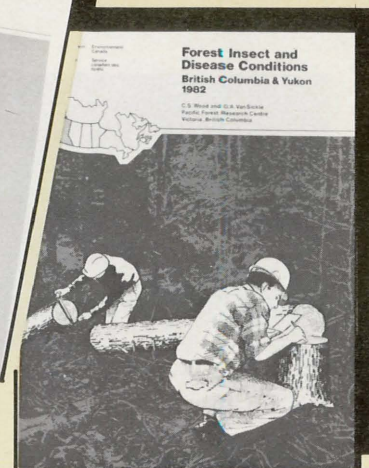


Fertilization and Thinning Effects On a Douglas-fir Ecosystem at Shawnigan Lake: 9-Year Growth Response

H. Barclay, H. Brix and C.R. Layton

The responses of tree and stand growth to thinning and nitrogen (urea) fertilization of a 24-year-old Douglas-fir stand over a 9-year period are documented.

BC-X-238



Forest Insect and Disease Conditions: British Columbia & Yukon, 1982

C.S. Wood and G.A. Van Sickle

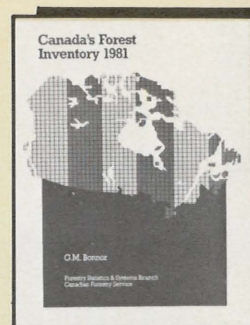
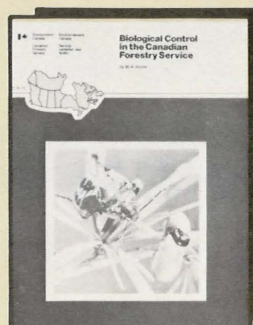
This summary of forest pest conditions in British Columbia and the Yukon in 1982 was compiled from records and field reports of 11 Forest Insect and Disease survey technicians. Emphasis is on damaging pests that are, or may become, major management problems.

BC-X-239

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

National Publications

The following publications are national in scope and are published by the Headquarters office of the Canadian Forestry Service. They are available by writing: Distribution Centre, Environment Canada, 151 Jean-Proulx, Hull, Quebec K1A 1C7.



Biological Control in the Canadian Forestry Service

M.A. Hulme

A review of biological control research in CFS and includes suggestions that might be made to strengthen the program in the next five years.

DPC-X-11

Publications—1981

A bibliographic listing of scientific, technical and interpretive publications published by the research centres, institutes and headquarters of the Canadian Forestry Service during the calendar year 1981.

Cat. No. Fo 1-1/1981

Canada's Forest Inventory 1981

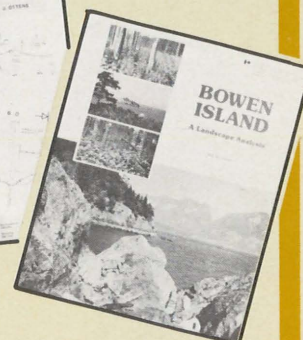
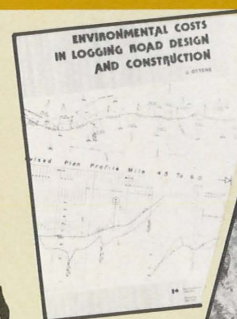
G.M. Bonnor

Produced by the Forestry Statistics and Systems branch of the Canadian Forestry Service, the Inventory is the official document on the extent of Canada's forest resources. The latest in a series published at approximately five-year intervals, it represents a significant advance over previous such reports, being more complete, accurate and location-specific.

Cat. No. Fo 41-10/1981E

Available from: Forestry Statistics & Systems Branch
Canadian Forestry Service
Environment Canada
Chalk River, Ontario K0J 1J0

Oldies but Goodies



Environmental Costs in Logging Road Design and Construction (1975)

J. Ottens

Intended to assist public and private forest managers as a basis for collecting environmental costs data, both as a guide in future projects and to maintain cost control on current forest road projects.

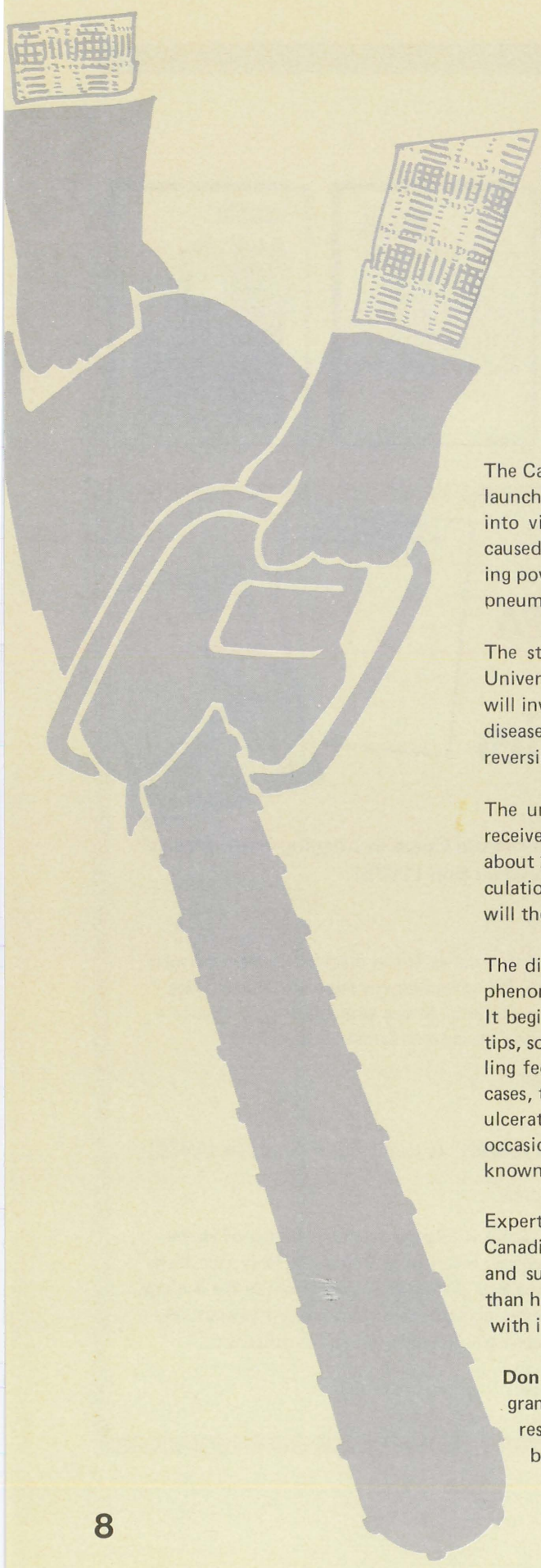
BC-X-108

Bowen Island: A Landscape Analysis (1976)

H. Hirvonen

Bowen Island is located at the entrance of Howe Sound within reach of a 20-minute ferry ride from Horseshoe Bay. Available information on the geology, topography, climate, soils, hydrology and plant and animal ecology was gathered and synthesized.

BC-X-122



Vibration White Finger

Health Study Launched

The Canadian Forestry Service (CFS) is launching a five-year \$500 000 study into vibration white finger, a disease caused by long-term exposure to vibrating power tools, such as chain saws and pneumatic drills.

The study, to be conducted by the University of British Columbia (UBC), will investigate whether incidence of the disease is increasing and whether it is reversible if caught in the early stage.

The university's medical school will receive \$114 530 this year to survey about 200 lumbermen and test the circulation in their hands. Their progress will then be followed for four years.

The disease, also known as Raynaud's phenomenon, can take years to develop. It begins with blanching of the fingertips, sometimes accompanied by a tingling feeling and numbness. In extreme cases, the hands turn dusky in color and ulcerate at the fingertips. Gangrene occasionally develops. No cure is known.

Experts estimate that about 100 000 Canadians are candidates for the disease and surveys have shown that more than half of B.C. loggers are afflicted with it.

Don Myles, manager of contract programs for CFS, says one of the end results of the five-year study might be that more strict vibration stan-

dards for chain saws will be enforced.

An international symposium on vibration white finger disease was held in Vancouver in May 1982 and was sponsored by CFS; Department of Medicine, UBC; International Woodworkers of America; Council of Forest Industries; and Health and Welfare Canada.

The proceedings of this symposium will be published shortly and will be available to readers of "Information Forestry" upon publication.

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