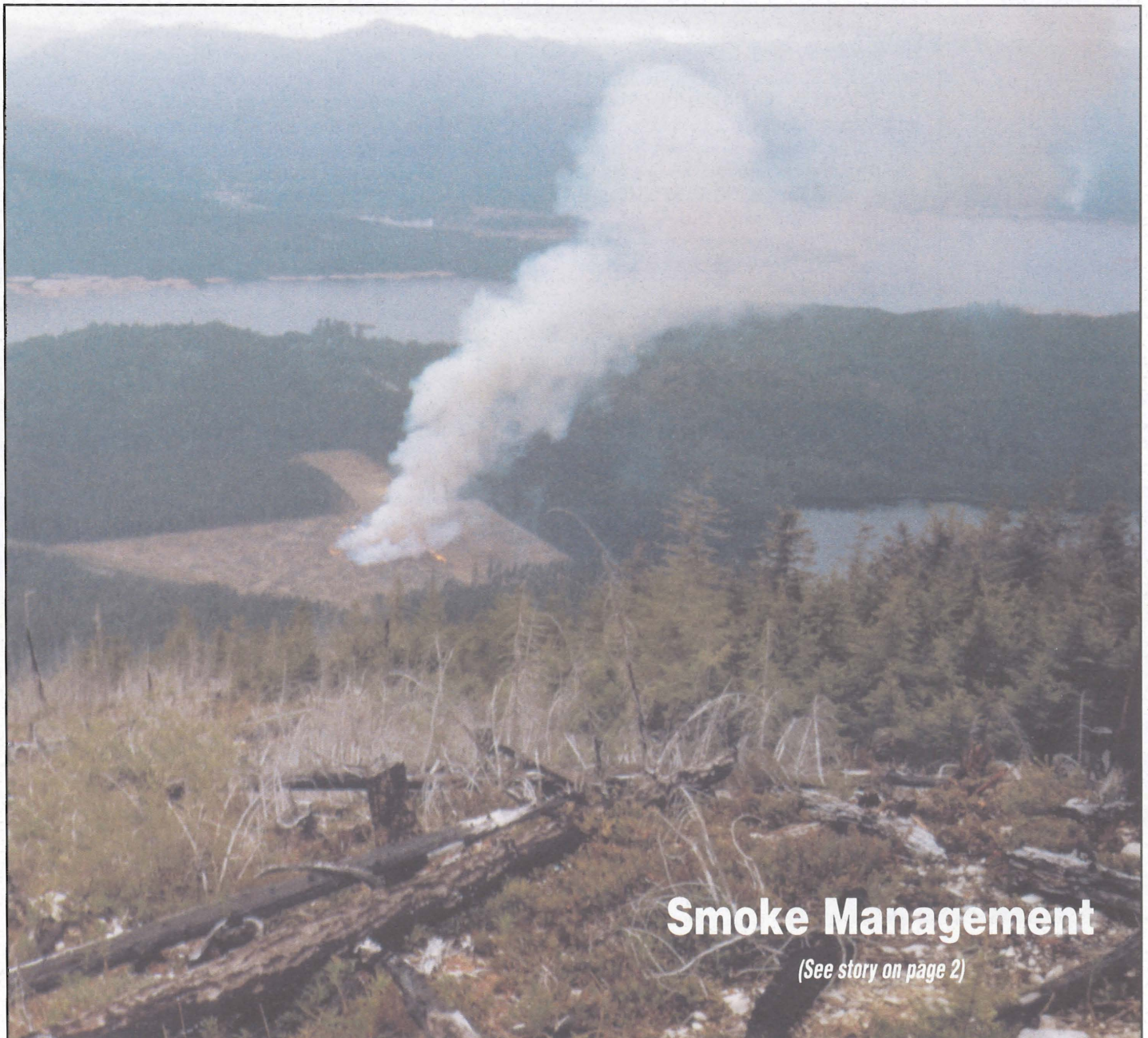




June 1992

# INFORMATION FORESTRY

## Pacific & Yukon Region



### Smoke Management

*(See story on page 2)*



# Where there's smoke...there's fire?

**C**ooperative project is developing decision aids to protect smoke-sensitive areas from the impacts of prescribed fire

Where there are forests there are forest fires. And all forest fires, whether wild or prescribed, produce smoke. But when smoke concentrates in populated areas it can be very unpleasant. Soon, however, thanks to the Smoke Plume Evaluation and Monitoring Project (SPEM), smoke from prescribed fires may no longer be a problem.

Fire Research Officer Steve Taylor is heading Forestry Canada's role in the six-agency cooperative project that is focusing on reducing emissions and impacts from prescribed fire on what are known as "smoke-sensitive areas." Forestry Canada is joined in the project by the B.C. Forest Service (lead agency), B.C. Ministry of Environment, U.S. Forest Service, the University of Washington and Environment Canada.

"The need has long been recognized to avoid smoke concentrations in sensitive areas," says Taylor. "And SPEM is specifically addressing this need. Our research is targeting prescribed fire, its emissions and the impact they have on 'smoke-sensitive' areas."

Smoke-sensitive areas are defined as populated locations or scenic areas that may be impacted by smoke. The potential for prescribed burns to impact smoke-sensitive areas depends not only on the amount of smoke produced, but also on weather and topographic conditions. When combustion is inefficient or the intensity of the fire is low, these conditions may be further aggravated. There are many communities in British Columbia which, at one time or another, are affected.

The goal of SPEM is to develop decision aids that fire managers can use in planning these prescribed burns in a way that will limit emissions and avoid impacting the smoke-sensitive areas.

The decision aids will consist of a family of linked computer models designed to predict the processes of fuel consumption and energy release, smoke emission, smoke column development, and smoke plume dispersion. Forestry Canada is developing the fuel consumption, emissions yield, and energy release models, while the B.C. Forest Service is developing the

dispersion models.

The models will incorporate data gathered from prescribed burns in British Columbia and parts of existing smoke management models developed outside of B.C.

"At each burn site we gather data from several sources," says Taylor. "On the ground, we measure the amount of biomass before and after the burn, the weather conditions, the temperature of the fire throughout the duration of the burn, and the emissions at ground level in the surrounding area."

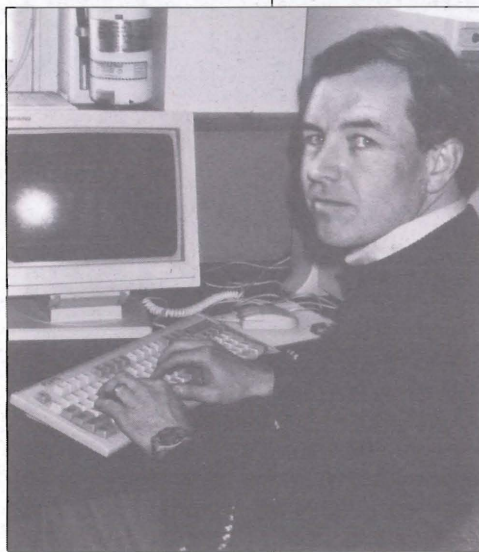
Additional information is gathered from fixed-wing aircraft and helicopters equipped with infrared imagers, video cameras, and other sampling equipment. Data recorded from these sources include fire growth and energy release rate, the rate of development and dispersal of the smoke plume, and its physical and chemical composition. A weather balloon-based system is also used to measure temperature, humidity pressure, and wind speed and direction with height in the atmosphere.

"Thanks to the cooperation of all the agencies, we are able to access some of the most sensitive and sophisticated fire research equipment in the world today. We've had the use of the University of Washington's Convair aircraft, a flying laboratory that was used in the Persian Gulf to assess the impacts from the Kuwaiti oil fires," adds Taylor.

Various government agencies across Canada provided the funding that allowed Forestry Canada to acquire a helicopter-mounted Barr and Stroud infrared imaging system. While this system is kept at Forestry Canada's Northern Forestry Centre in Edmonton, it is also used by researchers at the Pacific and Great Lakes Forestry Centres. This technology, along with the expertise of the individuals involved, allows the team to achieve a great deal more than any one agency alone could deliver.

The completed models will allow fire managers to predict when a prescribed burn may produce unwanted impact and emissions and test alternative strategies to prevent those occurring. The strategies may include burning under conditions that result in lower fuel consumption but still achieve specific objectives, burning under conditions that favour good smoke dispersion, and limiting the use of prescribed burning to those areas that receive the greatest benefit from this treatment.

A prototype system is expected to be completed in 1993.



Steve Taylor



# P.M. plants first tree for Tree Plan Canada

**T**he Prime Minister unveiled the six-year, \$75 million program to encourage Canadians to make a personal contribution towards improving the quality of our country's environment by planting trees

The planting of a tree is not an unusual occurrence in Chetwynd, British Columbia, but one tree planted in the 1992 Forestry Capital of Canada on April 30th carries an unusual distinction. This tree, planted by Prime Minister Brian Mulroney, is the first of up to 325 million new trees that will grace the towns and countryside of Canada by 1998 under Green Plan's Tree Plan Canada.

Speaking at a national forest sector conference in this northern British Columbia community, the Prime Minister unveiled the six-year, \$75 million program to encourage Canadians to make a personal contribution towards improving the quality of our country's environment by planting trees.

Joining Mr. Mulroney at the event was the Honourable Frank Oberle, Minister of Forestry. "By planting trees Canadians will contribute to the fight against global warming, and to the beautification of many of our communities, providing a more natural and diverse landscape," Mr. Oberle stated.

Tree Plan Canada is a Green Plan initiative of the federal government, developed by Forestry Canada. It will promote the aesthetic and environmental benefits of planting more trees, and the positive impact tree planting has on CO<sub>2</sub> levels and global warming. The program will establish partnerships with all levels of government, service clubs, youth groups and conservation organizations to set up project sponsorship with corporations and other groups.

The goal of the program is to plant trees in and around villages, towns and communities across Canada. It is a nationwide effort to contribute to an improved environment through tree planting.

Tree Plan Canada is funded in part by the federal government through Forestry Canada. The National Community Tree Foundation, a



non-government organization, has been set up to manage the funding of the program and seek additional financial support based on sponsorship from the corporate sector.

Forestry Canada staff will assist in providing program coordination and technical support.

Interested individuals and organizations may call the national toll-free number 1-800-563-0202, or call Randy Butcher, regional Tree Plan Canada coordinator for the Pacific and Yukon Region at 604-363-6034.



## A COMPLETE FOREST INDUSTRY CONFERENCE

SEPTEMBER, 1992  
VANCOUVER AND KELOWNA,  
BRITISH COLUMBIA



# FIDS 1992 field season

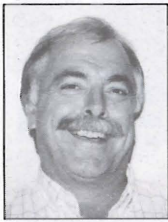
**F**IDS field programs in progress include the Asian gypsy moth, and nursery and seed orchard surveys

The 1992 FIDS field season is underway. In addition to the annual overview of forest pest conditions, this year the rangers will undertake western budworm population assessments, pinewood nematode surveys, establishment of additional acid rain plots, biomonitoring, surveys for early season defoliators of cottonwood in Fraser River plantations, and special collections for research staff at the Pacific Forestry Centre and other centres.

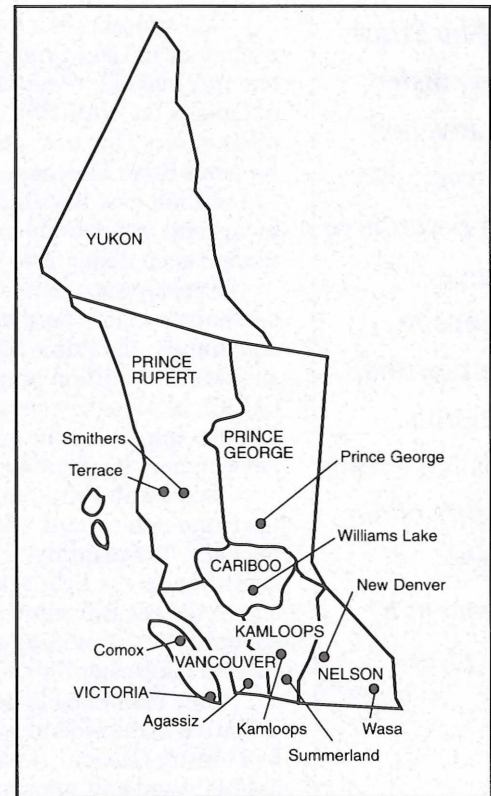
The rangers will also participate in silvicultural training programs and forest pest management training for regional and district contacts.

Other FIDS field programs in progress include surveys for the Asian gypsy moth, and nursery and seed orchard surveys.

To learn more about FIDS activities in your area contact your regional FIDS ranger at the field stations listed below or Chief Ranger Colin Wood at 363-0675.



COLIN WOOD  
Chief Ranger  
363-0675



## Cariboo Region



BOB ERICKSON  
Williams Lake  
392-6067

## Kamloops Region



PETER KOOT  
Kamloops  
372-1241



JANICE HODGE  
Summerland  
494-8742

## Nelson Region



LEO UNGER  
Wasa Lake  
422-3465



ALAN STEWART  
New Denver  
358-2264

## Prince George Region



NICK HUMPHREYS  
Prince George  
963-7394



BOB FERRIS  
Prince George/  
Cariboo 963-7238

## Prince Rupert & Yukon Region



ROD GARBUTT  
Smithers  
847-3174



JOHN VALLENTGOED  
Terrace  
635-7660

## Vancouver Region



ROD TURNQUIST  
Agassiz  
796-2042



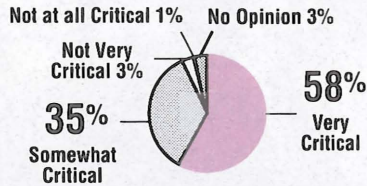
DENNIS CLARKE  
Victoria/Comox  
339-4722





## Research

How critical are research activities to ensuring the future of Canada's forests?



# Canadian public opinion on forestry issues

In 1991, Forestry Canada commissioned a national survey of Canadian public opinion on forestry issues. The survey, conducted by Environic Research Group Limited (Toronto), polled a random sample of 2513 Canadian adults on issues related to forestry.

The focus of this survey was forest values, but questions about other issues were also asked.

In some cases the results were compared with results from a similar study conducted in 1989 to measure the extent to which public opinion has changed on key issues.

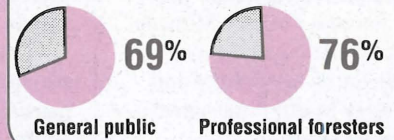
Several results were also compared with those from the September 1990 Survey of Professional Foresters in Canada to compare views of the general public with those of professional foresters.

Highlights of the survey results are available. Check the appropriate box on the enclosed response card if you wish to receive a copy.

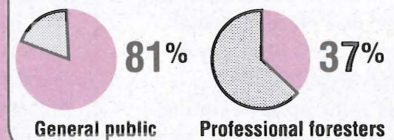


How do the views of the general public and professional forester compare?

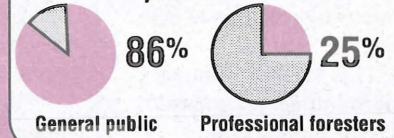
% that agree that "there is a growing scarcity of wood".



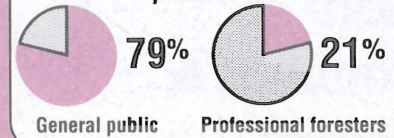
% that think "chemicals used in forest management pose a hazard to human health and the environment".



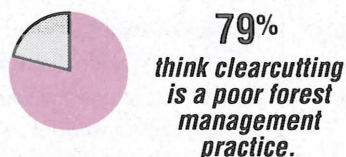
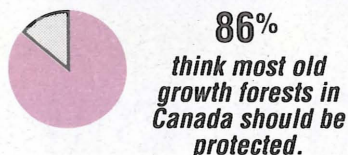
% that think "most old-growth forests in Canada should be protected".



% that think clearcutting "is a poor forest management practice".

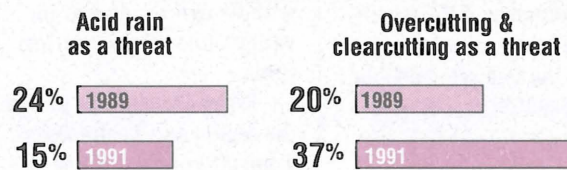


## Forest Management



## Threats to our forests

How has public perception changed?



What reason do Canadians give for their view that too many trees are logged?





# Canada and Finland sign forestry agreement

A science and technology agreement to foster cooperative efforts in the field of forestry between the Governments of Canada and Finland was signed in May.

Federal Forestry Minister Frank Oberle and Finnish Minister of Agriculture and Forestry Martti Pura signed a Memorandum of Understanding during Minister Pura's three-day visit to British Columbia.

Canada and Finland both derive significant economic, social and environmental benefits from their forests which are situated in geographic areas of similar ecological conditions. Many of the technological challenges and opportunities related to the management and utilization of the forest resource are common to both countries.

"This Memorandum of Understanding recognizes and fully supports the

ongoing informal forestry cooperation already existing between Canada and Finland, both in the public and private sector," said Oberle.

Areas of cooperation which will be considered for future study include: forest inventory and remote sensing; forest management planning and planning systems; silviculture methods; seed improvement and nursery production; mechanical site preparation, planting, thinning and harvesting; environmental influences on the forest and forest protection; wood utilization; and, economics of forestry, the forest industry and the forest products market.

"We expect to identify mutually essential problems

within the areas identified and will establish joint project teams to study such problems," added Oberle.

During Minister Pura's visit to British Columbia he

met with Forestry Canada and B.C. Ministry of Forests staff and was updated on forest management and research programs within B.C..



Federal Forestry Minister Frank Oberle (R) and Finnish Minister of Agriculture and Forestry Martti Pura following the signing of the science and technology Memorandum of Understanding.

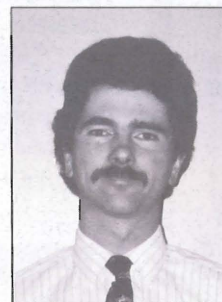
## Staff Comings & Goings

Newcomers to the region over the last few months include the following people:

Forestry Officer **Randy Butcher** has joined Industry, Trade and Development to coordinate the new Green Plan Tree Plan Canada program (see story on page 3) for the region. Randy, an RPF, holds a B.Sc. in forestry from UBC and a diploma in forestry from BCIT. He has previously worked as a Land Officer

with Crown Lands and for various forestry consulting firms.

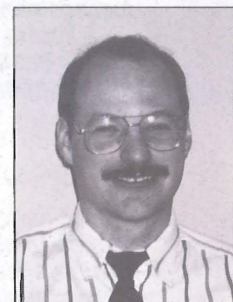
**Kerry Deschamps** joined the region as a Technology Transfer Forester. Kerry was formerly head of Silviculture Planning with the Reforestation Branch of the Alberta Forest Service in Edmonton. Kerry's research and applied expertise in intensive forest management, growth & yield, biometrics and other aspects of forestry are



**Randy Butcher**

expected to serve our clients needs very well.

Forest technician **Craig Farndon** has joined the Prince George office to work in the area of Regeneration & Stock Production. Craig has a B.Sc. in forestry from the University of British Columbia and was formerly a silviculture project forester with Industrial Forest



**Kerry Deschamps**

Service in Prince George.

Forest Technician **Roger Butson** has joined the Prince George staff to work in Regeneration and Site Productivity. Roger, who has an M.Sc. in forestry from Lakehead University, was previously a nursery research forester with the Ontario Ministry of Natural Resources.



## Recent Publications

### **Proceedings of the first meeting of the IUFRO working party S2.07-09 (Diseases and insects in forest nurseries)**

edited by J.R. Sutherland and S.G. Glover

A compilation of papers presented to participants at the first meeting of the IUFRO working party S2.07-09 (Diseases and insects in forest nurseries) at Victoria, British Columbia, August 22 to 30, 1990.

BC-X-331

### **Forest tree seed certification in Canada under the OECD scheme and ISTA rules: summary report for 1986-1990.**

F.T. Portlock

Summarizes OECD and ISTA certification activities by Forestry Canada in the Pacific and Yukon Region in the 5-year period 1986-1990.

BC-X-332

### **Assessment of aerial photographs and multi-spectral scanner imagery for measuring mountain pine beetle damage.**

P. Gimbarzevsky, A.F. Dawson, and G.A. Van Sickle

A survey of mountain pine beetle infestation in a 370-km<sup>2</sup> demonstration area was used to evaluate operational use of available remote sensing techniques for identification of beetle-killed forest stands, mapping of their areal extent, and measurement of tree damage. Illustrated with numerous colour stereograms, oblique photographs, and multi-spectral scanner imagery.

BC-X-333

### **Forest Insect and Disease Conditions, British Columbia and Yukon-1991**

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

This summary of forest pest conditions highlights pests that are, or may become, major forest management problems. It was compiled from field reports and other records of 11 Forest Insect and Disease Survey (FIDS) rangers, with contributions from the forest industry, researchers and agencies.

BC-X-334

### **Management of black army cutworm**

R.F. Shepherd, T.G. Gray, T.F. Maher

Precautions to prevent or minimize damage by black army cutworm to newly planted seedlings are described.

BC-X-335

### **Susceptibility and risk rating systems for mountain pine beetle in lodgepole pine stands.**

T.L. Shore and L. Safranyik

Systems for rating the susceptibility and risk of damage to lodgepole pine stands from the mountain pine beetle are described.

BC-X-336

### **Reports and Publications: Pacific and Yukon Region- 1991.**

A listing of the reports and publications authored by staff of Forestry Canada's Pacific and Yukon Region during 1990.

BC-X-337

### **Tree Hazards in Recreation Sites in British Columbia.**

(Reprinted March 1992)  
G.W. Wallis, D.J. Morrison, and D.W. Ross.

Introduces the concept of tree hazard and provides a uniform system by which

potentially hazardous trees may be rated, describes procedures for conducting tree-hazard control inspections and surveys, and suggests measures to reduce or abate hazards. Indicators of some common tree defects are described and illustrated. Joint Report No. 13.

### **Tree Book: Learning to recognize trees of British Columbia.**

(Reprinted April 1992).

A quick, easy and interesting method of identifying the trees of B.C.

### **Forestry Canada-Pacific and Yukon Region Strategic Plan 1991-1995**

A five-year strategic plan to meet the goals and deliver the mandates and mission of Forestry Canada in the Pacific and Yukon Region.

### **Highlights of the 1991 National Survey of Canadian Public Opinion on Forest Issues.**

Topline summary and overview of a 1991 survey of Canadian Public Opinion on Forestry Issues conducted for Forestry Canada by Environics Research Group.

## **Biodiversity: Insects and fungi of B.C. forests**

"It's interesting to note that more than 59% of the insects and 80% of the fungi that live in Canadian forests can be found in British Columbia," says Dr. Allan Van Sickle, Head of Forestry Canada's Forest Insect and Disease Survey (FIDS) in the Pacific and Yukon Region.

Van Sickle is citing information drawn from the FIDS Infobase, a computerized data management system that contains the records of all species of forest disease and insects collected in over 50 years of FIDS activities throughout Canada. "The complete number of species of forest disease in forest collections for this region is 3042. The Canadian total is 3748. And we have 4232 of the total of 7169 species of forest insect collections in Canada." These collections also include species of parasitic and predatory insects, mycorrhizae, and other beneficial or benign organisms.

"Since no other region has as great a number of records, our colleagues in other regions like to tell us this means we're the most infected and infested region in Canada," says Van Sickle "but in actual fact it's a reflection of the richness of British Columbia's overall forest biodiversity."

## **INFORMATION FORESTRY**

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