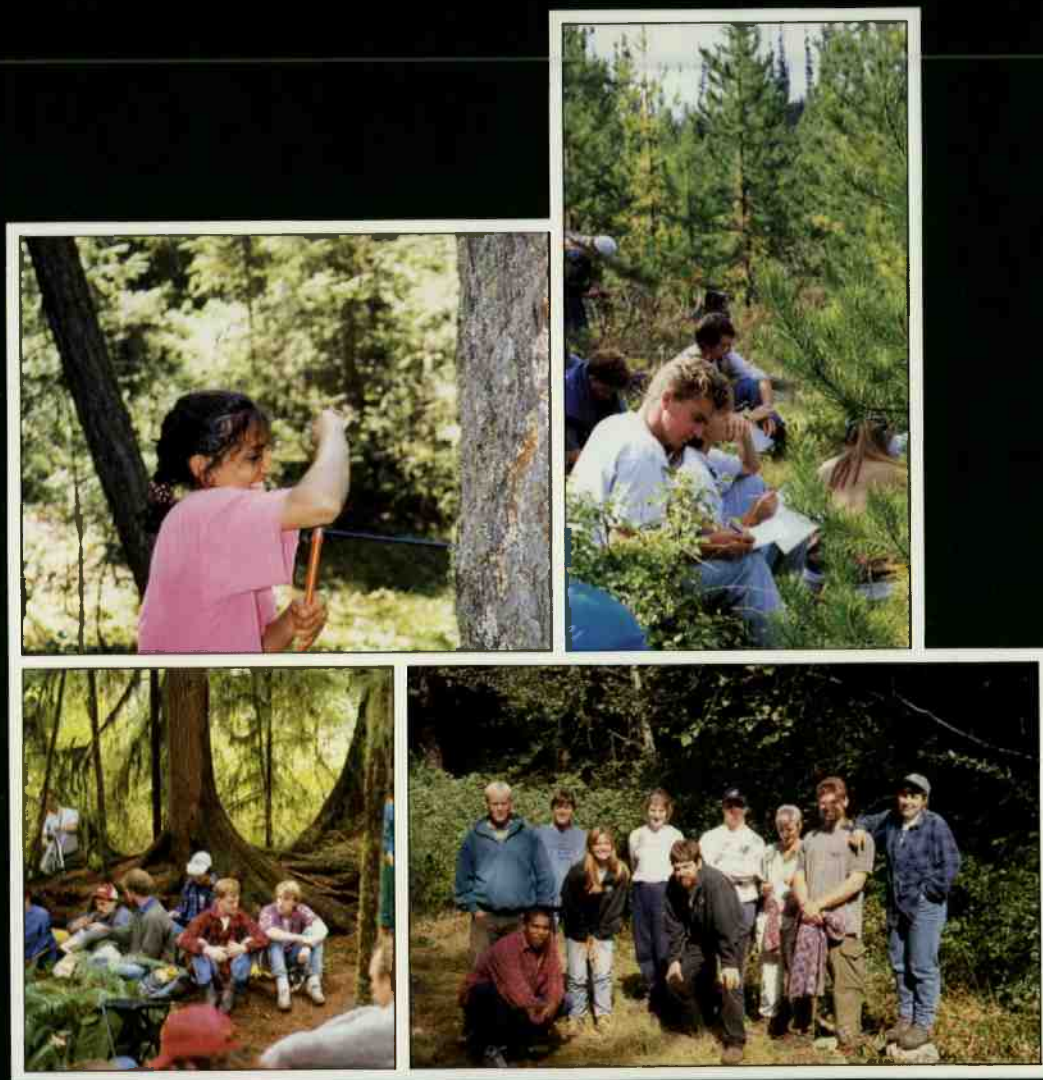


# 1994 Annual Report



Faculty of Forestry

The University of British Columbia  
Vancouver, B.C.  
Canada

# FORESTRY ADVISORY COUNCIL

The Forestry Advisory Council provides advice to the Faculty on curriculum matters and research priorities.

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---

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Ministry of Forests

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**Dr. Gordon H. Orians**  
Professor  
Institute for Environmental Studies  
University of Washington

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Ontario Forest Industry Assn.

**Mr. Erkki Rautianen**  
President  
Durand-Raute Industries

**Mr. Ralph Roberts**  
Director  
Forestry Section, CIDA

**Mr. Robert Stewart**  
R.T. Stewart & Associates

**Mr. Gerry Stoney**  
National President  
Western Canadian Reg. Council #1  
IWA-Canada

**Mr. Horst Wagner**  
Forestry Advisor  
World Bank

**George Weyerhaeuser Jr.**  
President & CEO  
Weyerhaeuser Canada

**Dr. Peter E. Wrist**  
President (retired)  
replaced by

**Dr. Joseph D. Wright**  
President & CEO  
Pulp and Paper Research Institute  
of Canada

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**ANNUAL**  
**REPORT**

**Faculty of Forestry**

University of British Columbia

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April 1, 1994 – March 31, 1995

## **COVER PHOTOGRAPHS**

*(Clockwise from top left)*

- Student exercises at Fall field school  
**Photo:** *Donna Goss*
- Student exercises at Fall field school  
**Photo:** *Donna Goss*
- Fourth year class field trip  
**Photo:** *Sandy Thomson*
- Carmanah field trip  
**Photo:** *Donna Goss*

## **TEXT PHOTOGRAPHS**

UBC Media Services

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**T**HE FACULTY OF FORESTRY exists to help society solve problems collectively called “forestry” — the conservation and use of forests and forest products to sustain human material and spiritual welfare. The main way we accomplish this task is through the people we educate — undergraduates for professional careers in land management, graduate students for service in science, and professionals who require updating in the latest scientific information so they can perform their jobs at the high level expected by society. The “student-first” organization of this year’s annual report emphasizes the defining role students have in the Faculty.

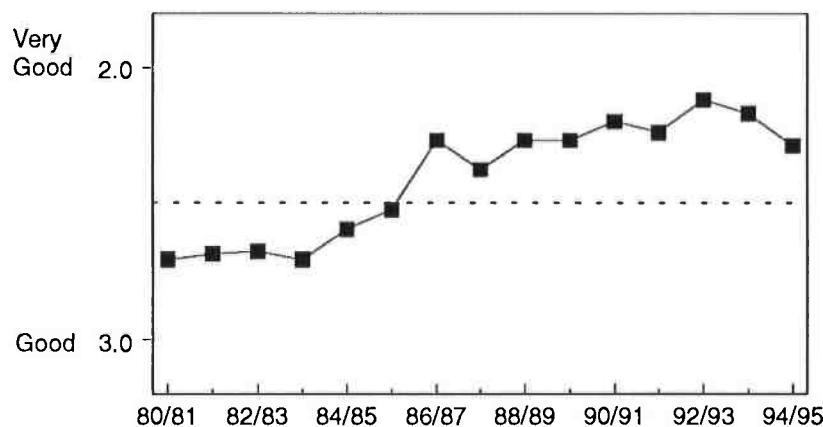
During 1994/95, the Faculty supported students by:

- sustaining a high level of performance in teaching,
- initiating new programs specifically relevant to current societal needs,
- developing a new admissions policy,
- raising funds specifically for student aid, and
- making new faculty appointments to support our rapidly growing Natural Resources Conservation Program.

Each of these activities is discussed briefly below.

### **Sustaining a High Standard of Teaching**

Continuous improvement requires regular feedback on performance. Through a formal survey instrument we ask students to evaluate each of their courses each semester. The accompanying figure shows that last year the average for the faculty changed a bit to 2.28 but is still closer to “Very Good” than to “Good”. Faculty members receive the results of these evaluations for their courses along with their comparative ranking with others. Teaching performance figures heavily in faculty promotion and salary decisions.



*Student evaluations of Faculty of Forestry teaching 1980/81 – 1994/95*  
(Note: 1 = Excellent, 2 = Very Good, 3 = Good, 4 = Fair, 5 = Poor, 6 = Very Poor)

### **Increasing the Relevance of Undergraduate Education**

The application of advanced technology is critical to the long-term success of Canada’s forest products industry, and indeed its economy more broadly. This year, in close cooperation with our Forestry Advisory Council, the Faculties of Forestry and Applied Science developed a new program in wood products processing. In a Canada-wide competition the National Education Initiative of the Wood Products Industry selected this program as the one the Canadian forest products industry would support. The five-year co-op program we proposed will provide the education and experience needed for young people to enter challenging careers in value-added manufacturing industries ranging from high-technology sawmills, remanufacturers, architectural millwork, and the furniture

## **DEAN’S MESSAGE**



and cabinet industries. By pushing the limits of change, the committee leading this development — Professors David Barrett, Thomas Maness and David Cohen from the Department of Wood Science and Professors Sidney Mindess, Peter Lawrence and Gary Schajer from the Faculty of Applied Science — was able to arrange the program so we can accept the first students in the fall of 1995.

Following the successful model of external consultation pioneered in the wood products processing program, we have initiated a “blank page” review of our professional forestry program. A small task force, led by Professor Gordon Baskerville, has surveyed a wide range of our alumni, members of the ABCPF and other individuals from the natural resource community to determine the most critical needs facing practicing forestry professionals today. The results from this survey, supplemented by focus group analysis, will provide the basis for a complete revision of the program. One possible outcome is a return to the five-year format UBC supported until 1986, but with a post-baccalaureate credential awarded on successful completion of the fifth year.

This year we graduated the first students from our B.Sc. (Natural Resources Conservation) program. The enormous interest in the program by excellent students indicates that it is responding to a palpable need. The pioneer graduating class has helped us reflect on the changes needed to hone the program. During the upcoming year we will review the program with the idea of implementing necessary modifications in the fall of 1996.

This fall the first students will register in the Diploma in Forestry (Advanced Silviculture) program we now offer in conjunction with the Silviculture Institute of British Columbia.

Last August we were able to attract Mr. Gordon Prest as the Faculty’s first Coordinator of First Nations Forestry and Natural Resources Conservation programs. Gordon has met with many First Nations groups in the province, and has helped the faculty understand First Nations issues with much greater clarity. You can read more about this important program on page 12.

## **Modernizing Admissions Standards**

In response to greatly increased demand for entry into the Faculty of Forestry, three years ago we were forced to limit admissions into the Forestry and Natural Resources Conservation programs. Demand has steadily risen (we had over 800 applicants last year, but can accept only 85 students into Year 1 of these programs) and with it the minimum grade-point average needed for admissions. Of course, enrolling students with better and better academic qualifications strengthens the profession of forestry. At the same time, we are certain that this ever-higher grade-point standard excludes some students who would be excellent professionals when measured by such characteristics as leadership, capacity to communicate and perseverance. Combined with the known uncertainties in measuring academic performance by high school grade-point averages (GPAs), these considerations lead us to develop a pilot project for admitting some students on the basis on criteria other than GPA alone. Judging by the overwhelming, favourable public response we have heard, this new policy seems to respond to a clear societal need. We will implement the policy this fall and will discuss the results in next year’s Annual Report.

## **Raising Funds for Student Support**

As a result of the excellent prospects for responsible professional employment both during the summer and after graduation (last year 96.9% of our graduates were either employed or studying for advanced degrees; see page 7), students in the Faculty of Forestry face a somewhat smaller financial burden to complete their education than do students in some other faculties. However, steady inflation in the costs of operating the university and less-than-commensurate increases in provincial funding are forcing up the tuition and fees that students must pay. Anticipated cutbacks in the federal support for higher education will put additional upward pressure on tuition costs.

In response to these trends, we have heightened our efforts to secure meaningful summer employment for students (especially those in the Natural Resources Conservation program where the pathway to summer jobs is less well trod than it is for Forestry students), and have placed student



support as a prominent need in our faculty development plan. These efforts have been rewarded by five new scholarships:

- Backman Awards in Natural Resource Conservation
- Janet Ketcham Scholarship for First Nations students
- ABCPF First Nations Award
- Pacific Regeneration Technologies Silviculture Scholarship, and
- Namkoong Family Fellowship and Teaching Exchange & Research Award.

One of the most gratifying efforts in this regard is Professor Gene Namkoong's decision to donate \$110,000 of his Marcus Wallenberg Prize to the Faculty of Forestry for a graduate fellowship. His generosity was matched by a contribution of \$95,000 by the B.C. Ministry of Forests and \$50,000 by the Canadian Forestry Service.

### **New Faculty Appointments**

In addition to the new faculty appointments announced last year, Professor David Tindall joined the Faculty with one third of his appointment in the Department of Anthropology and Sociology. We have an active search for a faculty member in the area of conservation planning/policy, and are currently searching for two faculty jointly with Landscape Architecture (one with an interest in landscape-scale forest planning and the other with a site-planning focus). In addition, with the support of the Ministry of Forests, a number of forest products companies, two environmental organizations and NSERC, we are seeking two faculty members in population genetics to deal with education and research in genetic conservation, biodiversity and tree breeding. During the upcoming year we will commence searches for faculty members in forest operations (jointly with the Forest Engineering Institute of Canada), and in advanced wood products processing. This level of faculty renewal — much of it funded outside of the University's budget — will provide the teaching and research strength needed to support our expanding student population.

Service through excellence. Putting students first. These themes underlie our capacity to help society solve its forestry problems. Never have these problems been more critical. Young people understand the importance of the forestry problems to our society, and have responded by enrolling in the Faculty of Forestry in record numbers. At the same time, continued pressure on provincial budgets and the impending collapse of federal support for post-secondary education in Canada truly challenge our ability to keep the Faculty's capacity abreast with societal demands.

I am personally interested in your thoughts on how we are dealing with these changing demands. You can reach me by telephone at (604) 822-2467, fax at (604) 822-8645, or e-mail at [binkley@unixg.ubc.ca](mailto:binkley@unixg.ubc.ca). I look forward to hearing from you.



Clark S. Binkley  
Dean, Faculty of Forestry

## UNDER-GRADUATE STUDENTS

## PROGRAMS OF STUDY

**KOZAK, A.**  
B.S.F., M.F., Ph.D.  
Associate Dean, Undergraduate  
Programs and Academic Affairs

**GOSS, Donna E.**  
B.S.F., R.P.F.  
Coordinator of Student Services

**PREST, Gordon W.**  
Coordinator of First Nations  
Forestry and Natural Resources  
Conservation Programs

Phone: (604) 822-2727  
Fax: (604) 822-8645

**T**HE Faculty of Forestry offers a 4-year degree program in each of the following five areas:

- Forest Resources Management — B.S.F.
- Forest Operations — B.S.F.
- Wood Science and Industry  
B.Sc. (Forestry).
- Forest Science — B.Sc. (Forestry).
- Natural Resources Conservation  
B.Sc. (Natural Resources Conservation).

### *Forest Resources Management*

This major focuses on the multidisciplinary aspects of forest resources biology and management to include resources such as timber, range, wildlife, recreation, fisheries and water. Students deal with the unique characteristics of each resource, their interactions, and the manipulation of forests to yield a variety of desirable products in the context of the social and economic environment of Canadian society. The program prepares graduates for careers in responsible integrated forest management as a professional forester.

### *Forest Operations*

This major prepares the graduate for professional forestry responsibilities, with an emphasis on planning, design and administration of forest harvesting operations. Areas of study include: design and construction of forest roads and drainage structures; selection, planning and supervision of logging systems; site protection and rehabilitation; and the development of computer applications for harvesting systems.

### *Wood Science and Industry*

This major provides a strong technical background in wood as a material and a good understanding of wood products manufacture, marketing, engineering and utilization. There are three areas of concentration:

- business management and marketing;
- industrial process technology; and
- science, engineering and biotechnology.

This major will be replaced by the new Wood Products Technology program in the fall of 1996.

### *Forest Science*

This major is for students interested in more specialized study of the scientific principles related to the growth, development and ecology of forest species. Emphasis is placed on basic

and interactional phenomena that influence the establishment, growth and development of trees and other forest resources. These include genetics, soils, weather and climate, tree form, tree function, ecology, microbiology and other foundation courses in entomology, pathology, silvics, silviculture and fire science.

### *Natural Resources Conservation*

This program prepares students for careers in the conservation of renewable natural resources, the management of protected areas, and planning for the integrated use of forests and associated wildlands. Students leave the program with an appreciation for the socio-economic and biological environments in which decisions concerning the management of protected areas are made, and a working knowledge of technologically advanced tools and quantitative techniques available to renewable resource planners and managers.

## PROGRAM CHANGES IN 1994-95

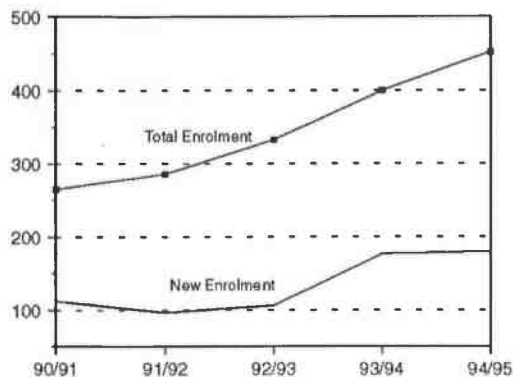
The fourth year of the Natural Resources Conservation degree program was offered, with a small group of students completing their programs. Several forest technology graduates entered the new three-year degree program in Forest Operations.

## PLANS FOR 1995-96

The Faculty will implement a new broader-based admissions policy for applicants to the B.S.F. degree programs from high school. This policy will allow for approximately 15% of the students to be admitted on the basis of supplementary criteria. We will monitor the progress of these students to determine the success of the broader-based admissions. We will complete the professional curriculum review of the B.S.F. degree programs, with possible recommendations for some curriculum revision, and also begin a curriculum review of the Natural Resources Conservation degree program. In preparation for the introduction of the new Wood Products Technology program in 1996/97, we will teach a modified curriculum for the first two years of the existing Wood Science and Industry program. The modified curriculum will allow students to enter the program in the 1995/96 session.

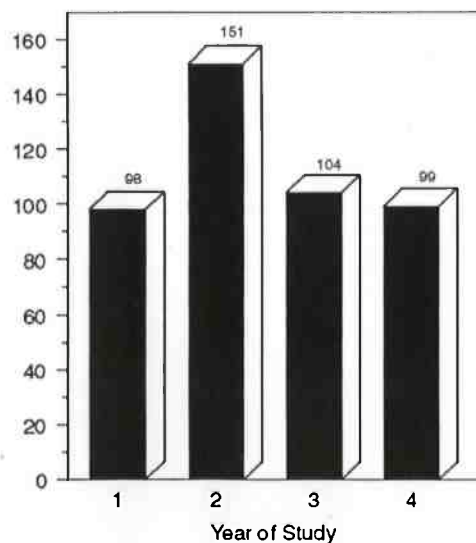
## Total Enrolment

Enrolment for undergraduate students (in all four years of the forestry programs) is up again this year from 400 to 452 students. The graph below illustrates the past five years' trend in enrolments:



*Total enrolment and new enrolment  
1990/91 - 1994/95*

The following chart shows the distribution of undergraduate students by year of program.



*Enrolment by year of study  
1994/95*

As seen in the following table, the majority of our undergraduates are enrolled in the Forest Resources Management program. The Natural Resources Conservation program has the second highest enrolment.

## Distribution of students among programs 1994/95

Program	Number enrolled	% of total
Forest Resources Management	201	44.5
Forest Operations	25	5.5
Forest Science	25	5.5
Wood Science and Industry	33	7.3
Natural Resources Conservation	81	17.9
Undeclared*	87	19.3
<b>Total</b>	<b>452</b>	<b>100</b>

\*First year students.

Female students represented 31 per cent of the above total, up from 29.5 per cent last year and 14 per cent in 1990.

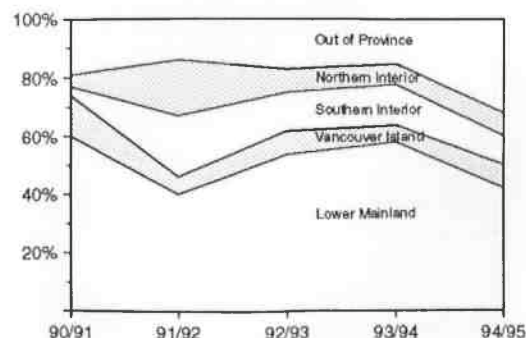
## New Student Enrolment

One hundred and seventy-nine new undergraduate students entered the faculty during 1994/95. The numbers entering into the different years are tabulated below:

### New students entering the Faculty 1994/95

Year of study	Number of new students entering
I	87
II	68
III	24
<b>Total</b>	<b>179</b>

The average entering GPA from all pathways was 70.8%. Thirty per cent of the new students entered directly from high school and 70 per cent from post-secondary institutions.



*Source of incoming students  
1990/91 - 1994/95*

## ENROLMENT STATISTICS

### Undergraduate Students

## Scholarships and Fellowships Awarded, 1994

### First Year Students

Campbell, A.E.	Oscar Soderman Memorial Scholarship.
Dekens, C.J.	Kapoor Singh Siddoo Scholarship.
Fletcher, J.G.	Oscar Soderman Memorial Scholarship.
Gawalko, L.M.	H.R. MacMillan Scholarship • Oscar Soderman Memorial Scholarship.
Gelbart, G.	Oscar Soderman Memorial Scholarship.
Gold, L.G.	H.R. MacMillan Scholarship • Oscar Soderman Memorial Scholarship.
Mohoruk, B.J.	Oscar Soderman Memorial Scholarship.
Mui, K.L.	Oscar Soderman Memorial Scholarship.
Pena, C.M.	Oscar Soderman Memorial Scholarship.
Scott, W.L.	Oscar Soderman Memorial Scholarship.
West, J.E.	Oscar Soderman Memorial Scholarship.

### Second Year Students

AWARDS	Andrews, M.M.	H.R. MacMillan Scholarship • Charles and Jane Banks Foundation Scholarship.
	Bontkes, R.P.	Charles and Jane Banks Foundation Scholarship.
Undergraduate Students	Boyland, M.N.	Charles and Jane Banks Foundation Scholarship.
	Calabrese, M.D.	Charles and Jane Banks Foundation Scholarship • David Bell Little Memorial Scholarship.
	Harco, M.E.	Charles and Jane Banks Foundation Scholarship.
	Nienaber, G.W.	Charles and Jane Banks Foundation Scholarship.
	Paterson, L.J.	H.R. MacMillan Scholarship • Charles and Jane Banks Foundation Scholarship.
	Sommerfeld, B.H.	Truck Loggers Association Scholarship • H.R. MacMillan Scholarship.
	Sorg, J.M.	Charles and Jane Banks Foundation Scholarship.
	Walsh, H.	H.R. MacMillan Scholarship • Ted Johnson Scholarship.
	Wilson, S.R.	Kapoor Singh Siddoo Scholarship.

### Third Year Students

Craigie, G.J.	Charles and Jane Banks Foundation Scholarship.
Harrod, K.M.	Backman Scholarship in Forest Resource Management.
Hashizume, R.Y.	Mary and Robert Wellwood Memorial Scholarship.
Illes, J.S.	Truck Loggers Association Scholarship • Charles and Jane Banks Foundation Scholarship.
Johnsrude, A.N.	John E. Bier Memorial Prize.
Kirkham, C.A.	Charles and Jane Banks Foundation Scholarship • J. Stuart Hanna Prize.
Law, S.S.Y.	Charles and Jane Banks Foundation Scholarship.
Lim, B.E.	Charles and Jane Banks Foundation Scholarship.
Recknell, G.M.	Galt Elkington Memorial Scholarship.
Robinson, J.A.	Robert J. Craig Memorial Scholarship • Machinery & Supply Companies Group Forestry Scholarship.
Rooke, D.S.	Northwood Pulp and Timber Limited Scholarship • Timberline Scholarship • Phil Haddock Prize.
Slaymaker, H.R.	Barry English Memorial Award • University of B.C. Forestry Alumni Division Scholarship.
Walters, F.G.	Charles and Jane Banks Foundation Scholarship.

### Fourth Year Students

Baumber, S.W.	Best Graduating Essay – Association of B.C. Professional Foresters.
Brown, S.M.	Best Graduating Thesis – Association of B.C. Professional Foresters.
Dickie, A.J.	Forest History Prize.
Douillard, D.J.	H.R. MacMillan Prize in Forestry.
Fournier, B.J.	Harry Hobson Memorial Prize.
Rouck, K.B.	H.R. MacMillan Prize in Forest Harvesting.
Temple, S.P.	Canadian Institute of Forestry Medal • Honours Standing.

## Degrees Conferred, May 1994 and November 1994 Congregations

### B.S.F. Forest Resources Management

Allen, N.L.	Lawrence, K.E.
Andermatt, D.J.	Leong, M.A.
Atkinson, K.D.A.	Lewis, D.G.
Baumber, S.W.	Little, K.A.
Boulet, C.G.	MacIntosh, M.F.
Bradley, B.E.S.	Mamchur, S.P.
Brown, S.M.	Mariotto, M.R.
Carmichael, J.M.	McArthur, D.B.
Carter, D.S.	McDowell, J.H.
Childerley, R.J.	McLeod, J.A.
Dickie, A.J.	Miller, C.L.
Donovan, J.M.	Nielsen, A.C.
Elstone, D.O.	Paulin, M.
Fleischer, K.A.	Penninga, T.J.
Fournier, B.J.	Roberts, J.D.
Fredrickson, H.S.	Schulz, M.D.
Gammie, K.R.	Smestad, B.T.
Gartshore, K.H.	Speed, M.D.
Gash, M.G.	Spence, S.J.
Gillett, G.E.	Staff, W.R.
Hislop, G.C.	Swab, T.S.
Johnson, R.R.	Takarabe, J.M.
Jorimann, R.D.	Taylor, G.J.
Joyce, A.E.	Temple, S.P.
Kendall, K.E.	Teschke, E.R.
Kohlberger, F.L.	Tremblay, D.R.
Kozak, M.	Vigano, J.T.
Kozuki, S.F.	Wait, H.J.
La Haie, B.W.	Wery, P.B.
Labelle, J.R.	Wilder, N.A.
Ladyman, J.J.	Yacyshen, T.
Ladyman, S.A.	

### B.S.F. Forest Operations

Andersson, K.L.  
Briscoe, R.G.  
Byng, D.A.  
Campbell, C.L.  
Harris, H.M.  
Karassowitsch, D.F.  
Louwerse, D.A.  
Rittich, C.G.  
Rouck, K.B.

### B.Sc. (Forestry) Wood Science and Industry

Bae, J.E.  
Douillard, D.J.  
Evans, M.D.  
Goodison, A.J.  
Khun Khun, D.S.H.  
Spagnum, M.W.  
Wilson, S.D.

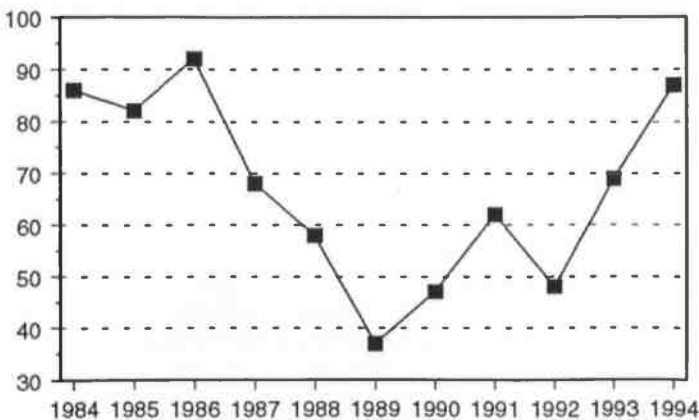
### B.Sc. (Forestry) Forest Science

Banford, L.J.  
Brewer, R.G.W.  
Gillies, C.T.  
Kubien, D.S.  
Loeb, B.  
Parker, R.M.  
Poole, B.M.  
Vasily, J.L.

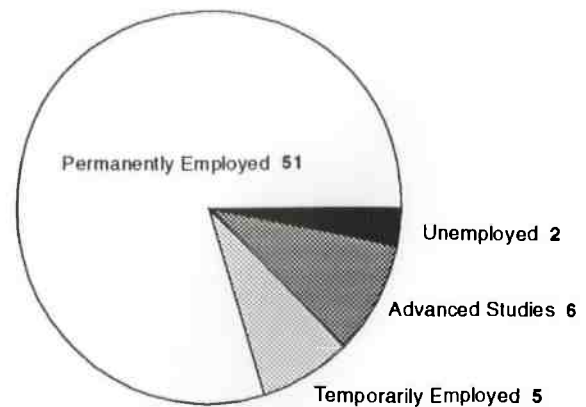
## GRADUATION STATISTICS

### Undergraduate Students

Number of Graduates



Number of students graduating 1984 – 1994



Employment survey of 1994 graduates  
(64 of the 87 graduates responded)



## GRADUATE STUDENTS

## ENROLMENT STATISTICS

McLEAN, John A.  
B.Sc., M.Sc., Ph.D.  
Associate Dean,  
Graduate Studies & Research

Phone: (604) 822-6177  
Fax: (604) 822-8645  
E-mail: gradfor@unixg.ubc.ca

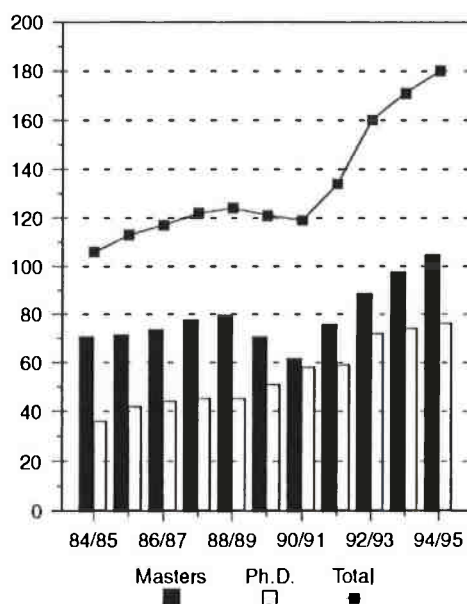
### Graduate Programs

The Faculty of Forestry offers four graduate degrees:

- Doctor of Philosophy — Ph.D.
- Master of Forestry — M.F.
- Master of Science — M.Sc.
- Master of Applied Science — M.A.Sc.

### Enrolment Trends

The Forestry Graduate Program has grown in student numbers by 73 per cent over the past decade. Today there are 180 graduate students registered in the Faculty. The graph below illustrates the distribution of these students between the different degree programs. The greatest growth has been in the number of Doctoral students — in 1983 there were only 32, today there are 76 students enrolled in the program. In this same period the number of Masters students has risen from 70 to 104.



*Graduate student enrolment  
1984/85 - 1994/95*

The proportion of female Forestry graduate students is 29 per cent of the Masters and 13 per cent of the Ph.D. students, for an overall average of 22 per cent. The following table shows enrolment data for 1994/95.

*Graduate student enrolment 1994/95*

Degree	Male	Female	Total
Ph.D.	66	10	76
M.A.Sc.	3	1	4
M.F.	14	1	15
M.Sc.	57	28	85
<b>Total</b>	<b>140</b>	<b>40</b>	<b>180</b>

As of October, 1994.

The proportion of graduate students from outside of Canada has remained fairly constant over the past few years and presently stands at 46 per cent of Doctoral and 26 per cent of Masters students. A total of twenty-four countries are represented in the graduate student body.

### Graduate Student Funding

In the 1994/95 academic year, Forestry graduate students were awarded support totalling \$1,699,781, an increase of 2.5% over 1993/94 funding levels. This was made up from \$990,067 in scholarship funding, \$184,088 in graduate teaching assistantships and \$525,626 in graduate research assistantships (provided by research supervisors from their research grants).

*Graduate student enrolment and funding*

Department	No. graduate students	Total funding
Forest Resources Management	68	\$452,396
Forest Sciences	72	\$722,211
Wood Science	40	\$537,174

## MASTERS STUDENTS

Atwood, L.	UGF	Gyula, G.	UGF	Oriente, D.	VanDusen
Bennett, D.	FERIC	Hafer, M.	McPhee	Parker, R.	Forestry Faculty
Bogle, T.	McPhee	Hanel, C.	Allen, Cochran	Pavel, M.	McPhee
Brett, R.	McPhee	He, M.	VanDusen	Rouck, K.	NSERC
Brewer, R.	NSERC	Hoffert, C.	McPhee	Sanchez-Mayoral, C.	Spanish
Budge, S.	UGF	Johnson, D.	Forestry Faculty	Sharp, N.	NSERC
Bullock, C.	GREAT	Kim, S-H.	Korean	Smith, R.	GREAT
Calendino, M.	McPhee	Lee, L.	Forintek	Sun, L.	Buckland
Choi, J.	Korean	Li, M.	UGF	Thomas, K.	Forestry Faculty
Clouston, P.	Weyerhaeuser	Lin, Y.	McPhee	Wang, K.	McPhee
Courchene, T.	Lumber	Lisgo, K.	McPhee, Backman,	Wahbe, T.	CSU
Danninger, C.	VanDusen		Bassett	Wind, E.	CFP, UGF
Dickie, A.	Fort Nelson	MacKenzie, K.	Forestry Faculty	Yatich, S.	World Bank
	Indian Band	McCormick, J.	Hoffmeister	Yawalata, D.	CIDA
Duff, J.	Commonwealth	McKinnon, L.	NSERC	Yong, T.	CIDA
Fuchs, M.	NSERC	Morrison, J.	Hanson, McPhee	Zabek, L.	GREAT
Goh, S.	Forestry Faculty	Nelson, S.	Heller	Zheng, Y.	McPhee
Goodison, A.	Forestry Faculty	Norlin, P.	Swedish	Zhong, J.	UGF

## DOCTORAL STUDENTS

Abraham, L.	UGF	Lau, W.	GREAT	Sahajananthan, S.	VanDusen
Andison, D.	NSERC	Li, K.	GREAT	Sheng, T.	VanDusen
Chang, X.	GREAT	Liu, G.	Fletcher**	Singh, R.	McPhee
Cherry, M.	GREAT	Liu, R.	Forintek	Shishido, M.	Japan
Clark, D.	Fletcher*	Lu, J.	UGF	Steege, C.	McPhee
Cumming, S.	Tri-Council	MacDicken, K.	UGF	Sutherland, G.	Tri-Council
Defretes, Y.	CIDA	Mansfield, S.	Forestry Faculty	Temesgen, H.	MacMillan
Duralia, T.	NSERC	Markham, J.	UGF	Teter, D.	UGF
Eagen, R.	GREAT	Martin, V.	GREAT	Thomas, L.	Commonwealth
Gao, Y.	UGF	Matakala, P.	UGF	Van Ham, M.	GREAT
Huggard, D.	Tri-Council	McIntosh, R.	UGF	Wang, X.	GREAT
Kayahara, G.	GREAT	Mitchell, S.	GREAT	Wang, Y.	UGF
Kinyua, P.	CIDA	Mitchell-Banks, P.	VanDusen	White, J.B.	UGF
Kiskchuk, B.	McPhee	Mooney, R.	UGF	Zhong, A.	Forestry Faculty
Kozak, R.	Forintek, UGF	Nelson, K.	NSERC		

## SCHOLARSHIPS AND FELLOWSHIPS

Graduate  
Students

### Full Name of Award

George S. Allen Memorial Scholarship.	Fletcher* Challenge Canada Ltd. Fellowship in Silviculture.	Korean Government Fellowship Award.
Backman Scholarship in Forest Resource Management.	Fletcher** Challenge Canada Ltd. Fellowship in Forest Resource Management.	Lumber Inspectors' Benevolent Society Scholarship.
Edward, W. Bassett Memorial Scholarship in Reforestation.	Special Forestry Faculty Scholarship.	MacMillan Bloedel Limited Fellowship in Forest Mensuration.
Don Buckland Memorial Scholarship in Forest Pathology.	Forintek Canada Corporation Fellowship in Wood Science and Wood Products.	Donald S. McPhee Fellowship.
California State University Forgivable Loan/Doctoral Incentive Program.	Fort Nelson Indian Band Post-secondary Funding.	NSERC - Natural Sciences and Engineering Research Council of Canada.
CFP - Canadian Forest Products Ltd. Fellowship in Forest Wildlife Management.	GREAT - Graduate Research Engineering and Technology Awards.	Spanish Ministry of Education and Science Scholarship.
CIDA - Canadian International Development Agency Scholarship.	Brenda Hanson Memorial Scholarship in Forestry.	Swedish-American Foundation Scholarship.
Ralph M. and Elizabeth E. Cochran Scholarship.	Paul Heller Fellowship.	Tri-Council Eco-Fellowship.
Commonwealth Scholarship.	Bert Hoffmeister Scholarship in Forest Wildlife.	UGF - University Graduate Fellowship.
	Japan Scholarship.	VanDusen Graduate Fellowship.
		Weyerhaeuser Fellowship in Wood Design Management.
		World Bank Scholarship.



## Degrees Conferred, May 1994 and November 1994 Congregations

### DEGREES GRANTED

#### Graduate Students

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#### M.F.

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**COPITHORNE, Robert** *Dr. G.G. Young*  
Effect of yarding operations on log recovery value.

**FINN, Steven** *Dr. J.D. Nelson*  
The influence of cut-block size and adjacency rules on harvest levels and road networks.

**RIEL, Bill** *Dr. P.L. Marshall*  
Sampling heights of second-growth coastal Douglas-fir in fixed area plots.

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#### M.A.Sc.

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**GRIFFIN, Helen** *Dr. J.D. Barrett*  
An examination of property relationships in the Canadian machine stress rated lumber in-grade program.

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#### M.Sc.

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**BYFORD, Geoffrey** *Dr. J.A. McLean*  
Warren's collar weevil in lodgepole pine stands in the Kispiox Forest District.

**CHRISTIE, Dave** *Mr. G.G. Young*  
Assessing the accuracy of digital elevation models when used for deflective line analysis.

**DANIELS, Lori** *Dr. K. Klinka*  
Structure and regeneration of old-growth *Thuja plicata* stands near Vancouver, British Columbia.

**DUFF, Julie** *Dr. P.J. Dooling*  
Total resource design: Documentation of a method and a discussion of its potential for application in British Columbia.

**FENG, Yan** *Dr. P.R. Steiner*  
Relating pressure response profile during hot pressing to property development in flake-board.

**GOUDIE, Derek** *Dr. D.H. Cohen*  
Market survey of California furniture manufacturers.

**KOHLER, Chris** *Dr. T.P. Sullivan*  
Influence of large-scale food supplementation on diversity of rodent communities.

**LILIEFNA, Leonard** *Dr. J.D. Barrett*  
Structural property relationships for Canadian dimension lumber.

**LOEWEN, Kurt** *Dr. G.C. van Kooten*  
Winter recreational demand and multiple use in the Revelstoke/Golden region of B.C.

**McINTOSH, Rory** *Dr. J.A. McLean*  
Dispersal and development of the striped ambrosia beetle *Trypodendron lineatum* (Oliv.) in industrial sorting and storage areas.

**MENGICH, Edward** *Dr. T.M. Ballard*  
The effect of season and shrub-grass combination on the fodder quality of three agroforestry plant species grown in Maseno, Western Kenya.

**MORGAN, Jeffrey** *Dr. F.L. Bunnell*  
Factors influencing summer habitat use of black-tailed deer on South-Central Vancouver Island.

**PATTERSON, Thomas** *Dr. R.D. Guy*  
Variation in nitrogen and water relations traits between two boreal spruce species from an interacting resource gradient in northern British Columbia.

**RANSOME, Douglas** *Dr. T.P. Sullivan*  
Food limitation and habitat preference of northern flying squirrels and red squirrels.

**RUNCIMAN, Bruce** *Dr. T.P. Sullivan*  
Influence of conifer release treatments on habitat structure and small mammal populations in south-central British Columbia.

**THOMAS, Ian** *Dr. T. Maness*  
An approach to automated product valving for real-time valve optimization systems.

**VON TREBRA, Charlotte** *Dr. T. Sullivan*  
Relationships of small mammal populations to uniform even-aged shelterwood systems.

**WOODS, Alex** *Dr. B. van der Kamp*  
The behaviour and impacts of *Armillaria ostoyae* in mature stands and plantations in the Shuswap Region of British Columbia.

**WANG, Sen** *Dr G.C. van Kooten*  
Old-growth forests for wilderness preservation and timber production in British Columbia: a goal programming model.

**WU, Xiaomei** *Dr. D.L. Golding*  
(Non-thesis).

**WOOD, Paul** *Dr. P.J. Dooling*  
The priority of biological diversity conservation in forest land-use decision-making.

**XU, Wei** *Dr. P.R. Steiner*  
Horizontal density distribution of particle-board: origin and implications.

**ZHANG, Daowei** *Dr. P.H. Pearse*  
Implications of tenure for forest land value and management in British Columbia.

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## Ph.D.

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**DAI, Chunping** *Dr. P.R. Steiner*  
Modelling structure and processing characteristics of a randomly-formed wood-flake composite mat.

**HARTLEY, Ian** *Dr. S. Avramidis*  
Characterization of water in wood below the fiber saturation point.

**JEONG, Cheol** *Dr. L. Paszner*  
Study of fermentability of pretreated acid catalyzed organosolv saccharification (ACOS) hydrolysate by *Saccharomyces diastaticus* highly flocculating yeast.

**MacDICKEN, Kenneth** *Dr. T.M. Ballard*  
Sustainability of *Leucaena leucocephala* fallows in shifting cultivations on the island of Mindoro, Philippines.

**NERCESSIAN, George** *Dr. D.L. Golding*  
Renovation of wastewater by a short rotation intensive culture hybrid poplar plantation in Vernon, B.C.

**SOONHUA, Prachote** *Dr. O. Sziklai*  
Estimation of genetic variation in Thailand rosewood (*Dalbergia cochinchinensis* Pierre).

**TAK, Kwang-II.** *Dr. R. North*  
Foreign direct investment in the forest resource development in the Russian Far East and its implications for Japanese and Korean log markets.

DEGREES  
GRANTED

Graduate  
Students

## FIRST NATIONS FORESTRY & CONSERVATION PROGRAMS

**W**ITH the formal recognition of aboriginal rights by the B.C. Provincial Government and the imminent resolution of the aboriginal land question through the interim measures and B.C. Treaty Processes, the B.C. First Nations people will be influencing resource management decisions in the future much more than they have in the past.

To date, very few aboriginal people have received formal training and education in forestry or other natural resource sciences. This has restricted their ability to participate effectively in provincial land management decision making and resource harvesting activities. There is clearly a strong need to have professionally trained First Nations Foresters and Natural Resource Managers in these fields.

As a first step in meeting this need, the Vancouver Foundation and the Ministry of Forests are supporting a program to increase First Nations participation in the programs being offered in the Faculty of Forestry.

The program was officially established on August 15, 1994 with the appointment of Gordon W. Prest as the First Nations Coordinator. Mr. Prest is of Coast Salish ancestry from the Sto:lo people and comes with over 25 years of related experience as a Forest Ranger and Operations Manager with the Ministry of Forests and five years as a First Nations Educator with the Nicola Valley Institute of Technology.

We have designed a coordinated program of activities to meet the needs for professionally trained First Nations people in the natural resource science fields. The program:

- Reaches potential First Nations students with accurate information on careers in forestry and conservation,
- Facilitates the entry of First Nations students into the UBC Faculty of Forestry programs,
- Supports First Nations students while in study at UBC, and assists graduating students in career counseling and job placement.

**Gordon W. Prest**  
Coordinator of  
First Nations Forestry  
& Natural Resources  
Conservation Programs



### ACHIEVEMENTS IN 1994-95

- Meetings with key individuals from post-secondary institutions, colleges and First Nations organizations to explain forestry and natural resources conservation programs for First Nations students at UBC.
- Contacts with forestry and aboriginal organizations.
- Meetings with UBC Forestry Faculty members to discuss the introduction of a First Nations perspective into current courses.
- Initial development of a proposal to fund a 2-day international conference on curriculum development.

### PLANS FOR 1995-96

- Establish a First Nations Advisory Committee for the Faculty.
- Implement one-day First Nations cultural awareness workshops for Faculty members.
- Coordinate the development of a 3-credit course on First Nations perspectives on resource management for delivery at UBC in January 1996.
- Organize and seek funding for international conference on incorporating First Nations perspectives into forestry and natural resource curricula, to be held in summer of 1996.
- Participate in new First Nations Professional Sciences Access Program.

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**Patricia A. Plackett**  
Director

**T**HE BC Forestry Continuing Studies Network has now been in operation for nearly four years. It has six offices — the Provincial Office in the Faculty of Forestry at UBC responsible for overall management of the organization and coordination of province-wide training initiatives and five delivery centres responsible for organizing training activities around the province at institutions with forestry/natural resource programs:

- Selkirk College, Castlegar
- University of Northern British Columbia, Prince George
- University College of the Cariboo, Kamloops
- Malaspina University College, Nanaimo
- Northwest Community College, Smithers.

Each office has an advisory board whose members provide valuable input on a range of operational issues and the affiliated institutions also play a constructive role.

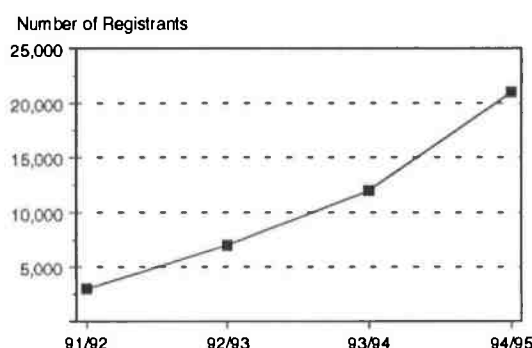
The principal role of the Network remains coordination of the delivery of continuing education in sustainable natural resource management throughout the province on a consistently high-quality basis.

One of the driving forces behind the creation of the Network back in 1991 was a need to redress the inconsistencies in availability, quality and cost of continuing education in forestry. The continuing increase in the numbers of province-wide training activities organized by Network staff is an indication of the recognized value of a consistent approach. Other trends include an increasing involvement of Network staff in the planning and organization of conferences and workshops. Although the initial focus of Network training was the professional and technical audience in forestry, more activities are now being organized for the forest worker. In addition, Network staff are more frequently being asked to participate at an early stage in the design and development of training initiatives.

## ACHIEVEMENTS IN 1994-95

One major activity in 1994 was the coordinated delivery of the five modules of Forest Practices Code training for staff in the Ministry of Forests, the Ministry of Environment, Lands and Parks, the Ministry of Energy, Mines and Petroleum Resources and the Department of Fisheries and Oceans as well as a small number of industry representatives.

The 1994/95 fiscal year was marked by an increase in the number of requests for the delivery of training to forest workers. In addition, the Network Director was asked to help with the development of the Forest Practices Code Awareness Training for Forest Workers.



*Number of registrants in Network-organized training courses 1991/92 – 1994/95*

This past year has seen a diversification of funding sources with the initiation of several major projects under the Watershed Restoration Program. In addition, the Network and the Association of B.C. Professional Foresters have worked together successfully on a number of initiatives this year.

## PLANS FOR 1995-96

The highest priority continues to be the identification of new opportunities for continuing education in natural resource management. As in the past, the focus on improving the cost-effectiveness and increasing the range of Network services will continue.

*Patricia Plackett can be contacted at (604) 822-9278, fax (604) 822-3106 or e-mail [plackett@unixg.ubc.ca](mailto:plackett@unixg.ubc.ca).*

## BC FORESTRY CONTINUING STUDIES NETWORK

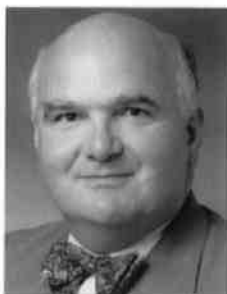
**PLACKETT, Patricia A.**  
B.A.(Hons.), M.A., Ph.D.  
Director

**YCHIM, Dwight**  
Dipl. For. Tech.  
Provincial Coordinator

**MERKENS, Markus**  
B.Sc., M.P.M., R.P.Bio.  
Lead Coordinator

**SATO, Shirley**  
B.A.  
Office Manager

## OFFICE OF THE DEAN



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## FACULTY AND STAFF



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**PENNANT, John D.** — B.A. (Brit. Col.)

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**FACULTY  
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**PREST, Gordon**

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**ALIVOJVODIC, Barbara** — Administrative Assistant

**COLE, Natalie** — Graduate Programs Secretary

**HARTSON, Donna** — Secretary to the Dean

**LAI, Charles** — Clerk

**LIEW, Lily** — Undergraduate Programs Secretary, B.A. (Brit. Col.)

**QUAY, Patsy** — Editorial Assistant

**TURNER, Ron** — Technician, B.A. (Brit. Col.)



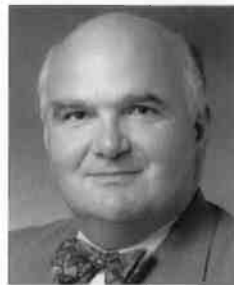
**FOREST  
RESOURCES  
MANAGEMENT  
DEPARTMENT**



**Gordon Baskerville**  
*Head*



**Timothy Ballard**



**Clark Binkley**



**Alan Chambers**



**Jonathan Fannin**



**Douglas Golding**



**David Haley**



**Andrew Howard**



**Antal Kozak**



**Valerie LeMay**



**Peter Marshall**



**Don Munro**



**Peter Murtha**



**John Nelson**



**Peter Pearse**



**S.E. (Tim)  
Salcudean**



**David Tait**



**David Tindall**



**Casey van Kooten**



**Glen Young**



# FOREST RESOURCES MANAGEMENT DEPARTMENT

## FACULTY AND STAFF

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### BASKERVILLE, Gordon

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### BALLARD, Timothy M.

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### FANNIN, R. Jonathan

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### GOLDING, Douglas L.

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- *Watershed Management and Forest Hydrology*

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### HALEY, David — Professor

- *Forest Economics, Forest Policy Analysis*

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### HOWARD, Andrew F.

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International Forestry Programs

- *Forest Engineering Economics, Forest Planning*

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### KOZAK, Antal

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### LeMAY, Valerie M.

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### MARSHALL, Peter L.

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- *Growth and Yield, Forest Management*

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**MUNRO, Donald D. — Professor and  
Director of University Research Forests**

- *Forest Yield Sciences, Inventory Design and Analysis*

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### MURTHA, Peter A.

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- *Remote Sensing and Geographic Information Systems, Forest Damage Detection and Evaluation, Land Classification*

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## FACULTY AND STAFF

### Forest Resources Management Department

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**PEARSE, Peter H.**  
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**SALCUDEAN, S.E. (Tim)**  
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**TAIT, David E.N.**  
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**TINDALL, David B.**  
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**VAN KOOTEN, G. Casey**  
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• *Economics of Natural Resources*  
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**YOUNG, G. Glen**  
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• *Analysis of Cable Systems, Improving Value  
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## Adjunct Professors

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## Honorary Lecturers

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## **New Faculty Appointment**

**TINDALL, David**  
Dr. David Tindall was hired as a joint appointment in Forest Resources Management and Sociology. His research interests focus on environmental sociology, sociology of natural resources, social movements, social network analysis and sociological theory.

## **Promotion**

**VAN KOOTEN, G. Casey** — promoted to Professor effective July, 1995.

## **Retirement**

**DOOLING, Peter J.**  
Dr. Dooling retired on December 31, 1994 after 27 years with the Faculty of Forestry. During his service to UBC, Dr. Dooling was instrumental in developing the Faculty's program in resource recreation. He saw the provincial park system's expansion to northern B.C. and the recreational land use industry's growth to include wilderness, recreational waterways, coastal management for recreation and national trail systems.

## **ACHIEVEMENTS IN 1994-95**

- A complete review of the structure and content of the forest management program was initiated in late 1994. A small internal Task Force appointed by the Dean have examined the program and surveyed a broad range of the community with respect to the expectations of graduates. This will result in proposals for changes in the undergraduate management curriculum by mid-95.
- There was increased activity in partnerships through university/industry/government funding of collaborative research on terrain stability assessment.
- Brought forestry problems to the agenda of engineers through a special session on Forestry Geotechnique at the 48th Canadian Geotechnical Society conference.

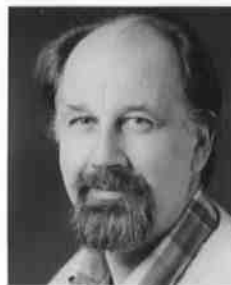
## **PLANS FOR 1995-96**

- Following completion of the program review noted above, there will be a fast track approach to introducing changes in the professional curriculum.
- Dr. Ron Woznow, Adjunct Professor, is developing a Centre for Environmental Labelling to provide a common database for ecolabelling and policy analysis around the world (e-mail ecolabel@unixg.ubc.ca).
- The Department is currently recruiting for five faculty positions to support both the conservation and forest operations programs. We hope to have these in place in the fall of 1995.

## **ACHIEVEMENTS AND PLANS**

Forest Resources  
Management  
Department

**WOOD SCIENCE  
DEPARTMENT**



**David Barrett**  
*Head*



**Stavros Avramidis**



**Colette Breuil**



**David Cohen**



**Simon Ellis**



**Frank Lam**



**Thomas Maness**



**Laszlo Paszner**



**Helmut Prion**



**John Ruddick**



**Jack Saddler**



**Paul Steiner**

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**Dr. Paul Robert Steiner**

*With great sadness we report that our colleague Professor Paul Robert Steiner, passed away May 10, 1995 following a lengthy illness.*

*Dr. Steiner was internationally recognized for his contributions and pioneering research in the fields of wood adhesives and wood composites technology. Paul's academic leadership, collegiality and warm personality will be greatly missed by all colleagues, students and staff.*

*Dr. Steiner is survived by his wife Louisa and their three children Kevin, Jordana and Naomi.*



FACULTY  
AND  
STAFF

Wood Science  
Department

## Visiting Professors

**ENAYATI, Ali**  
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• *Wood Physics*

**KANG, Ho-Yang**  
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• *Wood Drying*

**LISS, Steven**  
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## Research Associate

**WONG, Ken K.Y.** — B.Sc. (Carleton),  
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## Post-doctoral Fellows

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• *Wood and Pulping Chemistry*

**SERREQL, Alessio**  
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**VAROGLU, Erol** — M.Eng. (Istanbul),  
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**FOLEY, Dallas** — Scientific Engineer

**HASTINGS, Diana** — Res. Assist./Tech.  
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**STARK, Kevin** — Technician

**STOCKER, Cecilia** — Technician

**THOMPSON, Nancy** — Secretary (Part-time)

**WANG, Yin Tang**  
Wood Engineering Scientist  
B.Eng., M.Eng. (China)

## Promotion/Tenure

**MANESS, Thomas** — promoted to Associate  
Professor and granted tenure effective July,  
1995.

## **ACHIEVEMENTS IN 1994–95**

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- UBC was selected by the Board of the National Education Initiative to establish a national centre for education in wood products technologies.
- The provincial government, Forest Renewal B.C., the federal government and the Canadian wood products industry committed funding to establish a national Centre for Advanced Wood Products Processing.
- The Wood Science and Industry undergraduate program Years 1 and 2 were restructured to focus on wood products processing technologies education.

## **PLANS FOR 1995–96**

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- Implement Years 1 and 2 of the new undergraduate program in Wood Products Technology.
- Create the Centre for Advanced Wood Products Processing.
- Design a professional Master's degree program in Wood Products Technology.

## **ACHIEVEMENTS AND PLANS**

Wood Science  
Department



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**Gene Namkoong**  
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**Fred Bunnell**



**Philip Burton**



**John Carlson**



**Chris Chanway**



**Michael Feller**



**Susan Glenn**



**Robert Guy**



**Scott Hinch**



**J.P. (Hamish)  
Kimmins**



**Karel Klinka**



**Kathy Martin**



**John McLean**



**Tom Sullivan**



**Bart van der Kamp**



**Susan Watts**



**Gordon Weetman**



**John Worrall**

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**GILL, Michael** — Res. Assist./Tech.

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**KIDD, Joanne** — Res. Assist./Tech.

**LEE, Eric** — Departmental Clerk

**NEW, David** — Res. Assist./Tech.

**OLANSKI, Penny** — Res. Assist./Tech.

**PALMER, Sharon** — Secretary

**SETO, Carrie** — Administrative Assistant

**SREJIC, Zika** — Res. Assist./Tech.  
B.Sc. (Univ. of Belgrade)

**STALEY, Candis** — Res. Assist./Tech.

**TSZE, Min** — Res. Assist./Tech.

**WANG, Yuewei** — Lab. Assist.

## FACULTY AND STAFF

Forest Sciences  
Department

## **Promotion**

**VAN DER KAMP, Bart** — promoted to Professor effective July, 1995.

## **ACHIEVEMENTS IN 1994–95**

- Awarded NSERC Industry Chair positions in Genetics.
- Awarded over \$730,000 in NSERC awards and over \$1,800,000 in other externally funded research grants and contracts.
- Hired Dr. Susan Glenn as Assistant Professor in Conservation Biology.
- Hired Dr. Scott Hinch as Assistant Professor jointly with Westwater Research Centre and the Fisheries Centre.
- Instituted weekly Forest Sciences Department seminars and weekly social coffee.

## **ACHIEVEMENTS AND PLANS**

Forest Sciences  
Department

## **PLANS FOR 1995–96**

- Hire senior and junior faculty members in quantitative and population genetics.
- Develop nursery operations into active teaching/research facilities.
- Hire director of nursery for research/teaching.



**A** LONGSIDE their teaching and research commitments, most Faculty members have committee responsibilities with off campus organizations and groups. These involvements are listed below together with various distinctions and awards (in **bold-face** type) bestowed on Faculty members during the past year.

**AVRAMIDIS, S.**

- Chairman, Society of Wood Science and Technology Membership Ctte.
- Member, Moisture Meters Ctte., American Society for Testing and Materials, D4444-D07.01.01.
- Member, Wood Drying Technical Interest Group, Forest Products Society.
- Secretary, Wood Physics Technical Interest Group, Forest Products Society.
- Member, IUFRO Working Party on Wood Drying, S5-04.06.

**BARRETT, J.D.**

- Member, Editorial Board, Wood Science and Technology.
- Board Member, International Academy of Wood Science, 1994 to 2000.
- Member, NSERC/Forestry Canada Partnerships Program Grant Selection Ctte.
- Chairman, Sawm Lumber Sub-committee, Canadian Standards Association.
- Member, Main Ctte., Canadian Standards Association.
- Member, Code for Engineering Design in Wood, Canadian Standards Association.
- Member, Technical Ctte., National Lumber Grades Authority.
- Member, Forest Products Ctte., SCBC.
- Member, Fire Risk Ctte., Forintek/ NRC.
- Chairman, 1997 Planning Ctte., Forest Products Society.

**BASKERVILLE, G.L.**

- **Fellow, The Royal Society of Canada.**
- Chair, Ctte. to Review National Forest Sector Strategy.
- Member, Executive Ctte./Technical Ctte. of the Canadian Standards Association on Forest Management.
- Member, FRBC Strategic Ctte.
- Member, Forest Practices Board.

**BINKLEY, C.S.**

- Member, Marcus Wallenberg Prize Ctte.
- Member, Federal Forest Sector Advisory Ctte.
- Member, Provincial Forest Sector Strategy Ctte.

- Member, NSERC Advisory Ctte., Targeted Research Program.
- Member, B.C. Forest Research Advisory Ctte.
- Member, Board of Directors: FERIC; Forintek Canada Corp.; Pacific Forest Products; West Fraser Timber Ltd.
- Member, Management Ctte., Nelson Forests Joint Venture.
- Member, Advisory Board Ecotrust Inc.

**BREUIL, C.**

- Member, Review Ctte., NSERC Strategic Grants Program.
- Member, BCIT Advisory Ctte.
- Member, Agro-Forestry Ctte., University of Laval, Quebec.

**BUNNELL, F.L.**

- Independent Chair, Clayoquot Scientific Panel.
- Member, Spotted Owl Recovery Team.
- Member, COSEWIC.
- Member, Cooperative Design of Protected Areas Strategy Steering Ctte.
- Member, Long Beach Model Forest.
- Member, Vancouver Foundation Environment Ctte.

**BURTON, P.J.**

- Member, Executive Council, Vancouver Section of the CIF.
- Member, SIBC Curriculum Ctte.
- Member, Reforestation Info. Bank TAC.
- Member, B.C. Forest Land Use Liaison Ctte.
- Member, Carmanah Valley Forest Management Advisory Ctte.
- Member, B.C. MoEMPR, Reclamation Code Review Ctte.

**CARLSON, J.E.**

- Member, SCBC Scholarships Ctte.
- Member, Scientific Advisory Board: USDA Tree Genome Project; Poplar Molecular Genetics Cooperative, Univ. of Washington; Tree Genetic Engineering Research Cooperative, Oregon State Univ.

**CHAMBERS, A.D.**

- Chair, Forest Land Commission.

**OFFICES,  
AWARDS  
AND  
DISTINCTIONS**

OFFICES,  
AWARDS  
AND  
DISTINCTIONS

**CHANWAY, C.P.**

- Member, Biofertilizers Workshop – Review of Federal Guidelines for Microbial Product Use and Registration.
- Membership Chair, Vancouver Section of the CIF.
- Member, Expert Cttee. on Microbial Inoculants.
- Member, Canadian Society of Plant Physiologists (Western Region) Annual Meeting Organizing Cttee.

**COHEN, D.H.**

- Chairman, International Program Planning Cttee., Forest Products Society.
- Member, Forest Products Society Planning Cttee. for Industry Conferences, Annual Meeting Technical Cttee., Program Planning Cttee. and Jury for Plenary Session on Forest Products Marketing.
- Associate Director, Canadian Wood Council.
- Deputy Director, Forest Products Marketing Group, IUFRO.

**FANNIN, R.J.**

- **B.C. Asia Pacific Scholars Award.**
- Member, RPF/APEGBC Resource Roads Task Force.
- Secretary, Geosynthetics Division, Canadian Geotechnical Society.
- Member, Board of Examiners, Assoc. of Prof. Engineers and Geoscientists of B.C.
- Member, Organizing Cttee., 48th Canadian Geotechnical Conference, Vancouver, 1995.

**FELLER, M.C.**

- Member, Pinecone Lake - Burke Mountain Protected Area Strategy Study Team.
- Member, 2nd International Wildland Fire Symposium Steering Cttee.
- Member, Northwest Forest Fire Council Steering Cttee.

**GLENN, S.M.**

- Member, Legislative Cttee. on Minnesota Resources Peer Review Panel.

**GOLDING, D.L.**

- Member, Selection Cttee., John G. Bene Fellowship in Social Forestry.

**GUY, R.D.**

- Western Director, Canadian Society of Plant Physiologists.
- Member, Forestry Grant Selection Cttee., SCBC.
- Member, B.C. Stock Quality Working Group.

- Member, Local Organizing Cttee. for 1997 Joint Meeting of the American Society of Plant Physiologists and the Canadian Society of Plant Physiologists.

**HALEY, D.**

- Appointed to Editorial Board, Journal of Forest Economics.

**HINCH, S.G.**

- **1993 Finalist for Best Paper, American Fisheries Society** (Collins and Hinch, 1993: Trans. Am. Fish. Soc. 122:357-365).
- Member, Technical Review Cttee., Fraser River Sockeye Management.
- Member, Pacific Coastal Mountains Working Group for Regional Assessments of Climate Change.

**KIMMINS, J.P.**

- Member, Canadian Standards Association, Technical Advisory Cttee. on Certification.
- Invited Participant, House of Commons Cttee. on Natural Resources Hearings on Clearcutting.

**KLINKA, K.**

- Co-chair, IUFRO SI.02-06.
- Deputy Chair, IUFRO SI.01-00.

**LAM, F.**

- Member, CSA086 Sub-committee on Sawm Lumber, Canadian Standards Association.

**LeMAY, V.M.**

- Chair, CIF Measurements Sub-committee.
- Member, Provincial Cruising Task Force.
- Member, Mensuration Sub-committee, ABCPF.
- Member, Canadian Forest Inventory Cttee., Mensuration Sub-committee.
- Member, Canadian Standards Association Scaling Cttee.

**MANESS, T.**

- Board Member, Forest Products Society NW Section.
- Chairman, Industrial Engineering and Operations Working Party (S5.04-13), IUFRO.

**MARSHALL, P.L.**

- Chair, Forest Sciences and Technology Board, CIF.
- Chair, Board of Directors, Silviculture Institute of British Columbia.
- Member, Board of Examiners, ABCPF.
- Member, TAC, B.C. Forest Productivity Councils.



- Member, Steering Ctte., Inland Northwest Growth and Yield Cooperative.
- Member, Silviculture Technical Advisory Ctte., Stand Management Cooperative.
- Member, Forest Management Group, Canadian Pulp & Paper Association.

#### **McLEAN, J.A.**

- Member, Forest Pest Review Ctte.
- Member, FRDA II Advisory Ctte.
- Member, Forestry Ctte., SCBC.

#### **MUNRO, D.D.**

- Co-Chair, MoF Inventory Task Force.

#### **MURTHA, P.A.**

- Liaison Officer, Canadian Remote Sensing Society and American Society of Photogrammetry and Remote Sensing.
- Member, Education Ctte., American Society of Photogrammetry and Remote Sensing.
- Member, Education Advisory Board, Radarsat International, Ottawa.

#### **NAMKOONG, G.**

- Co-Editor, Canadian Journal Forest Sciences.
- Co-Editor, *Silvae Genetica*.
- Member, B.C. Tree Improvement Council.
- Member, Biodiversity Steering Ctte.
- Member, United Nations FAO, Panel of Experts, Genetic Resources.

#### **NELSON, J.D.**

- Member, FERIC Forest Engineering Advisory Ctte.
- Chair, Forest Harvesting Academic Standards Ctte., ABCPF.

#### **PASZNER, L.**

- Member, International UNESCO Expert Council on Chemistry of Vegetal Resources.
- Member, Editorial Advisory Board, *Holzfoschung*.

#### **PEARSE, P.H.**

- Member, Canadian National Ctte. on UNESCO's Man and the Biosphere Program.
- Member of the Board of Directors: The Law of the Sea Institute; World Wildlife Fund Canada; Alcan Aluminium Limited; Vancouver Board of Trade.

#### **PRION, H.G.L.**

- Member, CSA 086 Sub-committee on Fasteners.
- Chair, CSA 086 Task Group on Multiple Fasteners.

- Member, Structural Stability Research Council.

#### **RUDDICK, J.N.R.**

- Vice President, International Research Group on Wood Preservation.
- Vice Chairman, Wood Preservation Technical Ctte., Canadian Standards Association.
- Membership Chairman, Canadian Wood Preservation Association.
- Member, American Wood Preservers Association.

#### **SALCUDEAN, S.E.**

- **BC Advanced Systems Fellowship, Year 4.**
- Editor, IEEE Transactions on Robotics and Automation.

#### **SADDLER, J.N.**

- **IUFRO Scientific Achievement Award** for scientists under 45 years.
- Activity Leader, International Energy Agency Network, Task X, "Bioconversion of Lignocelluloses." (1995-97).
- Member, Steering Ctte., BIOFOR Network (ISTC Network), "Biotechnology for the Forest Industries."
- Member, EMR Renewable Energy Advisory Group.
- Member, Advisory Ctte., Agriculture Canada Bioenergy Program.

#### **VAN DER KAMP, B.J.**

- Member, Forest Pest Review Ctte.
- Member, Danger Tree Assessment Ctte.

#### **VAN KOOTEN, G.C.**

- Council Member, Western Agricultural Economics Association.

#### **WEETMAN, G.F.**

- Director, Silviculture Institute of B.C. (SIBC).
- Member, SIBC Curriculum Cttes. for Modules II, III, IV & V.
- Chair, Board of Examiners, ABCPF.
- Council Member, ABCPF.

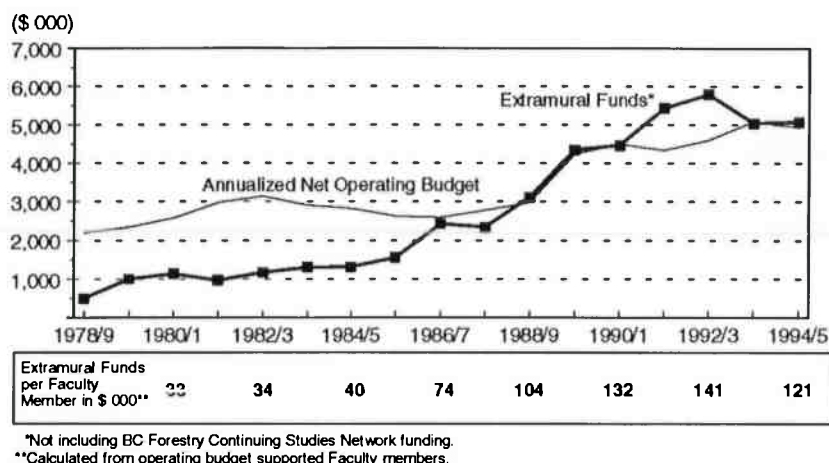
#### **YOUNG, G.G.**

- **Faculty Teaching Prize.**
- Member, ABCPF/APEGBC Task Force on Forest Roads.
- Member, Academic Standards Ctte., ABCPF.
- Co-Chair, Planning Ctte., International Mountain Logging and PNW Skyline Symposium.

## OFFICES, AWARDS AND DISTINCTIONS

## EXTRAMURAL FUNDING & SPONSORED RESEARCH

**E**XTRAMURAL funding in 1994/95 totalled \$5,079,478, a very similar figure as in 1993/94. Based on such measures as success in competitive grants and the overall level of research activity, the Faculty continues to lead Canadian forestry schools. Extramural funding per full-time-equivalent faculty member, while still among the highest levels at UBC, has dropped as the Faculty has added young scholars in the early phases of establishing their careers.



### Operating budget, extramural funds and research activity 1978/79 – 1994/95

The table below shows that the sources of our funding are well distributed. The federal support (NSERC plus other agencies) has dropped slightly to 51% this year. Ministry of Forests support has risen from 18% to 24% of our extramural funding support. Industrial support decreased slightly from 19% in 1993/94 to 17% in 1994/95.

#### Extramural funding sources 1994/95

Source	\$000	%
<b>Federal</b>		
NSERC	1,779	35
Other	804	16
<b>Provincial</b>		
Ministry of Forests	1,211	24
Other	118	2
<b>Private</b>		
Industry	857	17
Other	310	6
<b>Total</b>	<b>5,079</b>	<b>100</b>

Our location within a large, research-oriented University in close proximity to several major research institutions greatly enhances our broadly diversified research program. We have collaborative projects with other departments at UBC, and with Forintek, Paprican, FERIC, and BC Research. With the help of the research department of Weyerhaeuser (U.S.) we have developed a plan for refocusing the activities at the South Campus Nursery more clearly towards a research and education mission.

We receive valuable research support from endowments provided by Weyerhaeuser and MacMillan Bloedel, the Imajo Cedar Management Fund and the Kathleen and Sheldon Rothwell Research Fund.

The following list reflects funded research activities between April 1, 1994 and March 31, 1995.

#### S. Avramidis

Fundamentals of coupled heat and mass transfer in radio-frequency/vacuum drying of wood – **NSERC \$86,698**

Modelling of radio-frequency drying of wood – **COFI \$21,840**

Manipulation of wood composite structure to enhance performance (co-investigator) **NSERC \$78,650**

Moisture sorption studies in wood **NSERC \$15,000**

### **T.M. Ballard**

Weatherable nutrients in forest soils

*BC MoF \$39,034*

Impact of harvesting on soil nematodes

*CFS/BC MoF/FRDA \$17,000*

### **J.D. Barrett**

Multiple input grading system for structural lumber (co-investigator) – *NSERC \$99,000*

Reliability of structural lumber in truss applications – *Forintek \$10,000*

French Douglas-fir study

*Int'l For. Prod. \$3,795*

Reliability of wood-based materials

*NSERC \$17,700*

Load configuration factors for MSR lumber

*CFS/NSERC/National Lumber Grades Auth. \$35,000*

Hem-Fir CEN ingrade correlation study

*COFI \$16,000*

### **C. Breuil**

Junior Chair in Forest Products

Biotechnology – *NSERC/Industry \$94,360*

Feasibility study: Production of antibodies to chemicals – *Noranda Technology \$5,000*

Microorganism and enzyme treatments for reducing extractives present in wood chips or pulps – *CFS/NSERC/Avenor Inc./Diachem/Weyerhaeuser Canada/*

*Noranda Inc. \$90,100*

Development of antibody-based immunoassays for resin acids in industrial process streams and effluents – *NSERC \$51,000*

Immunoassay detection of wood preservatives – *NSERC/Forintek/ Zeneca Agrochemicals \$67,944*

Controlling sapstain pigmentation  
*CFS/NSERC/MacMillan Bloedel \$21,000*

Sapstain control by proteinase disruptions  
*Forintek \$1,500*

Biorational control of forest diseases network – *CFS \$15,000*

### **F.L. Bunnell**

Management planning to maintain biodiversity in the boreal mixed-wood forest  
*Alberta Pacific For. Ind. \$60,000*

Biodiversity in the Clayoquot Sound  
*BC MoELP \$30,000*

Forest management: habitat patterns model development – *BC MoF \$30,000*

Evaluating the role of riparian and non-riparian habitat linkages on abundance and movements of vertebrates in managed forest landscape – *BC MoF \$75,000*

Riparian management and the tailed frog  
*BC MoF \$32,000*

Kluane National Park Reserve grizzly bear research program – *Environ. Can. \$47,500*

Multiple species habitat dependencies  
*CFS \$25,000*

Forest diversity program, habitat conservation plan; Fraser River basin sustainable management plan – *Environ. Can. \$33,500*

Cooperative design of protected areas strategy – *Environ. Can. \$139,548*

North Columbia Mountains biodiversity study – *Environ. Can. \$47,000*

Kootenay/Beaverfoot biodiversity research ecosystem management project  
*Heritage Can. \$47,000*

Needs assessment – ecological  
*Long Beach Model Forest \$4,250*

Measuring biodiversity for forest policy and management  
*Wildlife Habitat Can. \$2,500*

### **P.J. Burton**

Experimental investigation of conifer germination ecology – *BC MoF \$52,100*

Technology transfer of research results regarding tree seed germination ecology, conifer shade tolerance physiology, and non-crop competitive effects  
*BC MoF \$19,891*

Planting microsite selection and conifer seedling performance – *BC MoF \$10,000*

Boreal mixedwood fragmentation and landscape modelling  
*Alberta Pacific For. Ind. \$40,000*

Influence zones and edge effects in forest stand development – *NSERC \$15,000*

### **J. Carlson**

*Rubus* DNA fingerprinting – *BC Raspberry Growers Assoc. \$5,000*

Analysis of genetic diversity in western red cedar – *BC Research Inc. \$8,000*

## **EXTRAMURAL FUNDING & SPONSORED RESEARCH**

## EXTRAMURAL FUNDING & SPONSORED RESEARCH

Development of automated, PCR-based analytical assay procedure for fingerprinting two pollen parents and five seed cone parent clones of western hemlock  
*BC MoF \$31,000*

DNA fingerprinting plants for the B.C. nursery trade (co-investigator)  
*BC Nursery Trades/MoAFF \$30,000*

DNA markers for terminal weevil resistance in spruce – *BC MoF \$46,780*

Characterization of white pine weevil *Pissodes strobi* (co-investigator)  
*Green Plan CFS \$12,000*

Biotechnological modification of lignin in poplar (co-investigator) – *NSERC \$139,000*

DNA-fingerprinting of trees in an operational spruce seed orchard  
*NSERC/CFS/BC Research Inc. \$45,000*

Developmental biology and molecular genetics of trees – *NSERC \$29,000*

Multi-locus and multi-genome molecular analysis of genetic diversity in western red cedar and Douglas-fir – *CFS \$14,000*

### C.P. Chanway

Root-endophytic and rhizosphere colonizing plant growth promoting rhizobacteria for pine and spruce – *NSERC \$70,200*

Conifer root associated bacteria: Diversity and influence on seedling growth and competition – *NSERC \$25,000*

### D.H. Cohen

Establishing technology benchmarks in Canadian sawmills for processing quality control and training needs  
*SSHRC \$25,000*

Market research in forest products  
*Various companies \$1,000*

### S.C. Ellis

Characterization of the wood quality of lodgepole pine resources with respect to wood composites – *NSERC \$20,000*

### R.J. Fannin

Improved techniques for terrain stability assessment  
*NSERC/MacMillan Bloedel/Western Forest Products/BC MoF \$44,000*

Soil/geosynthetic interaction in reinforcement and filtration applications  
*NSERC \$17,000*

### M.C. Feller

Chemical analysis on samples from Flume Creek – *BC MoF \$2,000*

Relationships between coarse woody debris, vegetation, small mammals, and forest soils (co-investigator)  
*BC MoF/NSERC \$135,800*

Regeneration of Engelmann spruce and subalpine fir from seed in the ESSFwc Subzone – *BC MoF \$9,000*

Fire behaviour and effects on vegetation of prescribed burning of forests  
*Green Plan CFS \$30,000*

Effects of silvicultural systems on organic matter decomposition and nutrient leaching in a Montane forest (co-investigator)  
*CFS \$48,000*

Effects of forest management practices on soils, vegetation, and streams and on ecosystem nutrient budgets  
*NSERC \$15,036*

### D.L. Golding

Hydrologic processes in forested and logged watersheds of the Greater Vancouver municipal catchments – *GVRD \$10,000*

### R.D. Guy

Comparative physiology of stress acclimation in conifers: water-use efficiency and root respiration – *NSERC \$35,715*

### S.G. Hinch

Biophysical modeling of salmon migration and production (co-investigator)  
*NSERC \$253,000*

Adult salmon passage project  
*Green Plan DFO \$150,000*

Trout habitat capability modeling  
*BC MoE \$25,000*

Watershed restoration program study evaluation – *BC MoE \$21,000*

Creation and fertilization of coho salmon side-channel habitat  
*BC MoE \$31,500*



## **A.F. Howard**

Operational and economic feasibility of alternative harvesting systems in second-growth coastal forests of British Columbia  
*BC MoF \$42,000*

Sustainable forest management in the neotropics – *Conservation Int'l \$30,000*

Decision support systems for the forest industry – *NSERC \$17,500*

## **J.P. Kimmins**

Evaluation of the effects of whole-tree harvesting on the sustainability of forest ecosystem productivity – *NSERC/BC MoF/Williams Lake TSA Assoc. \$80,600*

Whistler biosolids fertilization trial, field data collection – *BC MoF \$95,255*

Development of the individual tree version of FORECAST – *BC MoF \$44,120*

Birch biomass and photosynthesis in south-central B.C. – *BC MoF \$25,000*

Stand dynamics following large-scale versus small-scale disturbance: UBC Research Forest – *BC MoF \$10,450*

Recycling urban sewage sludge and other organic waste as slow release forest fertilizer  
*GVRD \$20,025*

Simulation of forest ecosystem response to natural and management caused disturbance regimes – *NSERC \$34,257*

## **K. Klinka**

The V.J. Krajina/B.C. Forest Service Chair in silvics and silviculture  
*BC MoF \$97,678*

F.G. Dodd Operational Research Chair in silvicultural systems research  
*BC MoF \$38,000*

Regeneration and productivity of western larch – *Weyerhaeuser Canada/ NSERC \$30,000*

Fire history of the interior Douglas-fir forests – *BC MoF \$7,000*

Final synthesis of forested vegetation and environment data for coastal B.C.  
*BC MoF \$10,000*

Inventory of western hemlock root biomass in closed canopy stands on various soil nutrient and moisture regimes  
*BC MoF \$14,920*

Publication of western red cedar research results – *BC MoF \$6,000*

Relationships between Engelmann spruce and Subalpine Fir Site Index and measures of ecological site quality  
*BC MoF \$39,900*

The relationship between white spruce, lodgepole pine, Englemann spruce and Subalpine Fir Index and measures of site quality  
*Northwood Pulp & Timber Ltd. \$15,000*

Forest canopy influence on understory vegetation in the mid-seral west coast stands on Vancouver Island – *BC MoF \$7,000*

Shade tolerance of tree species  
*NSERC \$16,110*

## **F. Lam**

Mechanics of wood-based composites  
*Forintek/NSERC \$99,625*

Evaluation of stiffness properties of lumber  
*Homart Moving \$683*

Manipulation of wood composite structure to enhance performance (co-investigator)  
*NSERC \$78,650*

Robotics system for wood mat formation (co-investigator) – *NSERC \$58,130*

Multiple input grading system for structural lumber (co-investigator) – *NSERC \$99,000*

## **V.M. LeMay**

Estimation and characterization of decay in standing trees – *NSERC \$14,000*

## **T. Maness**

Log sawing simulator – *BC MoF \$40,000*

Stem bucking simulator – *BC MoF \$29,500*

Real time quality control systems  
*Canadian Forest Products \$4,000*

Automated rip-chop sawing decision tool  
*SCBC \$15,750*

Timber sale area log allocation model  
*NSERC \$14,000*

## **P.L. Marshall**

Impacts of potential global warming on the forest sector in the Mackenzie Drainage Basin: A case study in the Peace River Basin  
*CFS/BC MoF \$18,000*

## **EXTRAMURAL FUNDING & SPONSORED RESEARCH**

## EXTRAMURAL FUNDING & SPONSORED RESEARCH

Biomass of uneven-aged Douglas-fir stands under a variety of growing conditions  
*CFS/BC MoF \$5,000*

Response of uneven-aged Douglas-fir to alternative spacing regimes  
*CFS/BC MoF \$10,000*

### K. Martin

Behaviour, energetics and reproductive physiology of ptarmigan – *NSERC \$30,000*

Energetics of ptarmigan (co-investigator)  
*FCAR \$36,000*

Structure and function of boreal forest vertebrates (co-investigator)  
*NSERC/CSP \$472,578*

Vegetation control and forest bird diversity (co-investigator) – *Environ. Can. \$55,000*

### J.A. McLean

Assessment of the impacts of the white pine weevil at the Kalamalka Research Station reciprocal cross – *Green Plan CFS \$5,000*

Biology of the spruce weevil in a reciprocal cross plantation at the Kalamalka Forestry Centre – *BC MoF \$7,000*

Characterization of white pine weevil *Pissodes strobi* (co-investigator)  
*Green Plan CFS \$12,000*

### G. Namkoong

Managing forest tree genetic variance for climate change – *NSERC \$70,000*

### J.D. Nelson

Loughborough Inlet forest planning  
*Western Forest Products \$20,000*

Quesnel Lake forest planning  
*West Fraser Mills Ltd. \$25,000*

A Tactical Landscape Analysis System (ATLAS) – *CFS \$53,000*

Integration of Midas harvesting scheduling algorithm into ATLAS Management Decision Support System  
*McGregor Model For. Assoc. \$10,000*

ATLAS modelling of total resource plans  
*BC MoF \$11,144*

Golden TSA forest planning — strategic research plan for development of a forest planning decision support system  
*BC MoF \$25,000*

Decision support systems for forest land use planning – *NSERC \$18,000*

### L. Paszner

Fermentation of alcoholic spent pulping liquors – *CANMET \$46,630*

Allotropic transformations in processed cellulose fibers – *NSERC \$23,000*

### C. Prescott

Effects of silvicultural systems on organic matter decomposition and nutrient leaching in a Montane forest (co-investigator)  
*CFS \$48,000*

Nutrition and sustainability of hybrid poplar plantations (co-investigator)  
*SCBC \$16,610*

Influence of tree species on rates of nitrogen mineralization and litter decomposition in coastal B.C. – *BC MoF \$29,954*

Litter input and decomposition in the Sicamous Creek Silvicultural Systems Project – *BC MoF \$2,000*

Dynamics of coarse woody debris in wet and dry ESSF forest sites – *BC MoF \$2,500*

Predicting rates of organic matter decomposition in forests and silvicultural systems in B.C. – *BC MoF \$19,120*

### H.G.L. Prion

Seismic retrofit of building frames with grouted steel tubes – *NSERC \$14,000*

Seismic resistance of heavy timber connections (co-investigator) – *Industry, Science & Technology Canada \$50,000*

Model verification of glulam beam program (co-investigator)  
*Can. Wood Council \$30,000*

Steel plate shear walls in building frames  
*NSERC \$143,000*

### J.N.R. Ruddick

Industrial Research Chair in wood preservation – *NSERC \$25,721*

Bioremediation of AAC-treated waste  
*AKZO America \$28,155*



## **J.N. Saddler**

Senior Chair in Forest Products  
Biotechnology – *NSERC/Industry* \$134,121

Development of antibody-based immunoassays for resin acids in industrial process streams and effluents (co-investigator)  
*NSERC* \$51,000

Coordination of quality assurance round-robin for resin acid analyses  
*Environ. Can.* \$5,000

Impact of resin acids on biomass yield and granulation in UASB reactors, treating BCTMP pulp mill waste water in the Fraser River Basin – *Environ. Can./Quesnel River Pulp/NRC/IRAP* \$70,438

Analysis of pulp hydrolysate  
*Alcell Technologies* \$10,356

Treatment of effluents that are a by-product of RF/V wood drying – *COFI* \$30,975

Mechanism of xylanase prebleaching of kraft pulps (co-investigator)  
*SCBC* \$62,800

Use of cellulase enzyme components to determine limitations in hydrolysis of cellulosic substrates – *NSERC* \$85,500

Development of an immunoassay for resin acid detection in pulp waste water streams  
*MacMillan Bloedel* \$3,000

Steam pretreatment of softwood residues  
*CANMET* \$15,542

## **S.E. Salcudean**

Optimization-based controller design/teleoperation control – *NSERC* \$27,000

Force-feedback control of feller buncher  
*BCASI* \$10,000

Vibration isolation with active magnetic suspension – *Can. Space Agency* \$122,000

Medical robotics/medical devices  
*IRIS NCE* \$37,000

Haptic interfaces – *IRIS NCE* \$51,000

Semi-autonomous control of hydraulic machines – *IRIS NCE/BCASI* \$52,000

Motion-scaling teleoperation system for microsurgery – *SCBC* \$75,000

## **P.R. Steiner**

Organization of wood elements in a composite mat – *CFS/NSERC/Forintek/MacMillan Bloedel* \$50,995

Manipulation of wood composite structure to enhance performance (co-investigator)  
*NSERC* \$78,650

Robotics system for wood mat formation (co-investigator) – *NSERC* \$58,130

Spatial structure of wood composites  
*NSERC* \$24,000

## **T.P. Sullivan**

Standardized methodologies for the inventory of components of biodiversity: pikas and sciurids – *BC MoELP* \$5,000

Influence of vegetation management on diversity of plants, small mammals, birds and furbearers – *BC MoF* \$71,200

Mountain beaver, porcupine, and woodrat: Standardized inventory methodologies for components of biodiversity of British Columbia – *BC MoELP* \$5,000

Relationships between coarse woody debris, vegetation, small mammals, and forest soils (co-investigator)  
*BC MoF/NSERC* \$135,800

Integrated management of forest mammal pests: Semiochemicals and diversionary foods – *NSERC* \$111,700

## **B.J. van der Kamp**

Management of root disease in the interior by inoculum removal and use of alternative species – *CFS/BC MoF* \$4,000

Evaluating the resistance of western larch to *Armillaria* root disease  
*CFS/BC MoF* \$28,000

Variability and stability in native forest tree pathosystems during domestication of the host – *NSERC* \$11,550

## **G.F. Weetman**

Publication of the SCHIRP synthesis report  
*CFS/BC MoF* \$7,920

Growth response of western hemlock and Douglas-fir to fertilization: A study of response mechanisms – *BC MoF* \$40,000

Forest nutrition and fertilization studies  
*NSERC* \$24,786

## **K.K.Y. Wong**

Mechanism of xylanase prebleaching of kraft pulps (co-investigator)  
*SCBC* \$62,800

EXTRAMURAL  
FUNDING &  
SPONSORED  
RESEARCH

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## UNIVERSITY RESEARCH FORESTS

**MUNRO, Donald D.**  
B.S.F., M.S., Ph.D., R.P.F.  
Director

**DAY, Ken**  
B.Sc.F., R.P.F.  
Resident Forester  
Alex Fraser Research Forest  
Williams Lake

**SANDERS, Peter**  
B.S.F., M.F., R.P.F.  
Resident Silviculturist  
Malcolm Knapp Research Forest  
Maple Ridge

**POWER, Cheryl**  
B.S.F., R.P.F.  
Silviculture Forester  
Malcolm Knapp Research Forest  
Maple Ridge

**T**HE UBC Malcolm Knapp Research Forest at Maple Ridge and the Alex Fraser Research Forest at Williams Lake support research, education and demonstration in the practice of forestry.

The Faculty of Forestry manages these forests as outdoor scientific laboratories for students and researchers. Since 1949 scientists from UBC and elsewhere have conducted more than 625 research projects on the Malcolm Knapp Forest and over 92 research projects on the Alex Fraser Forest. Not only do these research projects yield valuable data, but they also support our education and demonstration programs. The Faculty holds two field schools annually on the Research Forests, one for third year students at Alex Fraser in the fall and one for fourth year students at Malcolm Knapp in the spring.

Harvesting operations continue to play a major role in the management of both forests, and harvest volumes are maintained at sustainable levels consistent with the needs for research, education and integrated use. Revenues from harvesting partially finance the maintenance and operation of both forests. We offer continuing education programs, in the form of short courses and field trips at both forests. The Forest professional staff participate in teaching academic courses in the Faculty.

## ACHIEVEMENTS IN 1994-95

### Malcolm Knapp Research Forest

Researchers initiated a total of 18 new projects, mostly in familiar aspects of forestry. However, this year there were some unusual and exciting projects, these included:

- The use of insects in determining time of death of homicide victims and/or illegally killed wildlife,
- Medicinal plants of aboriginal peoples, and
- The UBC/Laval liquid-mirror telescope.

The Forest obtained approval to seek funding for the Loon Lake Camp redevelopment proposal. Harvesting was confined to road construction, rights-of-way construction and wind throw salvage. The Board of Governors approved a Research Forests Endowment proposal and revenues totaling nearly \$550,000 from the three year accelerated harvest program (completed in 1994) were directed to this endowment.

**Donald D. Munro**  
Director



### Alex Fraser Research Forest

The primary focus was to keep abreast of the tremendous changes in forestry happening throughout British Columbia. Because this research forest is operated on crown land under tenure, the impact of provincial policy has been significant. The Commission on Resources and Environment, the Cariboo Land Use Plan, the Forest Renewal Plan, and especially the Forest Practices Code are major governmental initiatives which will impact significantly on operations.

Harvesting was curtailed to bark beetle salvage with approximately 2,439 m<sup>3</sup> cut. Since the creation of the forest, bark beetle infestation salvage has accounted for over 30% of the total volume harvested. Silviculture programs continued with planting of approximately 17,200 trees, and stand tending on 120 ha. Seventeen new research projects were initiated by Faculty, staff, and students from UBC plus investigators from other colleges and government agencies.

## PLANS FOR 1995-96

The highest priorities include a continuing emphasis on encouraging significant scientific research projects, increasing flexibility of the harvesting programs and securing contributions to the endowment fund. The Malcolm Knapp Forest will implement an urban interface management plan on a trial basis and will complete planning for the Loon Lake Camp redevelopment. The Alex Fraser Forest plans to construct 6 km of new roads, identify a site for an office and headquarters, revise the Management and Working Plan and complete the wildlife plan.

*For further information contact the Malcolm Knapp Research Forest at (604) 463-8148, fax (604) 463-2712 or the Alex Fraser Research Forest at (604) 392-2207, fax (604) 398-5708.*



**Andrew F. Howard**  
Director

**O**UR desire to increase the Faculty's participation in international research and training activities comes at a time when domestic demands for both teaching and research have reached all-time highs. This necessitates a slow, step-by-step approach to insure that our international work actually enhances our capacity to serve domestic needs. An important step towards reducing the competition between obligations at home and opportunities abroad is financial independence. This year, for the first time, all of the core funding for international programs was obtained from external sources, and prospects for continued self-sufficiency are excellent.

Early in the year we completed our strategic plan which both the Faculty's Executive Committee and the external Forestry Advisory Committee approved. The plan is designed to increase the involvement of Faculty in international projects on a strict cost-recovery basis. It calls for the creation of working groups made up of two or more Faculty members with shared interests either geographically or topically. These teams will meet regularly to develop strategies and plans of action for developing and executing programs of research and training. A China working group has already been formed and work has begun to investigate ways to increase our activities in this region of the world where British Columbia has such strong ties.

Another important initiative — planned with the help of the President's Office — is the internationalization of the undergraduate program. This project has three components: internships, student exchanges, and the development of a joint degree program in International Forestry. The demand by our students for increased exposure to international issues and opportunities for study and work has never been higher. In cooperation with the newly formed UBC Forestry Chapter of the International Forestry Students Association we intend to design and offer a comprehensive program for undergrads which will help open the door to the international world for Canadian students.

## MEMORANDUMS OF UNDERSTANDING (MOUs)

There has been considerable activity in connection with our MOUs over the past year. Faculty members have volunteered to serve as Liaison Officers (LO) for our existing MOUs. Their role is to promote activity under the agreements by collaborating with counterparts at the partner institutions in the development of workplans. The status and assigned LOs of previously pending and new MOUs is as follows:

**Swedish University of Agricultural Sciences, Umeå** — Dr. G.F. Weetman (signed and active).  
**University of Pertanian, Selangor, Malaysia** — Dr. A.F. Howard (signed and active).  
**Institute of Technology of Costa Rica, Cartago** — Dr. A.F. Howard (awaiting signatures).  
**Northeast Forestry University, Harbin, China** — Dr. J. Demaerschalk (under negotiation).  
**Beijing Forestry University, Beijing, China** — Dr. J. Demaerschalk (under negotiation).

## RESEARCH AND TRAINING PROJECTS

### ■ *International Conference on Certification of Forest Management Practices*

**Objectives** — to contribute to the scientific and policy debate on criteria and methods for assessing and certifying that forest products come from sustainably managed forests.

**UBC participation (ongoing)** — The Faculty of Forestry, in cooperation with the University of Pertanian Malaysia, received \$100,000 from the Canadian International Development Agency for Phase I of a plan to sponsor an international conference on certification of forest management practices. The conference will focus on resolving scientific and policy conflicts concerning the establishment of regionally-specific criteria and measures for sustainability which are internationally acceptable and equitable.

### ■ *Sustainable Forest Management in the Neotropics*

**Objectives** — to conduct research on the economic viability of forest management compared to competing land uses and the ability of forest policy to encourage investment in sustainable management.

**UBC participation (ongoing)** — The Faculty of Forestry obtained a grant from Conservation International, Washington DC to conduct research in the form of case studies in three countries: Bolivia, Brazil, and Guatemala.

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## INTERNATIONAL FORESTRY PROGRAMS

# CENTRE FOR APPLIED CONSERVATION BIOLOGY

BUNNELL, Fred L.  
B.S.F. (Hons.), Ph.D., R.P. Bio.  
Director

CHAN-MCLEOD, Ann C. Allaye  
B.S.F., M.Sc., Ph.D.  
Acting Associate Director

## Centre Associates

BURTON, Philip  
CARLSON, John  
GLENN, Susan  
HARESTAD, Alton  
HINCH, Scott  
KLENNER, Walter  
KRANNITZ, Pamela  
LERTZMAN, Ken  
MARTIN, Kathy  
McLELLAN, Bruce  
NAMKOONG, Gene  
NELSON, John  
PITT, Michael  
ROWE, Stan  
SALWASSER, Hal  
SCUDDER, Geoffrey  
SHACKLETON, David  
SMITH, James  
VAN KOOTEN, Casey

**T**HE Centre for Applied Conservation Biology in the Faculty of Forestry promotes conservation of biological diversity while maintaining economic development. This Centre is unique in its incorporation of a novel undergraduate program, broad definition of educational targets, close links between basic and applied disciplines, and focus on forested ecosystems where conflicts between biological diversity and economic activities are most contentious.

## Education

The educational program has three elements: an affiliated undergraduate program, a rapidly growing graduate program, and short courses for target audiences such as professional foresters, resource managers, the public and the public media. Our teaching staff continues to grow.

We are closely linked to the new undergraduate B.Sc. (Natural Resource Conservation) program recently initiated by the Faculty of Forestry. That program includes a core of natural science courses in forest, plant, and animal ecology, conservation biology and landscape ecology, and a suite of social science and management courses in economics, political science and philosophy to translate natural process into human values.

The "*Seminar in Biological Conservation*" series supported by the H.R. MacMillan Family Fund combines graduate level instruction and public lectures on important conservation issues. In 1994, noted speakers from Canada, USA, Australia, and Sweden presented 18 public lectures and spent 24 days on campus interacting with students, faculty, and the general public.

## Extension

The Centre's first major outreach program was a series of biodiversity workshops presented with the Forest Service in the southern interior of the province. The Centre, with support of Canadian Wildlife Service, recently produced its second outreach pamphlet examining the importance of down wood to biodiversity. The first pamphlet addressed approaches to maintaining biological diversity in B.C.'s forests. We sponsor conferences for scientists, resource managers and policy-makers to debate issues in conservation biology. The book derived from the first conference, "*Incorporating Biological Diversity in Forest Policy and Management Decisions*," will be published by UBC Press.

Fred L. Bunnell  
Director



## Research

Interdisciplinary, cooperative research is the key to answering the broad questions of conservation biology. The Centre brings together scholars from the university, the province and even internationally to collaborate in research. We are testing conservation biology theories in the context of forested ecosystems, and aim to apply this knowledge to managed forests, parks and natural areas. Among the larger projects currently underway are:

- A cooperative initiative in the boreal forest that evaluates effects of patch size and forest edges, and addresses appropriate harvest regimes across space and time (Dr. A.C.A. Chan-McLeod).
- A decision-support tool evaluating economic and biological consequences of forest planning at the landscape level, including a system for enhancing community participation in land and resource planning (Drs. F.L. Bunnell and J.D. Nelson).
- Analyses of regional patterns of species distributions, and patterns of extinctions including testing theories on the spatial and temporal distributions of species (Dr. S.M. Glenn).
- Models and experimental testing of species movements through landscapes (Dr. S.M. Glenn).
- A large program on the conservation and ecology of forest and grassland vertebrates in natural and altered habitats, that examines the structure and function of vertebrate populations and communities (Drs. K. Martin and F.L. Bunnell).
- Research on the energetics, behaviour, physiology and life history of white-tailed ptarmigan, and a collaborative special project on the role of spruce grouse as alternative prey in relation to the snowshoe hare-lynx cycle in the boreal forest of the southern Yukon (Dr. K. Martin).

Fred Bunnell can be contacted at  
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e-mail fbunnell@unixg.ubc.ca.





**John D. Pennant**  
Development Officer

## FACULTY DEVELOPMENT PROGRAM

**D**EVELOPMENT depends on people. People give to people with causes. In this, our first year of operation, numerous people and organizations have affirmed their support for the Faculty of Forestry and many volunteers have come forward to help. We have found substantial new support for the Faculty. The demand for increased knowledge in forest conservation, management and wood processing along with the calibre of our faculty has led to a great deal of interest in supporting forestry initiatives and education.

### ACHIEVEMENTS IN 1994-95

Giving starts at home. Both Faculty and alumni gave to support forestry education, beginning with a leadership gift by Dr. Gene Namkoong who contributed \$110,000 (matched by Provincial Government's \$95,000 and Federal Government's \$50,000) toward a Graduate Fellowship in Forest Sciences. When asked why he made one of the largest gifts ever to UBC Forestry, Dr. Namkoong replied "my grandfather in Korea supported education and I always thought when I had the opportunity I would do the same."

Our 1950-59 alumni class representatives, led by Gerry Burch, received \$29,000 in gifts. We also had two successful volunteer alumni telepledge evenings and raised \$12,000 for student support.

Forest companies continued their support for the Pacific Forest Science Centre as Lignum Ltd. pledged \$125,000 towards naming a room in the new building. In addition an anonymous alumni, who had already given in the campaign, pledged a planned gift of \$100,000 towards a room. Mr. George Richards, President & CEO of Weldwood Canada, has agreed to Vice-Chair our forthcoming corporate campaign.

For the first time we received support from a U.S. Foundation — largely through the efforts of Dr. Bunnell — with the Kendall Foundation pledging \$50,000 U.S.

Working with Dean Binkley, Dr. Barrett and Dr. Maness, we were successful in preparing

a funding proposal for our new educational initiative in wood processing. The Federal Government announced its contribution of \$6 million and Forest Renewal B.C. will invest \$8.5 million in program endowment. In addition, the Ministry of Skills, Training and Labour will spend \$7.5 million to fund the Canadian Centre for Advanced Wood Products Processing. Premier Harcourt called this initiative: "An evolutionary step forward for the forest industry."

Thanks to our supporters, the Pacific Forest Science Centre is on track, funding for the Centre for Advanced Wood Processing is now a reality and more students will benefit from the creation of new awards. Those include:

- Backman Awards in Natural Resource Conservation,
- Janet Ketcham Scholarship for First Nations students,
- ABCPF First Nations Award,
- Namkoong Family Fellowship and Teaching Exchange & Research Award, and
- Pacific Regeneration Technologies Silviculture Scholarship.

The Faculty thanks all of those who volunteered and contributed to make this year a great success.

### PLANS FOR 1995-96

The main focus of our campaign will be:

- To fund, through naming opportunities, equipment and furnishings for our new Pacific Forest Science Centre.
- To build and upgrade facilities at our University Research Forest in Maple Ridge and develop a Sustainable Forest Management Centre of Excellence.
- To increase student support in anticipation of significant Federal government transfer payment cuts for education.
- To support a First Nations curricula development project and symposium.
- To identify support for new Professorships.

As one of our alumni said, "Quality education needs private sector funding so that we may sustain and continue to develop a world class centre of excellence."

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## SPECIAL LECTURES

### H.R. MACMILLAN LECTURE SERIES

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During the fall and spring terms, eleven internationally known members of the scientific community were invited to UBC to participate in Conservation 500, a new graduate seminar course in conservation biology. The following speakers to this course gave public lectures on a diversity of topics:

**Dr. Robert Ricklefs**

University of Pennsylvania

- *Global patterns of tree species richness.*

**Dr. Winifred Kessler**

University of Northern British Columbia

- *Ecosystem management and sustainable management: playing by nature's rules.*

**Dr. Jessica Young**

Hampden-Sydney College, Virginia

- *The role of sexual selection in species formation and conservation.*

**Dr. David Hik**

University of Toronto, Ontario

- *Management of introduced pest species: lessons from Australian disasters.*

**Dr. Gordon Baskerville**

Forest Resources Management Department, UBC

- *Science and natural systems management: designing it versus making it happen.*

**Dr. Stan Boutin**

University of Alberta, Edmonton

- *Moose and caribou conservation in Canada: have equilibrium concepts clouded our understanding?*

**Dr. Lenore Fahrig**

Carleton University, Ottawa

- *When does landscape spatial pattern affect population survival?*

**Dr. Hilary Swain**

Florida Institute of Technology

- *The landscape through the looking glass: conservation biologists come out of the preserve.*

**Mr. Cliff White**

Chief Park Warden, Banff National Park

- *Managing wicked ecosystem problems: a seat of the pants approach from Banff National Park.*

**Dr. Per Angelstam**

Swedish Agricultural University, Uppsala

- *Managing forest landscapes for biodiversity: the Swedish experience.*

**Dr. John Eadie**

University of Toronto, Ontario

- *Parentage and population dynamics in a cavity-nesting bird: looking for links between behavioural, molecular and resource ecology.*

The H.R. MacMillan Lecture Series is made possible by a grant to the Faculty of Forestry from the H.R. MacMillan Family Fund.

### THE LESLIE L. SCHAFER LECTURE

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In April 1994, Dr. Jeffery Burley gave the Leslie L. Schaffer Lecture in Forest Sciences. Dr. Burley, CBE, is Director of the Oxford Forestry Institute at Oxford University, U.K. His talk was entitled "*World Forestry: The Professional and Scientific Challenges.*" Copies of the talk can be obtained by writing to the Faculty of Forestry at UBC.

The Leslie L. Schaffer Lectureship in Forest Sciences was established in memory of Leslie L. Schaffer, D.Sc., former executive vice-president of Western Plywood Co. Ltd., by Mrs. Leslie L. Schaffer. The fund provides support for lectures and publications by visiting forest scientists at the Faculty of Forestry, UBC.

### STUDENTS FOR FORESTRY AWARENESS

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#### Public Lecture Series

Students for Forestry Awareness (SFA) is an independent, student organization that has been in existence at UBC for over ten years. Through periodic symposia and a continuing speaker series the SFA introduces a variety of philosophical, academic, environmental, and industrial perspectives on forestry related issues to students, faculty and the general public. During the fall and winter terms the speaker series takes place on Thursdays at 12:30 p.m. in MacMillan 166. Speakers and topics during the 1994/95 academic year included:

**Garry Merkel**

Chair, First Nations Forestry Council, Tahltan

- *Trends in B.C. forest management: Transition.*

**Gerry Furney**

Mayor, Port McNeill, B.C.

- *Role of resources in rural communities.*

**Robert Ricklefs**

Biology Department, University of Pennsylvania

- *Patterns of tree species diversity.*

**Winifred Kessler**

Department of Natural Resources and Environmental Studies, University of Northern British Columbia

- *Requirements of university graduates to meet the environmental challenges of tomorrow.*

**Hugh Sutcliffe**

Pacific Forest Products, Vancouver

- *Forest practices on private land.*

**Bryan Evans**

Forestry Consultant, Vancouver

- *Sustainable forestry: Terms and issues.*

**Bronwen Beedle**

B.C. Ministry of Forests, Victoria

- *Opportunities in forestry.*

**Jerry Franklin**

Washington State University, Seattle

- *New forestry in the Pacific Northwest.*

**Warren Mitchell**

B.C. Ministry of Forests, Victoria

- *B.C.'s Protected Area Strategy: its evolution and future.*

**Patrick Moore**

Forest Alliance of B.C., Vancouver

- *Environmentalism and forest practices.*

**Derek Tripp**

Fisheries Biologist, Nanaimo

- *Fisheries/forestry guidelines: Compliance.*

**Merv Wilkinson**

Ecoforester, Ladysmith

- *Sustainable forestry: The forestry of the future.*

**Gary Ley**

Forestry Consultant, Gary Ley Public Affairs

- *Managing land use issues in the media age.*

**Charles Widman**

Publisher and editor for "Widman's World Wood Review"

- *World wood fibre supply.*

**Gary McKellar**

Timberwest, Vancouver

- *Forest practice code audits: Where have we been and where are we going?*

**Bruce McLellan**

Ministry of Forests, Revelstoke

- *Grizzly bear ecology and management in B.C.*

**Steve Tolnai**

Weyerhaeuser, Kamloops

- *Management of a TFL that was granted allowable cut effect.*

**Chris Pielou**

Retired ecologist, Denman Island

- *Forest biodiversity.*

**Bob Nixon**

Long Beach Model Forest

- *Building bridges between two visions of forest use: First Nations and non-aboriginals — the Long Beach Model Forest.*

**Public Symposium**

In March, the SFA organized a 1½ day symposium entitled "*The Path of Professional Forestry in British Columbia: Is This the Road to Oz?*" The keynote speaker at the symposium was Bruce McLean, incoming president of the Association of B.C. Professional Foresters. The symposium, which was tailored for students, professionals and the general public, included three panel discussions focussing on academic, industrial and institutional themes.

## SPECIAL LECTURES



#### PRODUCTION INFORMATION

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