FORESTRY ADVISORY COUNCIL

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

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(Chair)
Senior Vice President, Technology
Weyerhaeuser Company

Mr. T.M. Apsey
Consultant
Victoria, B.C.

Mr. I.K. Barber
Consultant
Delta, B.C.

Mr. Peter Beulah
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Greenwood Forest Products

Mr. Bob Bird
Production Manager & Vice President
Canwood Furniture Factory Inc.

Dr. Bill Bourgeois
Vice President
Environment and Government Affairs
Lignum Ltd.

Mr. W. (Bill) Cafferata
Consultant
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B.C. Wilderness Tourism Association

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World Wildlife Fund Canada

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Forintek Canada Corp.

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President
Palliser Furniture

Dr. Hosny El-Lakany
Assistant Director General
Forestry Department
Food and Agriculture Organization of the United Nations

Mr. Ian Gill
President
Ecotrust Canada

Dr. Yvan Hardy
Chief Scientist
Natural Resources Canada

Mrs. Barbara Hislop
Group VP & Chief Technology Officer
CANFOR Corporation

Mr. Kimi Ito
President
K. Ito & Associates Ltd.

Dr. Asa Johal
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Terminal Forest Products

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West Fraser Timber Co. Ltd.

Mr. Doug Konkin
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B.C. Ministry of Forests

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CEO, Loewen Windows

Mr. George Malpass
Consultant
Vancouver, B.C.

Dr. William McGill
Dean, College of Science & Management
University of Northern B.C.

Mr. Garry Merkel
Owner/Manager
Forest Innovations
Kimberley, B.C.

Mr. Jon O’Riordan
Deputy Minister
Sustainable Resource Management

Dr. Gilbert Paillé
President & CEO
Forest Engineering Research Institute of Canada

Ms. Ardath Paxton-Mann
Assistant Deputy Minister
Western Economic Diversification

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Vice President
Technology & Environment
Nexfor Inc.

Mr. Erkki Rautiainen
Director
Allied Blower and Sheet Metal Ltd.

Mr. George R. Richards
Consultant
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Mr. Ralph Roberts
Senior Advisor
Forestry & Conservation, Policy Branch
Canadian International Development Agency

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Tembec Industries Inc.

Mr. E. Van Scoffield
Executive Director
Association of BC Forest Professionals

Mr. James Shepherd
President & CEO
Slocan Forest Products Ltd.

Mr. Tom Tevlin
President
ConsensusWorks Consultants Inc.

Mr. Rick Thomas
Director General
Manufacturing Industries Branch
Industry Canada

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

Alpine Meadows in the B.C. Rocky Mountains

Photographed by John E. Marriott, JEM Photography and Consulting, Canmore, Alberta. John is an alumnus of the UBC Faculty of Forestry (B.S.F. 1994) and generously agreed to donate the cover photograph for our 2003 Annual Report. You can view more of John’s wilderness photographs at www.wildernessprints.com.

TEXT PHOTOGRAPHS

UBC Telestudios

Editor: Susan B. Watts, Ph.D., R.P.F.
Desktop Publisher: Patsy Quay

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University of British Columbia
ISSN 1188-9837
Dean's Message

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- PUBLIC LECTURE SERIES

- FACULTY DEVELOPMENT AND ALUMNI
Despite challenging times for forestry in general, the UBC Faculty of Forestry has maintained and grown its commitment to first class education and leading edge research. As the table below illustrates, our enrolment numbers are holding steady while our extramural funding is at an all time high. We continue to be a research intensive, interdisciplinary unit that is able to attract top faculty, staff and students from around the world.

In response to continuing challenges in undergraduate enrolment, we established a Recruitment Advisory Team (membership includes all program directors), charged with developing a Recruitment and Retention Action Plan for our undergraduate programs. Discussion around this plan led us to focus (and continue to focus) considerable effort on attempting to understand the basis of the image issues facing our forestry education programs. An “Image” Committee was charged with fully ascertaining the public’s perceptions of the Faculty of Forestry and generating strategies to mitigate the negative forest sector impressions that impact us. The committee’s work is fundamental to focusing of our recruitment efforts and supporting a long-term strategy for the evolution of the Faculty.

Early in the year we finalized faculty member directorship roles for each of our undergraduate programs and majors. We have also welcomed a new member to the student services team with the appointment of Candace Parsons as director of student services. Candace has replaced Helen Samson who left the Faculty at the end of October after seven years as coordinator of student services.

Faculty of Forestry Activities, 1993/94 – 2003/04

<table>
<thead>
<tr>
<th></th>
<th>93/94</th>
<th>94/95</th>
<th>95/96</th>
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<th>97/98</th>
<th>98/99</th>
<th>99/00</th>
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<td>209</td>
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<td>2.19</td>
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<td>GPOB ($000)³</td>
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<td>4,939</td>
<td>4,808</td>
<td>4,798</td>
<td>4,741</td>
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<td>5,884</td>
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<td>GPOB/WFTE</td>
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<td>2,340</td>
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<td>1,989</td>
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<td>6</td>
<td>6</td>
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<td>265</td>
<td>255</td>
<td>233</td>
<td>225</td>
<td>214</td>
<td>274</td>
<td>314</td>
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</table>

¹Headcount unless otherwise noted
²Average numerical score of several criteria used by students to assess teaching performance of Faculty members.
³1 = Excellent; 2 = Very Good; 3 = Good; 4 = Fair; 5 = Poor; 6 = Very Poor.
⁴GPOB = base recruiting budget.
⁵WFTE calculated as 2 x (undergraduate + extrasessional + diploma/3) + 4 x masters + 6 x Ph.D. students.
⁶Research + special purpose + endowment (until 1996/97, shown separately after this).
⁷Endowment income separated from extramural income from 1996/97 onwards.

In August, 2003, Sandy McKellar left her role of recruiter for our undergraduate programs to join the Wood Manufacturing Council. Her energy and expertise is greatly missed. Two graduates from the class of 2003 were hired as associate recruiters to work with our recruitment officer Stephen Baumber in support of our activities. We also created a new role for Chiara Longhi as international programs assistant, responsible for administering the international student exchange program and facilitating our international student recruitment program. These appointments have expanded our recruitment efforts to four full-time individuals as well as two full-time coordinators for our expanded co-op education options – now available to students in all of our forestry programs.

This past year our recruiters presented in 24 communities across the province and also developed a new “event” to introduce current first year science students at UBC to our Research Forest in Maple Ridge. We hope to reap the benefits of these awareness and recruitment efforts through increased student enrolments.
If you are a regular reader of our annual reports, you may have noticed a slight change in order of this year’s content. We have moved our sections on International Programs, First Nations Forestry and the Forest Management Institute to the front of the report under the topic grouping for “Students and Teaching Programs”. This re-arrangement of content better reflects our full commitment to the breadth and diversity of our recruitment and teaching efforts. The quality of our teaching, as evaluated by our students, remains high. As the table on the previous page indicates, we have been consistently improving our rating with students. Smaller class sizes have obviously helped to improve our instructional quality!

This spring, our Wood Products Processing program received the 2003/04 Alfred Scow Award which is given for “exceptional contribution or significant improvement to the student experience and learning environment at UBC”. This is the second time that one of our undergraduate programs has been acknowledged by this esteemed award. Our B.Sc. program in Natural Resources Conservation was an earlier winner of this award. This accomplishment is particularly noteworthy considering that the award has only been made to seven programs on campus since 1997, and is indicative of the high standards in student service that we have set and continue to maintain in the Faculty of Forestry. As further acknowledgement of our teaching distinctions, two members of the Forest Resources Management department have received the prestigious University Killam Teaching Prize. Dr. Valerie LeMay is the 2003/04 winner of this award for Forestry. Although only one such award is available to the Faculty of Forestry each year, Dr. Jonathan Fannin (a joint appointment with Civil Engineering), received the 2003/04 University Killam Teaching Prize for his teaching in Applied Science.

In administrative changes, Dr. Cindy Prescott (Associate Professor in Forest Sciences), was appointed to the role of Associate Dean for Graduate Studies and Research. Cindy replaced Dr. John McLean who served the Faculty in this role for eight years. Dr. John Innes (Professor and Forest Renewal BC Chair in Forest Management) took on the role of director of International Programs for the Faculty. We also welcomed Barbara Borthwick as our new director of administration. Barb replaces Barbara Alivojzovic, who left the Faculty at the end of October after 15 years of exemplary service. The year saw the retirement of Drs. John Worrall and Peter Murtha who both retired on June 30, 2003.

As part of our ongoing commitment to the community, we continued, and expanded, our public lecture series (previously known as the Jubilee Lecture Series) with ten evening events during the year. The first lecture of the fall was also the inaugural lecture of the Namkoong Family Lecture Series, made possible by funding from the Namkoong Teaching Exchange and Research Endowment, which was established in 1995 by a gift from the Namkoong family. Support from the H.R. MacMillan Family Fund enabled us to continue our Conservation Lecture Series with a further ten public lectures during the year. In a step towards improving our community outreach, we totally redesigned our Faculty newsletter, Branch Lines. This free publication is circulated to over 4,000 individuals (including all of our alumni) three times a year. We also produced a redesigned newsletter covering alumni and development topics that was distributed along with Branch Lines.

In the area of development, we raised over $1.9 million in gifts, contributions and pledges, to support scholarships, awards, research and the upgrading of our facilities. This represents a significant increase in contributions over the past few years. A great highlight for the Faculty in 2003 was the announcement of a long-term partnership with the Canadian Cancer Society to make the Loon Lake Research and Education Centre the new home for Camp Goodtimes. Through this arrangement, cancer survivors aged 6-16 will enjoy the wonderful surroundings at Loon Lake. In return, the Society is contributing $1 million towards the refurbishment and redevelopment of the Loon Lake Centre. This will greatly benefit all visitors to the Forest for very many years to come. Loon Lake also played host to our inaugural First Nations Youth Camp where, with the help of generous donations, we brought together 25 young aboriginals from all over BC to help them appreciate the impact they could have on their community and the community at large by pursuing a forestry education.

We held three major alumni events during the year as well as a commemoration of the Julius Juhasz Memorial outside the Forest Sciences Centre at UBC. This event was attended by over 100 Sopron alumni, friends and family of Mr. Julius Juhasz (BSF ’58). In October, we held our second Donor Recognition Evening where scholarship winning students were introduced to the donors of their awards. Due to the confidential nature of bursary applications, we do not list students who are in receipt of any forestry bursaries. However, this year’s annual report includes a list (for the first time) of the bursaries that have been made available to our students by the generous donations of individuals, families and organizations. This information appears along side the listing of scholarship winners on pages 8 and 9 of this report.

During the year we have been fortunate to have hired six new faculty members including two Tier II Canada Research Chairs. Dr. Sue Grayston joined the Forest Sciences department as an
associate professor and Canada Research Chair in soil microbial ecology, and Dr. John Kadla joined the Wood Science department as an associate professor and Canada Research Chair in advanced biomaterials. Dr. Sarah Gergel joined the Forest Sciences department in June, 2003, as an assistant professor in the area of watershed landscape ecology. In January, 2004, Dr. Markus Weiler joined the Forest Resources Management department as the new Forest Renewal BC Chair in Forest Hydrology. We were also able to recruit to two other positions for 2004. In May, Dr. Nicholas Coops will be joining the Forest Resources Management department as an associate professor in remote sensing. Nicholas will be replacing Dr. Peter Murtha. In July, Dr. Ronald Trosper will be joining the Forest Resources Management department as associate professor in the area of aboriginal forestry. This appointment is a totally new endeavour for the Faculty to help develop the next stage of our First Nations Initiative.

The year saw our extramural funding remain at an all-time high of $11.4 million. Tri-council (NSERC, SSHRC) funding again formed just over 26% of our extramural funding with a record of 65% of our faculty members now holding awards from these prestigious sources. We also received over $1.4 million from Forestry Innovation Investment Ltd. in support of twenty research projects. Five faculty members received funds from the Canada Foundation for Innovation, with matching funds from the BC Knowledge Development Fund, in support of new laboratory spaces for surface engineered lumber (Evans), soil microbial ecology (Grayston), integrated biopolymers and biomaterials (Kadla), mycorrhizal ecology (Simard) and bioprocessing for sustainable fuels (Saddler). We also developed three new research clusters in the past year. A Timber Building Technology Group was established involving the departments of Wood Science, Architecture and Civil Engineering. Research clusters were also formed as a Below Ground Ecosystem Group and a Collaborative for Business Operations Management.

Throughout the year we held a variety of “town halls” on issues such as the recruitment and retention of undergraduate students and how the image of forestry plays an influential part in our enrolment issues. We also used this type of forum to re-emphasize our commitment to further strengthen our graduate programs and the quality of the whole graduate student experience. Our main retreat involved the development of a Road Map for the Faculty with a focus on the four main areas of undergraduate, graduate, research and international. This is discussed briefly below.

**Plans for 2004/2005**

Recruitment and retention of our undergraduates into our current programs will continue to be a priority for the Faculty. At the same time, additional options such as working more closely with other Faculties at UBC will be pursued. The goal will be to both increase our full-time-equivalent teaching load and to determine if “applied biology / science / arts” students, who do not currently fully appreciate what “forest sciences” really constitute, can be attracted to some newly evolved programs that could be offered on campus. These plans will be incorporated into the undergraduate component of the Faculty of Forestry’s Road Map.

As indicated earlier, post graduate education and research continue to be the Faculty’s strengths and contribute significantly to our international reputation. We will continue to build on this solid foundation with the addition of several world-class faculty members adding significantly to our capacity to grow in both post-graduate offerings and in the development of distinct research groups. The federal government has been catalytic in using universities to help implement its “innovation agenda” and has more recently challenged the science and technical community to translate this investment into greater “competitiveness” for the country. One of the tremendous opportunities for British Columbia is to build on the considerable strengths that exist in the world class research institutes (PAPRICAN, Forintek, FERIC) that are located on the UBC campus, as well as the provincial and federal scientists working in the “broadly-defined” forest sector. There are probably only two or three other places in the world that have a similar physical cluster of world class, forest-related educators, researchers and research institutes. One of our goals for the coming year will be to build on the good rapport that already exists between these various groups (based on the UBC campus and elsewhere in BC) and to turn the perception that we have one of the world’s best concentrations of forest-related expertise into a reality.

Jack Saddler  
Dean, Faculty of Forestry
THE Faculty of Forestry offers four-year degree programs in the following five areas:

■ Forest Resources Management – B.S.F.

This major focuses on the multidisciplinary aspects of forest resources biology and management of forested ecosystems for such products as timber, grazing, wildlife, recreation, aesthetics, fish and water. Students learn about the unique characteristics of each resource, their interactions, and the manipulation of forests to yield a variety of desirable products in the context of social and economic environments. The program prepares graduates for responsible careers as professional foresters. This program is also offered as a four-year International Forestry Specialization.

Contact: John Nelson
(Phone: 604-822-3602; e-mail: john.nelson@ubc.ca)

■ Forest Operations – B.S.F.

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.

Contact: Dennis Bendickson
(Phone: 604-822-5932; e-mail: dennis.bendickson@ubc.ca)

■ Forest Science – B.Sc. (Forestry)

This challenging yet flexible program is designed to develop professionals who understand the dynamics of and can conduct research in forested ecosystems. Students in the Forest Science program gain a strong foundation in the basic biological and environmental sciences, with emphasis on the interacting components and functions of forests. Core topics include genetics, soil science, weather and climate, tree form and function, ecology, silviculture, biodiversity and research methods. In the third and fourth years of study, students specialize in an area of particular interest to them. This program is also offered as a four-year International Forestry Specialization.

Contact: Sally Aitken
(Phone: 604-822-8620; e-mail: sally.aitken@ubc.ca)

■ Wood Products Processing
B.Sc. (Wood Products Processing)

This program provides students with a broad knowledge of the wood products industry, including wood manufacturing, business management, and marketing. State-of-the-art wood processing equipment used during laboratory exercises enables students to develop skills in technical processes and operations carried out in today’s industry. The majority of students choose to take the cooperative education option in this program. Qualified fourth year students may opt for a minor in Commerce.

Contact: Simon Ellis
(Phone: 604–822–3551; e-mail: simon.ellis@ubc.ca)

■ Natural Resources Conservation
B.Sc. (Natural Resources Conservation)

This multidisciplinary program provides students with a solid foundation in the natural and social sciences underlying management and conservation of natural resources, as well as an appreciation for the political and socioeconomic contexts which affect conservation strategies. Students develop a working knowledge of the tools and quantitative techniques used by resource planners. A notable feature of the program is the Integrated Field School offered in the fourth year which features integrated field and classroom instruction throughout the fall term.

Contact: Scott Hinch
(Phone: 604–822–9377; e-mail: scott.hinch@ubc.ca)

PROGRAM UPDATES 2003-04

- Year four of the revised Forest Resources Management program was implemented.

PLANS FOR 2004-05

- Complete revisions of the undergraduate students web page.
- Maintain focus on increasing undergraduate enrolment and expand undergraduate recruitment and retention.
- Expand international and First Nations student recruitment efforts.
- Implement the proposed changes to the Forest Science program.
Cooperative Education

Cooperative education is a three-way partnership between employers, students, and the University. This partnership provides an opportunity for students to gain practical work experience, related to their program of study, by alternating academic terms with paid work terms. Graduates of a co-op program are well prepared, academically and professionally, for their future careers. Participating employers have access to an excellent staffing resource for peak periods or special projects as well as the opportunity to recruit, train and assess potential future employees.

Co-op students are available for four or eight month work terms commencing each year in January, May and September. Over the course of their programs, students complete eight academic terms and five work terms to meet their co-op degree requirements. Employers interested in hiring a co-op student should contact one of the cooperative education coordinators.

ACHIEVEMENTS 2003-04

Forestry Programs
- New co-op student enrolment increased by 20 per cent over 2002-03.
- The number of co-op positions advertised increased by 100 per cent over 2002-03. Employment opportunities were located in British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, California and Vermont.
- The initial intake of co-op students successfully completed their first co-op placements in summer 2003 at a variety of employer hosts including conservation, government, industry, and research organizations.
- Under the auspices of the Forestry Co-op Office, the 2nd Annual Forestry Careers Day was organized and held in March 2004. Students were brought together with thirteen organizations including industry, conservation organizations and professional associations for a day of information exchange.

Wood Products Processing Program
- Our 100 per cent record for the placement of co-op students was maintained. Placements were located in B.C., Alberta, Manitoba, Ontario, Quebec and Saskatchewan, as well as in the USA.
- Fifty-one 4-month co-op work term placements were made, an increase of 13 per cent over the previous year.
- A company information and networking session held by Tembec was attended by approximately fifty students from Wood Products Processing.
- An “on-line diary” pilot project, accessible on the Forestry Co-op Programs website, was launched to provide students’ perspectives on their co-op work term experiences.
- Agreement was reached with the Fachhochschule Rosenheim in Germany for the coordination of student work term placements in our respective countries.

Joint Achievements
- Developed a website to promote the Co-op Program and provide a resource to current co-op students and employers.
- Increased the involvement of guest speakers in the employability skills workshops delivered to co-op students.

PLANS FOR 2004-05
- Continue development of a web-based job posting system with an expected implementation date of fall 2004. This system will be available to both co-op and non co-op students.
- The focus of Forestry Careers Day will change from an information exchange to an active recruitment event for both employers and students.
- Increase employer participation in co-op students’ career development activities.
- Introduce co-op student participation in informational interviews and have co-op students present the results of their interview as part of the co-op employability skills workshops.
- Expand on-line diary pilot project to include diaries written by co-op students in all forestry undergraduate disciplines.

CO-OP PROGRAMS

Undergraduate Students

Simon C. Ellis
B.Sc., M.Sc., Ph.D., F.I.W.Sc.
Chair, Co-op Steering Committee
Phone: 604-822-3551
E-mail: simon.ellis@ubc.ca

Geoffrey Anderson, B.Comm.
Cooperative Education Coordinator
Forestry Programs
Phone: 604-827-5196
E-mail: geoff.anderson@ubc.ca

Barbara Bremner, B.A.
Cooperative Education Coordinator
Wood Products Processing Program
Phone: 604-822-3802
E-mail: barbara.bremner@ubc.ca

www.forestry.ubc.ca/co-op
Overview

A Recruitment Advisory Team was established in March 2003, consisting of Dr. Simon Ellis (Director, Recruitment and Co-op), Dr. Peter Marshall (Associate Dean, Undergraduate Studies) and the Program Directors for each of the five undergraduate programs. The team was charged with developing a Recruitment and Retention Action Plan.

The Action Plan, presented to the Dean in June 2003, proposed the specific activities to be undertaken and identified the required resources. The document clearly recognized the important role that the “image” of the Faculty played in the successful marketing of our degree programs to prospective students. The ensuing discussion of the Action Plan generated a series of changes.

An Image Committee was struck, chaired by Dr. George Hoberg, to fully ascertain the Faculty’s public image, and to generate strategies to mitigate negative perceptions. The committee presented the working paper Enrolments and Image in September 2003, which related the negative trends in enrolment in Forestry programs to specific contributing factors. The committee’s work is fundamental to focusing recruitment activities and supporting a long-term strategy for the evolution of the Faculty.

In June 2003, Dr. Simon Ellis stepped down from his central recruitment duties, but remained Chair of the Forestry Co-op Steering Committee. The strategic direction of recruitment and retention activities became the role of the Recruitment and Retention Team, chaired by Dr. Robert Kozak.

In August, Sandy McKeelar left the Faculty to become the Director of Communications with the Wood Manufacturing Council of Canada. Sandy’s energy and expertise left an invaluable legacy of recruitment materials and ongoing activities that is a credit to her many years of service. Two graduates from the Class of 2003, Jacqueline Cavill (B.S.F., Forest Resources Management) and Kate Bottrell (B.Sc., Natural Resources Conservation), were hired in November as associate recruiters to support activities for 2003-04.

Achievements 2003-04

The Recruitment and Retention Action Plan outlined a series of short- and long-term objectives, and identified priority areas of the province within which recruitment activities would be focused. The reorganization of the recruitment team resulted in an emphasis on high school student recruitment activities for this year, with less resources going towards post-secondary transfer students, the continued development of synergies, and the “Recruit the Recruiter” initiative.

- Recruitment staff contacted over 245 schools through a mail-out of promotional material, and presented in 24 communities across B.C.
- Several high school groups took part in guided visits to the machine lab in the Centre for Advanced Wood Processing, and the Landscape Immersion Lab in the Forest Sciences Centre.
- Faculty, forestry students and recruitment staff all participated in focus days organized by UBC Student Recruitment and Advising. These events were geared towards attracting academically strong high school students to UBC programs.
- Forestry programs were promoted to students in other faculties at UBC by participating in campus education fairs, implementing the “Need an Elective?” program to promote individual forestry courses, circulating a promotional poster for our programs across campus, and the development of a unique event called “Take A Hike”, in which UBC students were treated to a day of activities at the Malcolm Knapp Research Forest.

Plans for 2004-2005

- Increase activities to recruit prospective technical and college transfer students. This will include developing materials to reach first year students at UBC, as well as organizing presentations to students in community colleges and technical institutes.
- Finalize a database to assist in tracking and servicing prospective students.
- Develop events that encourage high school classes and UBC students to visit our facilities.
- Implement surveys of incoming students to better understand how prospective students choose their degree program, and of alumni to ascertain degree satisfaction.

<table>
<thead>
<tr>
<th>Core Recruitment Activities</th>
<th>April 2003 – March 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td># visits</td>
<td># presentations made</td>
</tr>
<tr>
<td>High Schools</td>
<td># student participants</td>
</tr>
<tr>
<td>Community Colleges</td>
<td># teacher participants</td>
</tr>
<tr>
<td>Career Fairs</td>
<td># BC students</td>
</tr>
<tr>
<td>UBC Students</td>
<td></td>
</tr>
<tr>
<td>----------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>54</td>
<td>76</td>
</tr>
<tr>
<td>2,253</td>
<td>370</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>40</td>
<td>16</td>
</tr>
<tr>
<td>650+</td>
<td>20+</td>
</tr>
<tr>
<td>200+</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
Overview

After seven years as coordinator of Student Services, Helen Samson left the Faculty on October 31 to join UBC Enrolment Services. She will be missed by students and her many friends in the Faculty. In December, we welcomed Candace Parsons as the new director of Student Services.

New Student Enrolment

New student enrolment increased by 45 over the previous year, with a total of 215 new students admitted to the Faculty. New students entering into different program years are tabulated below.

<table>
<thead>
<tr>
<th>Year of study</th>
<th>Number of new students entering</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>188</td>
</tr>
<tr>
<td>2</td>
<td>24</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>215</strong></td>
</tr>
</tbody>
</table>

The B.Sc (Forestry) program continues to attract the largest number of new students, with 71 new students admitted in 2003/04. Our other three programs all showed an increase in new students compared to the previous year.

<table>
<thead>
<tr>
<th>Program</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.Sc (Forestry)</td>
<td>33%</td>
</tr>
<tr>
<td>B.Sc (Natural Resources Conservation)</td>
<td>27%</td>
</tr>
<tr>
<td>B.Sc (Wood Products Processing)</td>
<td>18.6%</td>
</tr>
<tr>
<td>B.S.F</td>
<td>21.4%</td>
</tr>
</tbody>
</table>

Enrolment by year of study – 2003/04

The B.S.F. program remains the largest of our programs, although the B.Sc. (Natural Resources Conservation) program showed the highest growth, and is close in size. The following table provides a breakdown of students by program:

<table>
<thead>
<tr>
<th>Program</th>
<th>Number enrolled</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest Resources Management (B.S.F.)</td>
<td>108</td>
<td>24.1</td>
</tr>
<tr>
<td>Forest Operations (B.S.F.)</td>
<td>21</td>
<td>4.7</td>
</tr>
<tr>
<td>Forest Science (B.Sc.)</td>
<td>94</td>
<td>21.0</td>
</tr>
<tr>
<td>Wood Products Processing (B.Sc.)</td>
<td>103</td>
<td>23.0</td>
</tr>
<tr>
<td>Natural Resources Conservation (B.Sc.)</td>
<td>122</td>
<td>27.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>448</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Total Enrolment

The percentage of female students in undergraduate programs increased slightly last year to 35.0 per cent of the total undergraduate enrolment.

Indications are that our recruitment and retention efforts of the past few years are beginning to pay off. We expect that the number of students in years two to four of our programs will increase substantially next year.

Total enrolment and new enrolment 1991/92 – 2003/04

2003 Annual Report 7
First Year Students
Baird, C.
Bains, V.
Englander, L.
Hausch, S.
Henriques, D.
Lee, Y.
Loo, J.
Osorio, F.
Pelletier, H.
Wang, J.
Watai, K.

Second Year Students
Cowan, D.
Pershin, A.
Pon, L.
Rasmussen, K.
Stange, J.

Third Year Students
Anderson, T.L.
Bal, J.
Barlow, J.
Beleznyay, D.
Brockhuizen, N.
Buys, R. J.
Davis, B.
Dick, G.
Ferguson, G.
Harrison, M.
Hurn, A.
Johnston, C.
Marvuglia, A.
Matson, M.
McKay, C.
Sinayov, L.
Splawski, D.

Full Name of Award
ABCFP Scholarship in Forestry, Graduating Prize in Forestry.
UBC Forestry ALUMNI Division Scholarship and Entrance Scholarship.
BACKMAN Scholarship in Forest Resources Management.
Charles and Jane BANKS Scholarship.
John D. BEATy Memorial Scholarship.
John E. BIER Memorial Prize in Forest Pathology.
Emily and Francis BINKLEY Scholarship.
CANADIAN Forestry Equipment Ltd. Prize.
CARIBOO Woodlot Education Society Scholarship in Forestry.
Hugh R.D. CHISHOLM Scholarship in Forestry, Canadian Institute of Forestry (CIF) Medal.
COAST Fire Prevention and Control Group Ken Hale Memorial Prize.
Robert J. CRAIG Memorial Scholarship.
DEAN of Forestry Scholarship.
Elizabeth BACKMAN Scholarship in Natural Resources Conservation.
Galt ELKINGTON Memorial Scholarship.
Harry ENGLISH Memorial Prize.

Fourth Year Students
Aldred, M.
Anderson, T.C.
Bosch, R.
Burke, M.
Cautley-Davis, C.
Chung, P.-Y.
Cramer, B.
Dodds, T.
Dyke, S.
Gerbrandt, A.
Gration, P.
Holbeck, E.
Howarth, M.
Kennah, M.
LeDrew, K.
Little, L.
Metcalf, K.
Morgan, C.
Murray, K.
Palmer, G.
Rixen, N.
Schulte, W.
Strocel, C.
Swaak, N.
Topp, S.
Wagstaff, A.
White, N.
Witbeck, S.

Full Name of Award
Phil HADDOCK Prize in Silviculture.
Harry HOBSON Memorial Prize.
James Russell MILL Scholarship.
Ted JOHNSON Scholarship in Forestry.
Janet KETCHAM Scholarship.
Malcolm KNAPP Spring Camp Prize.
Tony KOZAK Scholarship in Forest Measurement.
Marn KUAN Scholarship.
James DELittle Memorial Scholarship.
H.R. MACMILLAN Prizes in Forestry, Forest Harvesting, Scholarship in Forestry.
MACHINERY and Supply Companies Group Forestry Scholarship.
Jim and Gerry McINTOSH Award in Forestry and Scholarship in Forestry.
William McMAHAN Scholarship.
NATIONAL Education Initiative Gerhard Kress Memorial Scholarship.
NORTHWOOD Pulp and Timber Limited Scholarship.
PACIFIC Regeneration Technologies Inc. Silviculture Scholarship.
Robert E. MILLS Memorial Award.
Bursaries

The following bursaries have been made available specifically for students enrolled in the Faculty of Forestry. Due to the confidential nature of bursary applications, recipients cannot be identified.

Cery and Jack BURCH Bursary.
Tommy BURGESS Memorial Forestry Bursary.
Ian T. CAMERON Memorial Bursary.
CANFOR Corporation Bursary.
COASTAL Silviculture Committee Bursary.
Doris M. DOWLING Memorial Bursary.
EUROCAN Pulp & Paper Co. Bursary.
J. D. NETHERINGTON Memorial Bursary.
Jeanette LINDSAY Memorial Bursary.
NORRIS-MEIBUS Bursary.
P. L. NORTHCOTT Memorial Bursary.
Tudor OMMANEY Memorial Bursary in Forestry.
Henri J. PIGEON Bursary in Wood Science and Industry.
Oscar SODERMAN Memorial Bursary.
Oscar SZIKLAI Memorial Bursary in Forestry.
E.G. & W.D. TOUZEAU Bursary.
VINTEN Fund Forestry Bursary.
John WORRALL Alumni Bursary in Forestry.

Degrees Conferred, May 2003 and November 2003 Congregations

■ B.S.F. Forest Resources Management
  Arkell, K.A.
  Baines, D.
  Bouichou, J-F.
  Bowyer-Smyth, E.M.M.
  Brett, B.M.
  Burbree, S.E.
  Cavill, J.I.
  Check, S.E.
  Collings, E.D.
  Dallaire, L.C.
  Godin, T.L.
  Hamilton, R.T.
  Hoy, A.M.
  Lawrence, D.J.
  Little, L.C.
  Matkovich, S.D.
  Metcalf, K.E.
  Mukai, S.J.
  Sidwell, W.B.
  Sigloch, K.H.J.
  Swaak, N.D.
  Westover, J.W.
  Wilkinson, J.R.
  Woods, B.L.

■ B.S.F. Forest Operations
  Alway, D.M.
  Anderson, D.C.
  Anderson, T.C.
  Barta, R.J.
  Bintner, E.G.
  Honeysett, G.D.
  Hyam, R.L.
  Kleindienst, E.J.
  Lansdowne, M.
  Miller, T.W.
  Olmsted, J.
  Schulte, O.F.

■ B.Sc. (Forestry) Forest Science
  Grimshire, J.F.
  LeBoldus, J.M.
  Nishio, G.R.
  Scott, A.M.

■ B.Sc. (Natural Resources Conservation)
  Bottrell, K.A.
  Bruce, D.
  Cabassu, Y.W.
  Cosco, K.E.
  Deueling, C.A.
  Doucett, D.
  Gough, A.D.
  Greenwood, S.L.
  Hofer, N.D.
  Huddart, J.D.
  Major, B.L.
  Maliswai, E.
  Maloney, V.J.
  McGuiggan, E.K.
  Ng, M.K.M.
  Paulsen, A.J.
  Pollock, S.L.
  Turner, K.J.
  Watson, J.W.

■ B.Sc. (Wood Products Processing)
  Anastas, H.
  Aquino, C.D.
  Banford, S.P.
  Cadwaladr, D.I.
  Chan, V.C.K.
  Copp, D.
  Draper, S.M.
  Gill, R.S.

■ Diploma in Forestry
  (Advanced Silviculture)
  Bates, C.S.A.
  Bennett, J.R.
  Gagné, E.
  Hall, R.A.
  Kilpatrick, K.R.
  Koe, R.S.
  Loggin, L.T.
  McArthur, D.B.
  Meister, R.P.
  Mogenson, D.C.
  Mooney, G.D.
  Nielsen, A-M. C.
  Nielsen, N.V.
  Powell, B.J.
  Quanstrom, G.E.
  Trethewey, C.

GRADUATION STATISTICS

Undergraduate Students

Number of Graduates

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>60</td>
</tr>
<tr>
<td>1987</td>
<td>80</td>
</tr>
<tr>
<td>1988</td>
<td>100</td>
</tr>
<tr>
<td>1989</td>
<td>120</td>
</tr>
<tr>
<td>1990</td>
<td>140</td>
</tr>
<tr>
<td>1991</td>
<td>160</td>
</tr>
<tr>
<td>1992</td>
<td>180</td>
</tr>
<tr>
<td>1993</td>
<td>200</td>
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<tr>
<td>1994</td>
<td>220</td>
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<tr>
<td>1995</td>
<td>240</td>
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<tr>
<td>1996</td>
<td>260</td>
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<td>1997</td>
<td>280</td>
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<tr>
<td>1998</td>
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<td>1999</td>
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<tr>
<td>2000</td>
<td>340</td>
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<tr>
<td>2001</td>
<td>360</td>
</tr>
<tr>
<td>2002</td>
<td>380</td>
</tr>
<tr>
<td>2003</td>
<td>400</td>
</tr>
</tbody>
</table>

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Graduate Programs

The Faculty of Forestry offers four graduate degrees:
- Doctor of Philosophy – Ph.D. (in Forestry)
- Master of Science – M.Sc. (in Forestry)
- Master of Applied Science – M.A.Sc. (in Forestry)
- Master of Forestry – M.F.

Enrolment and Graduation Trends

Graduate program enrolment declined slightly over the past year to 170 graduate students.

Graduate student enrolment 2003/04

<table>
<thead>
<tr>
<th>Degree</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph.D.</td>
<td>53</td>
<td>29</td>
<td>82</td>
</tr>
<tr>
<td>M.Sc.</td>
<td>42</td>
<td>34</td>
<td>76</td>
</tr>
<tr>
<td>M.A.Sc.</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>M.F.</td>
<td>4</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Non-thesis</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
<td>66</td>
<td>170</td>
</tr>
</tbody>
</table>

As of October, 2003.

The proportion of graduate students from outside of Canada decreased to 51% of Doctoral and 36% of Masters students for an average of 44% non-Canadian students. A total of 29 countries are represented in the graduate student body.

Graduate Student Funding

In the 2003/04 academic year, Forestry graduate students were awarded support totalling $2,656,289, a 12% increase over 2002/03 funding levels. Graduate support consisted of $604,008 in scholarship funding, $221,742 in graduate teaching assistantships and $1,830,539 in graduate research assistantships (provided by research supervisors from their research grants).

Graduate student funding 2003/04

<table>
<thead>
<tr>
<th>Department</th>
<th>No. graduate students</th>
<th>Total funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest Resources</td>
<td>46</td>
<td>$632,973</td>
</tr>
<tr>
<td>Management</td>
<td>65</td>
<td>$1,196,383</td>
</tr>
<tr>
<td>Forest Sciences</td>
<td>59</td>
<td>$826,933</td>
</tr>
<tr>
<td>Wood Science</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>170</strong></td>
<td><strong>$2,656,289</strong></td>
</tr>
</tbody>
</table>

The Forestry Graduate Student Association (FGSA) organised a Welcome Back Barbeque, Wine and Cheese, Christmas Party, and monthly lab-hosted socials. Students presented their research at the Faculty Research Poster Night and a weekly seminars series. The FGSA executives were Robyn Scott, Jennifer Rice, Anna Tikina, and Heather Coleman.

The Graduate Studies Advisory Committee was composed of Drs. Alila, Arcese, Breuil and Guy (faculty reps.) and Katie Aitken, Rasmus Astrup, Brad Fedy, Jeff Keating, and Ann Mathey (student reps.).

Scott Wilson (M.Sc., P. Arcese) was awarded the prize for the Best Thesis in Forestry.
## Doctoral Students

<table>
<thead>
<tr>
<th>Name</th>
<th>Supervisor(s)</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aiten, Kathryn</td>
<td>NSERC</td>
<td></td>
</tr>
<tr>
<td>Alexiadis, Pavlos</td>
<td>HELLER, MCPHEE</td>
<td>UGF Paetzold</td>
</tr>
<tr>
<td>Anderson, Axel</td>
<td>MCPHEE</td>
<td>THOMPSON, UGF Paetzold</td>
</tr>
<tr>
<td>Bears, Heather</td>
<td>FRASER</td>
<td></td>
</tr>
<tr>
<td>Bondar, Carin</td>
<td>MCPHEE, TIMERWEST</td>
<td></td>
</tr>
<tr>
<td>Bower, Andrew</td>
<td>UGF Paetzold</td>
<td></td>
</tr>
<tr>
<td>Bura, Renata</td>
<td>UGF Paetzold</td>
<td></td>
</tr>
<tr>
<td>Campbell, Kirstin</td>
<td>NSERC</td>
<td>INDUSTRIAL</td>
</tr>
<tr>
<td>Chen, Charles</td>
<td>CFS</td>
<td></td>
</tr>
<tr>
<td>Cleary, Michelle</td>
<td>NSERC CGS</td>
<td></td>
</tr>
<tr>
<td>Fedy, Bradley</td>
<td>UGF GES</td>
<td></td>
</tr>
<tr>
<td>Fell, David</td>
<td>HINDMARCH</td>
<td></td>
</tr>
<tr>
<td>Gandy, Ryan</td>
<td>MCPHEE</td>
<td></td>
</tr>
<tr>
<td>Gare, Washington</td>
<td>UGF GES</td>
<td></td>
</tr>
<tr>
<td>Gonzales, Emily</td>
<td>CHISHOLM, NSERC</td>
<td></td>
</tr>
<tr>
<td>Harkin, Zoe</td>
<td>UGF Paetzold</td>
<td></td>
</tr>
<tr>
<td>Hickey, Gordon</td>
<td>DU PONT</td>
<td>INDUSTRIAL</td>
</tr>
<tr>
<td>Huang, Chen</td>
<td>COMMONWEALTH</td>
<td></td>
</tr>
<tr>
<td>Idressi, Mohd</td>
<td>VANDUSEN</td>
<td></td>
</tr>
<tr>
<td>Jerabkova, Lucie</td>
<td>MCKEE</td>
<td></td>
</tr>
<tr>
<td>Keating, Jeff</td>
<td>SHRC</td>
<td></td>
</tr>
<tr>
<td>Kleen, Nicole</td>
<td>SIMONS</td>
<td></td>
</tr>
<tr>
<td>Krzyzanowski, Judi</td>
<td>CFS</td>
<td></td>
</tr>
<tr>
<td>Lencar, Cornel</td>
<td>SHRC</td>
<td></td>
</tr>
<tr>
<td>Lewis, John</td>
<td>MCPHEE</td>
<td></td>
</tr>
<tr>
<td>Liewalskaneyanawin, Chersdak</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mahon, Lisa</td>
<td>INDUSTRIAL</td>
<td></td>
</tr>
<tr>
<td>Miller, Laurie</td>
<td>GRIFFITH, UGF Partial</td>
<td></td>
</tr>
<tr>
<td>Morford, Shawn</td>
<td>COCHRAN, MCPHEE</td>
<td></td>
</tr>
<tr>
<td>Moss, Ian</td>
<td>SMITH</td>
<td></td>
</tr>
<tr>
<td>Negrave, Roderick</td>
<td>CANFOR</td>
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</tr>
<tr>
<td>Perreault, Pamela</td>
<td>UGF Paetzold</td>
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</tr>
<tr>
<td>Rangel, Jose-Luis</td>
<td>CONCYT</td>
<td></td>
</tr>
<tr>
<td>Robinson, Andrew</td>
<td>BRIGHT FUTURE</td>
<td></td>
</tr>
<tr>
<td>Staudhammer, Christine</td>
<td>KILLAM, PAYETTE, POSTER 2</td>
<td></td>
</tr>
</tbody>
</table>

## Masters Students

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Askew, Sue</td>
<td>CFS</td>
</tr>
<tr>
<td>Beland, Jaclyn</td>
<td>JOHAL</td>
</tr>
<tr>
<td>Boldor, Angelica</td>
<td>CFS</td>
</tr>
<tr>
<td>Canam, Thomas</td>
<td>VANDUSEN</td>
</tr>
<tr>
<td>Coleman, Heather</td>
<td>NSERC CGS</td>
</tr>
<tr>
<td>Henze, Kim-Juna</td>
<td>DAAD</td>
</tr>
<tr>
<td>Hilton, Alana</td>
<td>HOFFMEISTER</td>
</tr>
<tr>
<td>Massoum Alamouti, Sepideh</td>
<td>BUCKLAND</td>
</tr>
<tr>
<td>McCuigian, Erin</td>
<td>UGF GES</td>
</tr>
<tr>
<td>Nitschke, Craig</td>
<td>VANDUSEN, WELDWOOD</td>
</tr>
<tr>
<td>Ortepp, Stephanie</td>
<td>POSTER 3</td>
</tr>
<tr>
<td>Peter, Brian</td>
<td>HANSON</td>
</tr>
<tr>
<td>Rice, Jennifer</td>
<td>MCPHEE</td>
</tr>
<tr>
<td>Riemman, Lea</td>
<td>CFS, POSTER 1</td>
</tr>
<tr>
<td>Schulz, Rucheb</td>
<td>UGF GES</td>
</tr>
<tr>
<td>Scott, Robyn</td>
<td>NSERC</td>
</tr>
<tr>
<td>Shreiner, Hannah</td>
<td>UGF GES</td>
</tr>
<tr>
<td>Sipos Randor, Yona</td>
<td>GTA, MCPHEE</td>
</tr>
<tr>
<td>Twieg, Brendan</td>
<td>BASSETT</td>
</tr>
<tr>
<td>Uesugi, Akane</td>
<td>NAKAIMA</td>
</tr>
<tr>
<td>Uitto, Taina</td>
<td>MCPHEE</td>
</tr>
<tr>
<td>Ukrainetz, Nicholas</td>
<td>ALLEN, UGF GES</td>
</tr>
<tr>
<td>Urban, Katrin</td>
<td>DAAD</td>
</tr>
<tr>
<td>Walia, Ankit</td>
<td>VANDUSEN</td>
</tr>
<tr>
<td>Wang, Youkai</td>
<td>LUMBER</td>
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<tr>
<td>Wilkin, Jennifer</td>
<td>MCPHEE</td>
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<tr>
<td>Wilson, Amy</td>
<td>SOPRON</td>
</tr>
<tr>
<td>Young, Jeffery</td>
<td>NSERC</td>
</tr>
</tbody>
</table>

## Full Name of Award

- **Adrian WEBER Memorial Scholarship** in Forest Ecology
- **Asa JOHAL Graduate Fellowship** in Forestry
- **Bert HOFFMEISTER Scholarship** in Forest Wildlife
- **Bob HINDMARCH Award**
- **Brahma G. GRIFFITH Memorial Scholarship** in Forest Resource Management
- **Brenda HANSON Memorial Scholarship** in Forestry
- **BRIGHT FUTURE Scholarship**, Canadian Forest Service
- **CANFOR Corporation Fellowship** in Forest Ecosystem Management
- **COMMONWEALTH Scholarship**
- **CONCYT** (Mexico Council of Science and Technology)
- **Deutscher Akademischer Austausch Dienst** (DAAD)
- **Don BUCKLAND Memorial Scholarship** in Forest Pathology
- **Donald S. MCPHEE Fellowships**
- **DU PONT Canada Fellowship** in Pulp and Paper
- **Edward W. BASSETT Memorial Scholarship** in Forestry Research
- **George S. ALLEN Memorial Scholarship**
- **Hugh Robert Duncan CHISHOLM Scholarship** in Forestry
- **Izaak Walton KILLAM Memorial Pre-Doctoral Fellowship**
- **J. Harry G. SMITH Scholarship** in Forest Resource Management
- **James Robert THOMPSON Fellowship**
- **McLean FRASER Memorial Scholarship**
- **NAKAIMA Foundation**
- **NAMKOONG Family Fellowship in Forest Sciences**
- **Natural Sciences and Engineering Research Council of Canada**
- **NSERC Canada Graduate Scholarship**
- **NSERC INDUSTRIAL Postgraduate Scholarship**
- **Paul HELLER Fellowship**
- **Ralph and Elizabeth COCHRAN Scholarship**
- **SIMONS Foundation Doctoral Scholarship**
- **Social Sciences and Humanities Research Council of Canada**
- **SOPRON Alumni Fellowship**
- **TIMBERWEST** in Forest Resource Management and Planning
- **TIMBERWEST** in Forest Sciences
- **University of B.C. Graduate Fellowship** in Cordula and Gunter Paetzold
- **University of B.C. Graduate Fellowship**
- **VANDUSEN Graduate Fellowships** in Forestry
- **WELDWOOD** of Canada Ltd.
- **H. Richard Whitall Scholarship**
- **WELDWOOD** of Canada Limited Scholarship in Forestry
Degrees Conferred, May 2003 and November 2003 Congregations

M.A.Sc.

RASMUSSEN, Helen K.E.
Drs. R. Kozak/T. Maness

SCHNORBUS, Markus
Dr. Y. Aiila
Forest harvesting effects on peak flow: A deterministic-statistical approach.

SCHREYER, Alexander C.
Dr. F. Lam
Monotonic and cyclic behaviour of slender dowel-type fasteners in wood-steel-wood connections.

M.Sc.

ANDERSON, Axel E.
Dr. J. Nelson
Procedures for projecting and evaluating forest road networks in strategic plans.

BAL, Amandeep S.
Dr. C. Chanway
Isolation of endophytic bacteria from lodgepole pine (Pinus contorta var. Latifolia (Dougl.) Engelm.) and western red cedar (Thuja plicata Dom.) and determination of their nitrogen fixing ability.

BALESHTA, Karen E.
Drs. R. Guy/S. Simard
Effect of paper birch density on the performance of interior Douglas-fir when grown in mixture in the southern interior of B.C.

BÉRUBÉ, Yanik J.
Dr. K. Ritland
Clonality, fine scale genetic diversity and genetic structure in natural populations of Chamaecyparis nootkatensis revealed by microsatellite markers.

CAFFERATA, Alicia
Dr. D. Barrett
The effect of fines on oriented strandboard bending properties.

CALVERT, Paula P.
Dr. D. Moore
Modelling the effects of logging roads on the streamflow of a mountainous, snow dominated watershed.

CHRISTENSEN, Jennie R.
Drs. J. Richardson/J. Elliott
The effects of environmental contaminants on metamorphosis in Rana catesbeinana and sperm motility in Xenopus laevis.

COTTON, Laura
Dr. J. Innes
Approaches for describing landscape connectivity and applicability of the concept in resource management. (Non-thesis)

CROSSIN, Glenn T.
Dr. S. Hinch
Effects of ocean climate and upriver migratory constraints on the bioenergetics, fecundity, and morphology of wild Fraser River salmon.

CULLIS, Ian
Dr. S. Mansfield
The effect of steam explosion pretreatment parameters on softwood delignification efficiency.

FELDMAN, Richard E.
Dr. J. Innes
Associations of songbirds with their habitat in the Garry Oak (Quercus garryana) ecosystem of Victoria, B.C.

FROESE, Katrina
Dr. V. LeMay
Regeneration and small tree height increment in the interior Douglas-fir zone of the Rocky Mountain trench.

HUNTLEY, Shannon K.
Dr. S. Mansfield
Improved pulping efficiency in C4H-FSH transformed poplar.

KHUN-KHUN, Jagdeep S.
Dr. C. Chanway
Endophytic bacteria. (Non-thesis)

KOPRA, Kristin
Dr. M. Feller
Effects of natural disturbance and harvesting on the landscape and stand level structure of wet, cold Engelmann spruce subalpine fir forests of south-central B.C. Canada.

LANQUAYE, Naa C.O.
Dr. S. Mitchell
Empirical modelling of windthrow risk and hazard mapping using geographic information systems.

LECKIE, Sara
Dr. C. Prescott
A comparison of soil microbial communities in adjacent forest types that differ in nutrient cycling rates.

LINDH, Hilary
Dr. K. Martin
Design and selection of a small scale protected area network in the resort municipality of Whistler, B.C. (Non-thesis)

LOPPNAU, Peter A.
Dr. C. Breuil
Canadian populations and melanin biosynthetic genes of Ceratocystis resinae.

LUCAS, Nolwynn
Dr. J. Ruddick
Degree of fixation of amine copper solutions in scots pine (Pinus sylvestris).

MacKILLOP, Debra J.
Dr. C. Prescott
Stand structural characteristics and development patterns in old-growth interior cedar hemlock forests in southeastern B.C.
MOU, Desiree M.  
Dr. G. Hoberg  
An examination of the role of group dynamics in a multi-stakeholder consensus land use planning process.

O’CONNOR, Kathleen D.  
Dr. P. Arcese  
Extra-pair mating and effective population size in the song sparrow (Melospiza melodia).

QUIGLEY, Jason T.  
Dr. S. Hinch  
Experimental field manipulations of stream temperatures and suspended sediment concentrations: Behavioural and physiological to juvenile chinook salmon.

SACKEY, Emmanuel K.  
Dr. S. Avramidis  
Exploratory study of the effect of oscillation drying on thick hemlock timbers.

SCHWAB, Olaf S.  
Dr. G. Bull  
The economics of non-industrial timber supply in southern and central Finland: Spatial roundwood market analysis.

SPIRO, Holly N.  
Dr. G. Hoberg  
An implementation analysis of the Clayoquot Sound scientific panel recommendations on First Nations perspectives.

SQUIRES, Kelly  
Dr. K. Martin  
Pre-incubation behaviour of harlequin ducks (Histrionicus histrionicus) in Labrador: Testing the function of male vigilance and aggression.

STEINIGER, Markus  
Dr. H. Prion  
Tensile strength and performance of the INDUO-Heavy-Timber Connector in combination with structural composite lumber and Douglas-fir.

STRIMBU, Bogdan M.  
Dr. J. Innes  
Prediction of unconfined debris slide-flow travel distance using set theory.

VIDAL, Natalia G.  
Dr. R. Kozak  
Chain of custody certification: Current status and level of knowledge in the North American solid wood sector.

WELSTEAD, Kym E.  
Drs. P. Arcese/P. Kranznitz  
Factors affecting nest predation of artificial and real sagebrush breeder’s sparrow (Spizella breweri breweri) nests in the south Okanagan and Similkameen Valleys, B.C.

WOO, Kathy L.S.  
Dr. S. Mansfield  
The effect of mountain pine beetle killed wood on pulp fibre quality: An exploratory study.

ZHANG, Xueyuan  
Dr. J. Ruddick  
Photo-resistance of alkylammonium compound treated wood.

--- Ph.D. ---

BOYLAND, Mark  
Dr. F. Bunnell  
Simulation and optimization techniques for incorporating ecological objectives into forest harvest scheduling.

D’EON, Robert G.  
Dr. J. Nelson  
Landscape spatial patterns and forest fragmentation in managed forests in southeast B.C.: Perceptions, measurements and scale.

HOFFMAN, Bradford G.  
Dr. C. Breuil  
Molecular analysis and physiological roles of subtilases in sapstaining fungi.

MAHONY, Nancy A.  
Drs. K. Martin/P. Kranznitz  
Reproductive ecology and population viability of brewer’s sparrow at the northern edge of the breeding range.

McDERMOTT, Constance L.  
Drs. G. Hoberg/R. Matthews  
Personal trust and trust in abstract systems: A study of forest stewardship council-accredited certification in B.C.

McINTIRE, Elliot J.B.  
Dr. J.P. Kimmins  
Wildfire and mountain pine beetle boundary zones: Spatial pattern, boundary creation and successional consequences.

O’CONNELL, Lisa M.  
Dr. K. Rilalnd  
The evolution of inbreeding in western red codar (Thuya plicata: Cupressaceae).

ROBINSON, Jamie  
Dr. J. Saddler  
Pretreatment and fermentation of Douglas-fir whitewood and bark feedstocks for ethanol production.

SURATMAN, M. Nazip  
Dr. G. Bull  
Applicability of Landsat TM data for inventorying and monitoring of rubber (Hevea brasiliensis) plantations in Selangor, Malaysia: Linkages to policies.

WAHBE, Tanya R.  
Drs. F. Bunnell/R.B. Bury  
Aquatic and terrestrial movements of tailed frogs (Ascaphus truei) in relation to timber harvest in coastal B.C.

WILFORD, David J.  
Dr. J. Innes  
Forest stand characteristics as indicators of hydrogeomorphic activity on fans.
INTERNATIONAL Programs within the Faculty of Forestry continue to evolve and grow to reflect the needs and importance of international issues related to forestry and forest products within the Faculty. This past year marked a number of positive changes and additions to both our staff and the range of activities we support and participate in.

We are fortunate to welcome Dr. John Innes as the new director of International Programs. John’s extensive international experience and interest in sustainable forest management make him well suited to create new partnerships and collaborations globally. Dr. Innes replaces Dr. Hamish Kimmins as director, and we thank Hamish for his time and energy in advancing the international capacity of the Faculty during his term.

A new role was also created for Ms. Chiara Longhi and she is now responsible for administering the international student exchange program and facilitating our international student recruitment program. Sandra Schinnerl continues to work on international projects and is acting as the secretariat for the International Partnership for Forest Education (IPFE) while in its development phase.

ACHIEVEMENTS IN 2003-04

The academic plan for UBC stresses the need to develop a greater international awareness in its students through a variety of mechanisms including, broadening curricula to incorporate international issues and increasing the numbers of international students to promote cross cultural interaction with domestic students. Such a strategy is particularly relevant to the Faculty of Forestry. Our future graduates will live and work in a society in which the need to understand and interact with people from other societies will be mandatory in order to solve the global environmental issues we face or to successfully engage in international trade, to work on environmental issues or to utilize the knowledge gained elsewhere to solve local problems. Within the strategic plan for the Faculty of Forestry internationalisation is seen as a key goal.

The Faculty of Forestry, in the context of UBC, is already culturally diverse, has significant numbers of international graduate students and a range of diverse and exciting international research activities. There is a need to better communicate our success in these areas within UBC and to a broader community. The work necessary to do this is already underway and is being driven by the Faculty’s International Programs Office, but needs the full and active participation and support of all faculty members to be successful.

INTERNATIONAL Activities

This past year we conducted a faculty-wide survey of international involvements. Our results indicate a trend of increasing numbers of international presentations (68 in 2003/04, up from 45 in 2000/02) and international committee work (58 projects in 2003/04, up from 33 in 2000/01). The Faculty also welcomed 57 visiting researchers, up from 18 in 2000/01. International Programs is looking forward to continuing to benchmark the international activities of the faculty as an indicator of our success in internationalizing our activities. Another very successful form of outreach to the international community is our website on international activities, which we have recently made available in Cantonese.

STUDENT Recruitment and Exchange

Our student exchange program continues to be a great option for students at both the undergraduate and graduate levels. Students can select from over 18 institutions in 13 countries. In the 2003-2004 academic year we had seven students who went to Chile, New Zealand, Italy and the United Kingdom. Over 21 international exchange students visited us from 13 different universities in 8 different countries including the Philippines, Norway, Denmark, Germany, Sweden, Australia, New Zealand and the United Kingdom. Efforts are now underway to find creative ways to expand the range of experiences available to students and maintain the reciprocity of our co-operative agreements.

International Programs is also very interested in expanding our program to include international work placements and internships as another option for students who wish to gain more international experience.

Recently we have also begun making concerted efforts to make international students more aware of programs within the Faculty of Forestry through participation in international recruitment activities including recruitment fairs throughout the Pacific Northwest and Alaska with plans to expand that to more international locations. We look forward to the diversity and perspectives international students will bring to the Faculty. International programs also led the UBC participation in the World Forestry Congress in September 2004 in Quebec City.
PLANS FOR 2004-05

■ Curriculum Development
With our international student exchange programs running successfully, it is now time to turn our focus to curriculum and program development. We will aim to increase the international content of existing courses, make more courses with an international theme available and revise the existing international forestry option within the Forest Resources Management and Forest Science programs, possibly through the development of a new International Forestry program.

■ International Recruitment and Exchange
International students contribute their own experiences and knowledge of the world while in our classrooms. By increasing the number of visiting, exchange and full-time international student in the UBC Faculty of Forestry, we are increasing the internationalization of the entire Faculty. We will be working to better publicise our programs and create more forms of institutional arrangements which will support students wishing to study Forestry at UBC. The recruitment strategy will focus on both graduate and undergraduate programs.

Of equal importance, International Programs will be working to increase the opportunities for domestic students to have international education experiences by:

- continuing to promote, maintain, and grow, our international student exchange and mobility arrangements.
- organizing at least two international field courses in the curriculum annually, with teaching costs being met by host institutions or industry. Initially, one course will be offered at the graduate level, and one at the undergraduate level.
- establishing international work co-op programs for our undergraduates.

It is also very important to increase opportunities for faculty to engage and collaborate with international research organizations. International Programs will be seeking sources of funding and working with international research and education organizations to identify opportunities for Faculty to become involved to a greater degree in international research activities. These experiences are translated into new research areas, graduate and undergraduate student research projects, and international experiences contributing to the curriculum delivery at the graduate and undergraduate level as well.

■ International Linkages
In the coming year we will be participating more actively in promoting, improving and communicating advancements in forest education and research internationally. One of the ways in which we will achieve this is through establishing short term training courses, continuing to play a key role in the International Partnership for Forest Education and increasing the formal linkages with leading international forest research organizations.

In particular we will be taking an active role in the International Union of Forest Research Organizations, and contributing substantially to the XXII IUFRO World Congress in August 2005. It will also be important to increase the number of IUFRO officers based in the Faculty and ensure representation of UBC at the Executive levels of IUFRO.

■ International Conferences and Events
UBC Forestry will continue to co-ordinate and host relevant conferences and workshops on a range of international forestry issues. With our wonderful facilities and breadth and depth of expertise within the Faculty, we are well positioned to be a major site for discussions which will have an impact on the world’s forests and the products which are derived from them.
According to the National Aboriginal Forestry Association, up to 80 per cent of Canada’s First Nation communities are located in or near forested lands. In spite of this, employment in the forest sector, both nationally and provincially, is extremely low with unemployment levels running as high as 80 per cent in some of the more hard hit First Nation communities.

In a recent poll of the approximately 3,100 Registered Professional Foresters (RPFs) with the Association of BC Forest Professionals, only 12 are of aboriginal ancestry. At a time when First Nations are gaining greater access to forest resources, the need for more First Nation RPFs is more critical than ever.

Recent policy changes by the BC Ministry of Forests have resulted in reallocation of up to 8 per cent of the provincial annual allowable cut (AAC) to First Nations. With so few RPFs of aboriginal ancestry there is a serious shortfall in the estimated 250 RPFs required to properly manage the 8 per cent reallocation of the provincial AAC. Similar needs occur in the areas of natural resources conservation and wood product processing.

It is becoming widely recognized that First Nations require skilled natural resource managers who can develop the necessary infrastructure to create fair and equitable joint ventures and partnerships to meet the emerging opportunities for First Nations in the forest sector.

The UBC Faculty of Forestry wishes to provide assistance to First Nations and the wider forest community in order to meet these challenges and opportunities through its First Nations Strategy.

Achievements in 2003-04

- Incorporated approximately 100 contact hours of relevant First Nations content into 16 courses within the Faculty’s forestry and conservation programs.
- Finalized the First Nations Bridging and Laddering Partnership with Malaspina University College to offer the first two years of the B.S.F. degree program for block credit transfer to UBC. This will be launched in September 2004.
- Twenty-five aboriginal grade 8 and 9 students from around the province had the opportunity to attend our inaugural Summer Forestry Camp for First Nations Youth in August, 2003. The goal of this camp was to introduce the youth to a career in forestry and to campus life at UBC. According to the camp attendees, it was a resounding success and most of the group indicated they would like to attend UBC in the future.
- Interviewed for a tenure track faculty position in aboriginal forestry and Dr. Ron Troper from Kootenai-Salish tribe in eastern Washington State to be appointed. He is currently the director of the Native American Forestry Program at Northern Arizona University at Flagstaff, Arizona. We are very pleased to have Dr. Troper join the First Nations Initiative team with the Faculty of Forestry.

Plans for 2004-05

In addition to the professorship in aboriginal forestry, the Faculty has identified other key areas that require support in order to reach the goals set out in our First Nations Strategy. These include:

- First Nations Recruitment and Retention Fund – to support recruitment and retention activities of the First Nations Coordinator, and initiatives such as the Summer Forestry Camp for First Nations Youth and visiting Elders and Speakers.
- Five ($2,500) Endowed First Nations Scholarships – to be supported annually or through the establishment of an endowment to fund in perpetuity.
- Two ($18,000) Endowed First Nations Fellowships – these prestigious awards may be supported annually or through the establishment of an endowment to fund in perpetuity.
- Implement a succession and transition plan to replace Gordon Prest (who is retiring) with a First Nations student recruitment and retention coordinator.

First Nations Council of Advisors

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
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<tbody>
<tr>
<td>Garry Merkel, R.F.P.</td>
<td>Chair, Tahltan Nations</td>
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<tr>
<td>Lloyd Roberts, F.T.</td>
<td>BC Treaty Commission</td>
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<tr>
<td>Dwight Yochim, R.P.F.</td>
<td>Manager of Communications, Association of BC Forest Professionals</td>
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<tr>
<td>Glenn Ricketts</td>
<td>Director, BC Ministry of Forests, Aboriginal Affairs</td>
</tr>
<tr>
<td>Dr. Richard Vedan</td>
<td>Director, UBC First Nations House of Learning</td>
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<tr>
<td>Peggy Smith</td>
<td>First Nation Instructor, Lakehead University</td>
</tr>
<tr>
<td>Dr. Ronald Troper</td>
<td>Director, Native American Forestry Program, Northern Arizona University</td>
</tr>
<tr>
<td>Ross Hunt</td>
<td>Community member &amp; First Nation artist, Kwaltul Nations</td>
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The goal of the Forest Management Institute of British Columbia (FMIBC) is to improve forest management planning and practices in BC through advanced continuing education. To meet this goal, the Institute offers the following programs to operational forest resource practitioners:

- **UBC Diploma in Forestry (Advanced Silviculture)** – for professional foresters and foresters-in-training – co-sponsored by the Faculty of Forestry.
- **UBC Diploma in Forest Engineering** – for professional foresters, engineers and geoscientists (and professionals-in-training) – co-sponsored by the Faculties of Forestry and Applied Science (Civil Engineering).
- **Silviculture Technical Program** – for forest technologists and technicians.

Both professional diploma programs consist of six intense 7-10 day modules of advanced continuing education delivered to practising professionals employed by industry, government and consulting from all parts of the province. Instructors, many of whom volunteer their time to the Institute, are drawn from academia, government, industry and consulting and are chosen for their extraordinary knowledge and expertise in a particular subject area.

Thanks to all our many volunteers and other supporters from UBC, the Ministry of Forests, the forest industry, UNBC, the Canadian Forest Service, the Association of BC Forest Professionals and the Association of Professional Engineers and Geoscientists of BC for helping us to achieve our 18th year of excellence.

### ACHIEVEMENTS IN 2003–04

**FMIBC participants by program 2003–2004**

We were pleased to welcome the following alumni to our ranks of graduates:
- 4 new silviculture diploma graduates join 268 other alumni
- 16 new forest engineering graduates join 36 other alumni
- 6 silviculture technical graduates join 48 other alumni

We now have a total of 378 FMIBC alumni.

Declining enrolments in all three programs continued to be a big concern to the Board of Directors. We continued to attempt to build support and attract funding for a new program in Sustainable Forest Management to be offered in flexible delivery formats to a broad audience of natural resource practitioners. Unfortunately, due to low enrolments and lack of committed outside funding for existing and new programming, the Board of Directors was forced to put the Institute “on ice”. Effective July 31, 2003, the staff were laid off and the office was closed. Arrangements were made with students who had outstanding modules to complete them on an individual basis, working with Module Leaders.

### FMIBC Board of Directors

<table>
<thead>
<tr>
<th>Directors</th>
<th>Representing</th>
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<tr>
<td>R.E. Carter, Chair</td>
<td>BC Forest Industry</td>
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<tr>
<td>W.K. Mitchell, Vice Chair</td>
<td>Ministry of Sustainable Resource Management</td>
</tr>
<tr>
<td>A.W.J. Sinclair, Secretary-Treasurer</td>
<td>Forest Engineering Research</td>
</tr>
<tr>
<td>D.A. Dobson, Past Chair</td>
<td>Association of Professional Engineers and Geoscientists of BC and Consulting Engineers/Geoscientists</td>
</tr>
<tr>
<td>R. Archibald</td>
<td>Ministry of Forests</td>
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<tr>
<td>G. Baskerville</td>
<td>University Forestry Education</td>
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<tr>
<td>R.J. Fannin</td>
<td>University Civil Engineering Education</td>
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<tr>
<td>O.F. Weetman</td>
<td>University Forestry Education</td>
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### FMIBC Staff

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<tr>
<th>Joanne D. Pickford</th>
<th>Program Manager</th>
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**PLANS FOR 2004–05**

The Board of Directors will continue to work towards the following goals:
- Advocacy for advanced continuing education in natural resources (funding and enrolment).
- Development of the new SFM curriculum.
- Conversion of programs into flexible, distance education delivery formats.
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Younes Allia

Dennis Bendickson

Gary Bull

Jonathan Fannin

Sumeet Gulati

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John Innes

Valerie LeMay

Kevin Lyons

Peter Marshall

Michael Meitner

Dan Moore

John Nelson

Stephen Sheppard

David Tait

David Tindall

Markus Weiler

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HOGAN, Dan
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ACHIEVEMENTS IN 2003–04

- Recruited Dr. Markus Weiler, FRBC Chair in Forest Hydrology.
- Recruited Dr. Nicholas Coops as a Canada Research Chair in remote sensing.
- Dr. Jonathan Fannin received the University \textit{Killam Teaching Prize} for Applied Science.
- Implemented the fourth year of the new B.S.F. program, including a new integrated course in sustainable forest management.
- Drs. Sheppard and Weiler received NSERC research grants. Drs. Alila, LeMay, Lyons, Meitner and Nelson received ongoing NSERC funding.
- Dr. Valerie LeMay received the University \textit{Killam Teaching Prize} for Forestry.
- Dr. John Nelson was awarded a large SFM grant. Drs. Bull, Hoberg, Sheppard, Meitner and Tindall collaborated on various large SFM grants.
- Dr. Younes Alila was awarded the UBC \textit{Izaak Walton Killam Memorial Faculty Research Fellowship}.
- Dr. Aila hosted an international workshop on “Effect of Timber Harvesting and Roads on Small vs. Large Peak Flows.” He also organized the first “Distributed Hydrology Soil Vegetation Model Users Group” Meeting.
- Dr. Hoberg hosted a workshop “First Nations and Sustainable Forestry: Institutional Conditions for Success.”

PLANS FOR 2004–05

- Help develop the next stage of the Faculty’s First Nations Initiative with the appointment of Dr. Ronald L. Troper, effective July 1, 2004.
- Recruit for a faculty position in Forest Resources Economics to replace Dr. David Haley, who is retiring in December.
- Revise the Forest Resources Management curriculum to increase flexibility and enrolment.
- Dr. Alila will co-chair of the 8th International Conference on Precipitation in Vancouver, B.C.
- Dr. Innes will host a workshop “Monitoring Effectiveness of Biological Conservation.”
- Dr. John Nelson will co-host a conference with FERIC, “International Mountain Logging Symposium.”
- Drs. Haley and Hoberg will co-host an international conference on the consequences of different types of forestland ownership.
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Research Scientist

WELLS, Ralph
B.Sc., M.Sc. (S. Fraser)
Research Scientist
Retirements

Dr. John Worrall retired on June 30, 2003 after 35 years of exemplary service to UBC. Of all his many achievements, perhaps the most noteworthy, and the one for which thousands of students remember him, are John’s consistent excellence in teaching, and his concern for the well-being of undergraduates. We marked the occasion with a wonderful party where we celebrated a career well spent with many stories and tributes. Though now emeritus, John can still be found in his usual haunts around the building every day.

New Faculty Appointments

Dr. Sue Grayston joined the Department as an associate professor and Canada Research Chair in Soil Microbial Ecology. She has a B.Sc. (Hons.) in microbiology and a Ph.D. in microbial ecology from the University of Sheffield in the UK. Sue then accepted a post-doctoral fellowship in the Department of Soil Science at the University of Saskatchewan researching the use of sulfur-oxidizing microorganisms to enhance canola growth. Undeterred by the harsh prairie winters, Sue then joined MicroBio Rhizogen Corp. in Saskatoon investigating the potential of microbial inoculants to enhance wheat growth. In 1993, she returned to the UK working as a principal scientist at the Scottish Government’s Macaulay Land Use Research Institute in Aberdeen developing a research program on microbial diversity in forest and grassland ecosystems. Sue’s current research interests are in soil microbial diversity, the links between soil biodiversity and ecosystem function and the interactions between plants and microbial communities through rhizosphere carbon flow.

Dr. Sarah Gergel joined the Department as an assistant professor. She has a B.Sc. from the School of Forest Resources and Conservation at the University of Florida in Gainesville, Florida, USA, and an M.S. and Ph.D. in Landscape Ecology from the Zoology Department and Center for Limnology at the University of Wisconsin-Madison. Sarah then completed a post-doctoral research position at the National Center for Ecological Analysis and Synthesis, an ecology “think-tank” in Santa Barbara, California. Her research includes the impact of river flow alterations on riparian and floodplain vegetation as well as the impact of changing land use patterns on non-point source pollution to aquatic ecosystems. She is also involved in a collaborative effort to develop a landscape fragmentation database to systematically assess landscape change in the watersheds of British Columbia.

Achievements in 2003–04

- An external department review (April 9-11) provided a strong, positive endorsement for the Department.
- Dr. Bart van der Kamp was re-appointed as department head for a further two years (January 1, 2004 - December 31, 2005).
- Dr. Kathy Martin received a Government of Canada 5NR Science Award to leaders in Sustainable Development. Dr. Martin was elected to the executive council for the American Ornithologists’ Union.
- Dr. J.P. Kimmins received a Governor General of Canada Commemorative Medal for the Golden Jubilee of Queen Elizabeth II.
- Dr. Suzanne Simard was awarded $185,715 from the Canada Foundation for Innovation to establish a Mycorrhizal Ecology Laboratory – linking belowground with aboveground indicators of forest sustainability.
- Drs. Mitchell, Richardson, and Ritland received new NSERC Discovery Grants. Drs. Aitkin, Arcese, Chanway, Guy, Hinch, Kimmins, Klinka, Martin, Mitchell and Prescott received ongoing NSERC funding.
- Drs. Hinch, Klinka, Larson, Mitchell, Richardson, Simard and van der Kamp were awarded Forest Research Program grants for a total of $1,236,743.
- Drs. Bunnell and Richardson received new NCE SFM research grants. Drs. Bunnell, Kimmins, Martin, Mitchell and Prescott received ongoing NCE SFM funding.

Plans for 2004–05

- Maintain high level of proposals to NSERC, FIA and other funding agencies.
- Develop proposals for two NSERC/Industry Chairs in Forest Protection, and possibly additional NSERC chairs as well as grant-tenured appointments.
- Explore new ways of offering the early years of the undergraduate program jointly with other units on campus (Botany, Faculty of Agricultural Sciences).
- Continue to develop the undergraduate programs in Natural Resources Conservation, Forest Science, and Forest Resources Management.
- Emphasize recruitment activities designed to attract high quality graduate and undergraduate students to the Faculty.
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YAMAURA, Dale  
Administrator

YAN, Hui Jun  
B.S. (Shandong Inst., China),  
M.A.S. (Harbin, China)  
Research Engineer

ACHIEVEMENTS IN 2003–04

• The Wood Products Processing B.Sc. program was named as the 2003/04 recipient of the Alfred Scow Award in recognition of the program’s significant positive impact on student life and development at UBC.

• The Wood Products Processing Program received its largest ever intake of 43 undergraduate students and attained a total enrollment of 103 students.

• Once again, we maintained 100 per cent placement of co-op students. Thirty-one students participated in the Co-op Program completing a total of 51 work term placements in British Columbia, Alberta, Manitoba, Ontario, Quebec, and Saskatchewan, as well as Washington State.

• The BC Forum on Forest Economics and Policy was established and Dr. Thomas Maness was appointed as the director.

• The Timber Building Technology Group was established, linking faculty and graduate students in Wood Science, Architecture and Civil Engineering. An inaugural workshop was held in the Centre for Advanced Wood Processing in March 2004.

• Dr. Philip Evans received a grant of $1 million from the Canadian International Development Agency to enhance the capacity of the University of Stellenbosch and the Port Elizabeth Technikon, South Africa, to deliver education and training in advanced wood processing.

• Dr. Rob Kozak hosted a successful workshop on ‘Challenges and Opportunities for Marketing Certified Value-Added Wood Products’ in March 2004.

• Dr. John Kadla received $330,000 from the Canada Foundation for Innovation to establish a Laboratory for Biopolymers and Biomaterials from Renewable Resources.

• Drs. Breuil and Sowlati received new NSERC operating grant funds. Drs. Avramidis, Barrett, Breuil, Kozak, Lam, Maness, Mansfield, Ruddick, Saddler and Smith receiving ongoing NSERC operating grant funding.

New Faculty Appointments

Dr. John Kadla has joined the Department of Wood Science as an Associate Professor and Canadian Research Chair (Tier II) in Advanced Biomaterials Chemistry. John received his bachelor degree in Chemistry/Biochemistry from the University of British Columbia, and his Ph.D. in Biopolymer Chemistry from North Carolina State University. After a post-doctoral appointment in the Department of Chemistry at The University of North Carolina at Chapel Hill, he joined the College of Natural Resources at North Carolina State University where he taught Wood Chemistry for 5 years. John’s research program has focused on the characterization and chemical modification of wood constituent polymers, with emphasis on developing novel value-added materials.
PLANS FOR 2004–05

- In association with the Faculty of Applied Science, we will generate matching funds for a BC Leadership Chair in Wood Building Design and Construction.

- The Department and the Centre for Advanced Wood Processing will continue to work together to improve recruitment and retention in the Wood Products Processing program.

- The faculty will continue to vigorously pursue federal and provincial funding for wood products research.

ACHIEVEMENTS
AND
PLANS

Wood Science
Department
THE Centre for Advanced Wood Processing (CWP) is Canada’s national centre for education, extension and research for the advanced wood products industries. These industries, which are generally small to medium scale enterprises (SMEs), manufacture a diverse range of products whose value greatly exceeds their raw material content. The success of such SMEs depends, in part, on their ability to effectively adapt and utilize new and manufacturing technology in order to produce the products and services that an increasingly discerning and unforgiving global marketplace requires. CWP’s role in this bigger picture is to provide industry with access to, and trained and educated students with the capacity to, lead and drive change in the industry; offer a continuing education program aimed at enhancing the skills of existing industry employees and an extension service designed to improve the manufacturing efficiency of SMEs; finally an interdisciplinary research program. In fulfilling this mandate CWP is playing an important role in the development of Canada’s forest industries and providing a model for educational-industry partnerships that institutions in many countries are seeking to emulate. CWP is funded through an endowment and cost recovery on services.

The year that has just passed had many highlights which reflect well on the talents and dedication of CWP’s cadre of faculty, staff and associates in affiliated academic departments. Notable achievements in our mandated areas of activity were: award of Alfred Scow Award to the Wood Products Processing program; growth of student numbers in the program following our largest ever intake of 43 new students; receipt of significant external support for development of distance (e-learning) education programs; formation of our first research cluster (Timber Building Technology Group); and significant strengthening of research activities. Three companies, Loewen Windows, Tembec and Viceroy Homes are supporting CWP’s programs via our recently launched industry partnership program and several machinery companies continue to provide significant in-kind support to the centre. I would like to extend my sincere thanks to all of the companies that are currently assisting our programs. The Centre’s reliance on external consultants to teach in key areas of the Wood Products Processing program declined further following the welcome development and delivery of a course on tooling and machining by instructor Robert Fürst. We now have the capacity and expertise within-house to teach all of the courses which constitute the Wood Products Processing program, with the exception of Plant Layout and Design, which will continue to be taught by Professor Heinz Köster of the University of Applied Sciences, Rosenheim, taking advantage of his unrivalled expertise in this area. Finally, I would like to thank the Board of CWP for the advice, guidance and support they have given to the Centre during the last year. Our activities and plans for the future are described below.

### Educational Programs

The Wood Products Processing program received further external recognition in the form of the Alfred Scow Award for exceptional contributions to the student experience and learning environment at UBC. This award reflects well on faculty members in the Departments of Wood Science, Mechanical and Electrical Engineering and Commerce that provide the majority of the courses in the program. Faculty funded directly from CWP’s endowment deliver twelve courses mainly concentrated in the later years of the program. Dr. Simon Ellis continued in his role of directing and managing the program. Our talented recruiter, Sandy McKellar, departed for the greener pastures of the Wood Manufacturing Council last year. Sandy has made a tremendous contribution to the program and we wish her well in her new position. Her departure was punctuated by our largest ever intake of first year students, a great tribute to her abilities as a recruiter. The number of co-op student placements in industry was up by 13%. This growth was a result of an increase in the number of students who joined the co-op program in the fall of 2002, and who represented more than 40% of the placements in 2003-04. For the eighth consecutive year, 100% of students enrolled in the co-op program were placed in industry. Industry placements were located in B.C., Alberta, Manitoba, Ontario and Quebec, as well as in the USA. CWP is committed to providing students with access to the best, state-of-the-art, wood processing and computing facilities and as part of this commitment during 2003-04 we upgraded our finishing laboratory, replaced the moulder in our machining laboratory with the latest model from Weinig, and last, but not least, installed a Hundegger K2 CNC timber processing centre. We are indebted to Weinig and Hundegger for their support and that of the many other machinery companies that are generously loaning equipment to CWP.

### Continuing Education, Communication and Extension

CWP has been highly active in continuing education and extension during the last year. The UBC Kiln Drying Certificate Program was delivered in its entirety for the first time ever, and
CAWP will award certificates to its first cohort of graduates in May 2004. Technical skills workshops in industrial wood finishing were again held in Ontario during the Fall of 2003. A major seminar was held at CAWP on March 11, 2004 to launch CAWP’s first research cluster, the Timber Building Technology Group, which attracted over 100 participants. A second seminar on Marketing Certified Value Added Wood Products organized by Dr. Robert Kozak drew an enthusiastic audience of over fifty people the following day. Other events held during 2003-04 included a workshop on wood window manufacture and performance, and a seminar on quality control of wood finishing at the Toronto Woodworking Machinery & Supply Expo. CAWP also hosted two well attended Institute of Wood Science lectures, and hosted a Jubilee Lecture. CAWP continued to assist industry through in-plant training and consulting, and two more companies (Dynamic Furniture, Calgary, and Merit Kitchens, Surrey) achieved certification through WOODMARK. Significant funding was received in 2003-04 to assist CAWP to develop distance education programs in wood products processing. A grant of CDN$1 million was awarded to the Centre by Canadian International Development Agency to enable us to assist South Africa to develop a program in advanced wood products processing. CAWP was also awarded funding by UBC’s Distance Education and Technology unit in Summer 2003 to develop a web-based course on wood finishing, and received a grant to create a Learning Objects Repository to share papers, proceedings and videotaped presentations from continuing education events with faculty and students. These activities are all linked to our strategic goal of being the global leader in providing wood products processing education to industry, and maximizing the impact and geographical reach of our programs with the resources available to us. Plans for 2004 include new technical workshops on CAD/CAM and timber building technology, as well as a repeat of the successful industrial wood finishing conference in Atlanta.

CAWP produced its second comprehensive annual report in 2003-04 and five issues of the CAWP Communication newsletter.

Research

The year that has just passed saw important progress in the area of research. CAWP was delighted to assist in the formation of the Timber Building Technology Group. This interdisciplinary group involving the Departments of Wood Science, Architecture and Civil Engineering, as well as researchers from BCIT and Emily Carr Institute of Art and Design and industry, will undertake research and develop educational programs in the field of wood building design and construction, value-added structural wood products, advanced wood processing related to building components, and technologies for advancing the use of prefabrication and automation in the wood building sector. CAWP’s graduate scholarship scheme is supporting students in the Departments of Wood Science and Mechanical Engineering, and industry is supporting additional graduate students working in areas such as surface modification of wood for improved finishing, hardness and resistance to checking, and thermal modification of colour in red alder. CAWP is managing and coordinating the UBC component of the NRCAN/CFS value-to-wood scheme which is supporting several projects on value-added wood processing including ones on: Wood quality assessment technology for value-added industries (Mansfield); Peripheral milling of MDF for value-added applications (Cramond and Romilly); Structural performance of value-added building components (Barrett, Lam, Prion and Fürst); Improving the properties of particleboard for value-added industries (Smith); Supercritical CO2 treatment of Canadian lumber (Evans) and; Timber drying quality prediction model (Avramidis). Three additional research projects on value-added wood processing, supported by NRCAN/CFS, will commence in the coming year.

PLANS FOR 2004–05

Major initiatives are planned for all of the aforementioned areas, most significantly:

• Increase industry support for CAWP by further developing our industry partnership program.
• Complete development of certificate in wood finishing and commence work on a certificate on wood products manufacturing management.
• Enhance infrastructure and teaching materials in support of CAWP’s certificate program in lumber drying.
• Develop a range of fee-for-service activities for furniture and cabinet manufacturing industries.
• Launch CAWP’s second research cluster, Surface Engineered Lumber Laboratory, including a state-of-the-art facility for modifying and characterizing wood surfaces.
• Expand the range of research activities focussing on secondary (value-added) wood processing.
• Develop a strategic plan for CAWP.
The Centre for Applied Conservation Research (CACR) was established to identify science-based solutions to complex problems within managed and natural landscapes. Founded in 1991, it has gradually broadened in scope from an initial focus purely on conservation biology to its position today where it embraces all aspects of conservation and land management, particularly in forested areas. The Centre has four broad goals. These are to:

- conduct research on applied conservation issues within both managed and natural landscapes. Research interests include issues specific to British Columbia, as well as issues of national and international significance;
- further sustainable forest management through the application of research to complex land management issues. The research assists both planning and determining the effectiveness of improved management practices;
- provide opportunities for high-calibre graduate students to work on issues that are both complex and immediately relevant. The program produces graduates who understand the many different facets of conservation problems; and
- encourage effective dialogue with people working outside the university, to ensure the continued relevance of its research and to provide people with access to the most current research information.

The activities of the CACR were severely curtailed in 2003-2004 as a result of the loss of all base funding. However, some activities have continued, as described below.

**Teaching**

A major component of the CACR is its graduate students. These talented individuals form the core of the Centre, and it is often their work that brings it recognition in scientific circles. The CACR continues to attract considerable numbers of high-quality graduates, and discussions have continued as to how we could best enhance their experience at UBC.

An initial change has been to switch our annual symposium from the spring to the fall. This means that newly-arrived graduate students will be able to attend the symposium and will get an immediate taste of the diversity of the research currently being undertaken through the Centre. Organized by Dr. John Richardson, the 2003 symposium took place on September 13. External speakers included:

- Dr. Mark Boyce (University of Idaho),
- Dr. Evelyn Merrill (University of Alberta) and
- Dr. Steve Ormerod (Cardiff University, Wales).

Local speakers included:

- Erin McGuigan, Carin Bondar,
- Dr. Suzanne Simard, Nicole Klenk,
- Dr. Susan Grayson, Dr. Sarah Gergel,
- Washington Gapare, Dr. Glenn Wagner and
- Dr. Peter Arcese.

In early 2004, M.Sc. student Alana Hilton established a discussion group intended to encourage dialogue amongst graduate students and Faculty members. This has covered subjects such as incentive-driven conservation, introduced species, climate change and problem...
solving. This particularly valuable initiative is likely to grow as more and more people become aware of it. The schedule of meetings for the 2004-2005 academic year will be available at the discussion website at: http://www.forestry.ubc.ca/consgroup/.

Alana Hilton also organized an excellent series of seminars during the first term of the 2003-04 Winter Session. These guest speakers visit the campus to provide information on conservation issues of topical interest and include speakers from a range of different universities in Canada and the USA. The series was continued into the second term as a part of CONS 500, with this year’s program organized by Dr. Sue Grayston. The seminars have become an excellent opportunity for graduate students to become familiar with important issues in conservation locally, nationally and internationally.

In February, Drs. Martin and Arcese organized a workshop on recent developments and applications for resource selection models in wildlife ecology, with introductory lectures by Mark Boyce and Evelyn Merrill for graduate students and government biologists.

- Communication

Following the successful public forum on the potential impacts of aquaculture on the conservation of wild salmon, a second forum was held in April 2004. This forum was the topic “Are we harvesting our forests in B.C. sustainably?” While less well attended than the aquaculture forum, it attracted a considerable number of participants, and generated some strong discussion. Speakers included Dr. Clive Welham (UBC), Dr. Ken Lertzman (Simon Fraser University), Dr. Bill Bourgeois (Lignum Ltd.), Ms. Melanie Boyce (B.C. Ministry of Forests) and Mr. Jay Rastogi (The Land Conservancy and Wildwood Forest).

As a result of a grant from the B.C. Ministry of Water, Land and Air Protection, plans are well underway for an international conference to be held in Vancouver on November 1-5, 2004 on the subject of “Monitoring the effectiveness of biological conservation”. This conference is being jointly organized by the CACR, the US Forest Service, Division 8 of the International Union of Forest Research Organizations, the Smithsonian Institution (Monitoring and Assessment of Biodiversity Program) and the B.C. Ministries of Forests and Water, Land and Air Protection. Further details are available at: http://fcscn.bc.ca/conferences/mebc/index.html.

Another grant from the same source enabled Dr. John Richardson to organize an international meeting at UBC in May 2003 on “Biomonitoring: A decision support tool for resource management”.

Dr. Martin completed a set of extension notes on mountain ecology and conservation entitled: “The State of Ecological and Earth Sciences in Mountain Areas” produced by CACR in cooperation with Environment Canada, the Banff Centre and UBC. See www.forestry.ubc.ca/alpine/highlights.

ACHIEVEMENTS IN 2003–04

- Further development of regional biodiversity teams in British Columbia and major input into the development of effectiveness monitoring in B.C.
- Continued participation in many species recovery teams.
- Organization of a public forum on sustainable forest harvest levels in British Columbia.
- Increased cooperation with the B.C. Ministry of Water, Land and Air Protection.
- Participation in the development of the new Sustainable Forestry Initiative certification standard.
- Participation in, and chairing of, an international workshop on the Northern Spotted Owl.
- Co-chairing of the Premier’s Summit on the Mountain Pine Beetle.
- Participation in, and chairing of, Scientific Advisory Group, Vancouver Island Marmot.

PLANS FOR 2004–05

Plans for 2004-2005 remain uncertain because of continuing funding challenges. However, a number of exciting developments are currently being discussed and some of these may well come to fruition in 2004-05. In particular, we will be concentrating on improving the experience of graduate students in conservation, including promoting the seminars, discussion group, and other forms of interaction both within the Faculty and across the campus.
THE Faculty of Forestry operates three Research Forests: the Malcolm Knapp Research Forest (Knapp Forest) near Maple Ridge on the coast, the Alex Fraser Research Forest (Fraser Forest) near Williams Lake in the central interior of B.C., and the Aleza Lake Research Forest (Aleza Forest), near Prince George (jointly operated with the University of Northern British Columbia).

The mission of the Research Forests is to support the Faculty of Forestry in serving the people of B.C. through teaching and research. This is accomplished by hosting research from a variety of disciplines in order to create teaching opportunities for students from UBC, other post-secondary institutions, and continuing education programs.

The location of the forests, covering eight diverse biogeoclimatic subzones and three tenure systems, offers a variety of research and education opportunities.

**ACHIEVEMENTS IN 2003–04**

**MALCOLM KNAPP FOREST**

**Paul Lawson**  
B.Sc., B.M.A., R.P.F.  
Manager  
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- Initiated fifteen new research projects.
- Employed two recent graduates in 4-month internship positions.
- Increased Loon Lake facility use to 9,900 visitor days in 2003.
- Hosted courses in the Faculty’s Spring Field School, Conservation Field School, and the Year III Integrated Term.
- Hosted the first Summer Forestry Camp for First Nations Youth at Loon Lake.
- Signed a 35-year agreement with the Canadian Cancer Society to make Loon Lake the permanent home for Camp Goodtimes, an annual 5-7 week event for children age 6-16 who have been diagnosed with cancer. In consideration of their use of the facility, the Canadian Cancer Society have made a $1 million contribution toward the redevelopment of the facility. This contribution will enable construction of substantial new accommodation and meeting space at the facility.
- As part of a design/build course with the UBC School of Architecture, architecture students designed and built a new deck on the dining hall at Loon Lake.
- Continued silviculture operations with surveys on 50 ha, commercial thinning on 44 ha, brushing on 12 ha, and planting of 19 ha.

**ALEX FRASER FOREST**

**Ken Day**  
B.Sc.F. (Forest.), M.F., R.P.F.  
Manager  
E-mail: ken.day@ubc.ca

- Initiated seven new research projects.
- Recorded 675 contact days of extension activities, including field schools (UBC and UNBC), primary and secondary school students and teachers, and practitioners.
- Hosted two international interns from Germany, as well as one volunteer intern from Canada.
- Hosted four student volunteers (during reading week) to gain field experience.
- Employed two recent graduates in positions ranging from eight to eleven months.
- Participated in an ecosystem mapping project (in partnership with FMI in Czech Republic) led by Karel Klinka, and supported by FII. Detailed maps at 1:10,000 scale with interpretive materials will improve understanding of site classification and identification, and will support our teaching, research and management.
- Completed development and extension of FII-funded modules for managers of small woodlots.
- Completed a FII-funded project to study harvest practices, fire hazard, timber values and ecosystem response in over-stocked dry forests. A technical report is available.
- Participated in a project to develop a new method for determining stocking status on partially cut stands.
- Increased silviculture operations with planting of 50 thousand trees on 55.3 ha, surveys on 50 ha, pre-commercial thinning on 28 ha, and post-harvest site preparation on 57 ha.
- Worked with Aleza Forest and John Prince Forest (UNBC/T'uzt'en Nation) to develop new tenure documents for all crown-land research forests in BC.
- Built 2 km of forest road and one bridge.
ALEZA LAKE FOREST

Michael Jull
B.S.F., M.Sc., R.P.F.
Manager
E-mail: julm@unbc.ca

- Six new research projects were initiated.
- The Aleza Forest welcomed Project Coordinator Melanie Karjala, who commenced duties May 2003.
- Wildlife inventory and monitoring program initiated by research forest staff.
- Management Plan approached completion.
- 19 km of roads graded and improved and two stream crossings replaced.
- Initiated an inventory of past projects for the research forest - over 200 plots and experimental sites have been identified.
- Designed and launched a new website (http://research.foress.unbc.ca).
- Initiated and hosted a grade eight science field trip program with local school district.
- Employed university grads and undergrads on terms ranging from 4 months to 1 year.

Research Forests harvesting 2003

<table>
<thead>
<tr>
<th>Method</th>
<th>Knapp Forest</th>
<th>Fraser Forest</th>
<th>Aleza Forest</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logging</td>
<td>14458m³</td>
<td>5239m³</td>
<td>13055m³</td>
<td>32717m³</td>
</tr>
<tr>
<td></td>
<td>18.7 ha</td>
<td>10.7 ha</td>
<td>40.9 ha</td>
<td>70.3 ha</td>
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<tr>
<td>Commercial Thinning/Partial Cutting</td>
<td>10339m³</td>
<td>10755m³</td>
<td>66.1 ha</td>
<td>21904m³</td>
</tr>
<tr>
<td>Salvage</td>
<td>4985m³</td>
<td></td>
<td></td>
<td>4985m³</td>
</tr>
</tbody>
</table>

Knapp Forest utilized a variety of harvest methods in 2003 including mechanized feller/processor, multi-span skyline, and helicopter. Silvicultural systems ranged from clearcut with reserves to patch cuts and variable retention. Commercial thinning continued to be the major proportion of the area under operations.

Bark beetles continued to drive Fraser Forest harvest programs with mountain pine beetle in epidemic conditions, and spruce beetle and Douglas-fir beetle damage increasing. Silvicultural systems included group shelterwood, single-tree selection, irregular shelterwood, and clearcut with reserves.

Timber harvesting at the Aleza Forest focuses primarily on the productive sub-boreal spruce-subalpine fir forest typical of much of the Central Interior. Winter harvesting entries in 2003 incorporated various techniques for retention of vertical stand structure and wildlife trees within harvested areas. Silvicultural systems included a clearcut system and strip-cut systems.

PLANS FOR 2004–05

Malcolm Knapp Forest
- Begin construction of the new accommodation buildings and amphitheater at Loon Lake.
- Hold the 20th anniversary of Canadian Cancer Society’s Camp Goodtimes at Loon Lake.
- Install a major research project on stand density in conjunction with a conference on density and wood quality relationships.
- Host the field day for the Mountain Logging Conference in conjunction with FERIC.
- Publish a book entitled “Innovation and Discovery: A Legacy of 50 Years at the UBC Malcolm Knapp Research Forest”.
- Develop and host a database of research for all of the research forests in B.C.

Alex Fraser Forest
- Develop a new tenure arrangement for the Forest in cooperation with government and senior administration at UBC and UNBC.
- Revise Management and Working Plan including a new yield analysis.
- Continue development and testing of methods for determining stocking status in partially cut stands.
- Re-measurement of Peter Marshall’s permanent sample plots at Knife Creek under Forest Sciences Program funding.
- Host student volunteers during reading week for work experience.

Aleza Lake Forest
- Complete Management Planning process and public consultation phase.
- Address spruce beetle infestations.
- Plan and layout single-tree and group selection harvest entries.
- Complete upgrade of weather stations.
- Continue wildlife and fish inventory programs.

FOREST STAFF

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Research Forester
Alex Fraser Research Forest
E-mail: claire.trethewey@ubc.ca

Melanie Karjala
B.A. (Geog), MNRES
Project Coordinator
Aleza Lake Research Forest
E-mail: karjala@unbc.ca
ALONGSIDE 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.

**AITKEN, S.N.**
- Member, Forest Genetics Council (FGC).
- Chair, FGC Coastal Technical Advisory Committee.
- Member, FORREX Ecosystem Management and Conservation Biology Working Group.

**ALI-LA, Y.**
- UBC Izak Walton Killam Memorial Faculty Research Fellowship, 2003.
- Editors’ Citation for Excellence in Refereeing for Water Resources Research.
- Chair, Eighth International Conference on Precipitation Organizing Committee.
- Chair, DHSVM Users Group.

**ARCESE, P.**
- Councilor, American Ornithologist’s Union.
- Editor, Journal of Avian Biology.
- Member, IUCN Antelope Specialist’s Group.
- Member, American Ornithologists: Captive Breeding and Reintroduction.

**BARRETT, J.D.**
- Chair, CSA 086 Sawn Lumber Sub-committee.
- Member, CSA 086 Code for Engineering Design in Wood.
- Chair, ISO TC165 Working Group 5 Characteristic Values Committee.
- Member, Forest and Lumber Association Applied Research Program Committee.
- Member, Architectural Institute of Japan.
- Member, Editorial Board, Journal of Tropical Forest Products.
- Member, American Society for Testing and Materials.
- Member, International Committee for Building Materials Research and Documentation (CIB W18).
- Member, IUFRO Timber Engineering Committee.

**BOHLMANN, J.**
- Member, Genome BC Science Advisory Committee.
- Member, Scientific Advisory Board Arborea Genome, Quebec.

**BUHL, G.Q.**
- Member, IUFRO Committee, Information Technology Working Group.
- Scientific Advisor, International Centre for Carbon Sequestration and Biomass Energy.
- Member, Society for Teaching and Learning in Higher Education.
- Member, Canadian Advisory Committee on Climate Change, Working Group #5, Canadian Standards Association.
- Member, Criteria and Indicators Technical Working Group #5, Canadian Council of Forest Ministers.
- Member, Pacific Rim Forest and Trade Group.

**EVANS, P.D.**
- Adjunct Professor, Australian National University.
- Member, Wood Manufacturers Council of Canada.
- UBC Representative, NRCAN/CFS Value to Wood Research Advisory Committee.

**FANNIN, R.J.**
- University Killam Teaching Prize, Faculty of Applied Science (2003-04).
- R.M. Quigley Award (Honourable Mention), Canadian Geotechnical Society.
- Member, Canadian Council of Professional Engineers Accreditation Committee on Forest Engineering.
• Member, Board of Directors, Forest Management Institute of British Columbia.
• Associate Editor, Canadian Geotechnical Journal.

GERGEL, S.E.
• Member, Strategic Planning Committee, International Association for Landscape Ecology – US Chapter.
• Member, Foreign Scholar Travel Award Committee, International Association for Landscape Ecology – US Chapter.

GRAYSTON, S.
• Royal Society of London, International Visiting Fellowship.
• Associate Editor, Canadian Journal of Forest Research.
• Member, College of Reviewers, Canada Research Chairs Program.

GUY, R.D.
• Vice President, Canadian Society of Plant Physiologists.
• Managing Editor for the Americas, TREES Structure and Function.
• Member, College of Reviewers, Canada Research Chairs Program.

Haley, D.
• Member, Minister of Forests, Community Forestry Advisory Committee.

HOBEGG, G.
• Research Area Leader, Policy, Sustainable Forest Management Network.
• Member, Editorial Advising Board, Landscape and Urban Planning.

INNES, J.I.
• Member, Interdisciplinary Committee, World Cultural Council.
• Chair, IUFRO 2005 Congress Scientific Committee.
• Chair, IUFRO Task Force on Environmental Change.
• Member, IUFRO Executive Board.
• Member, IUFRO Publications Committee.
• Member, IUFRO Science Committee.
• Member, IUFRO Congress Bidding Rules Ad Hoc Committee.
• Member, IUFRO Policy Committee.
• Member and 2003 Host, Organising Committee, North American Air Pollution Workshop.
• Chair, Ecological Committee EE2, Air and Waste Management Association.
• Member, IUFRO Task Force on the Role of Forests in Carbon Cycles, Sequestration and Storage.
• Chair, Interim Steering Group, Global Forest Information System.
• Member, Resource Committee, Sustainable Forestry Board.
• Member, Drafting Committee, Sustainable Forestry Board.
• Chair, Mutual Recognition Task Force, Sustainable Forestry Board.
• Member, Editorial Advisory Board, Encyclopedia of Forest Sciences (Academic Press).
• Member, Editorial Board, BC Journal of Ecosystem Management.

KADLA, J.F.
• Chairman, TAPPI Wood Chemistry and Biotechnology Committee.
• Secretary, Executive Committee, ACS CELL Division.
• Member, ISWPC Scientific Program Committee.
• Associate Editor, Holzforschung.

KIMMINS, J.P.
• Member, International Scientific Advisory Panel on the Coastal Forestry Project.
• Member and past Chair, Saskatchewan Forest Impacts Monitoring Science Advisory Board.
• Member, UNESCO World Commission on the Ethics of Science and Technology (COMEST)
• Member and UNESCO COMEST Representative on the UNESCO Ethics of Environment Committee.
• INTERFOR Scientific Advisor on Partial Harvesting and Forestry Practices.
• Member, Citizens Advisory Board on Certification.

KOZAK, R.A.
• Fellow, Institute of Wood Science.
• Chair, ABCFP Biometry Standards Subcommittee.
• Associate Editor, Journal of Forest Products Business Research.

LAM, F.
• Member, Canadian Advisory Committee of ISO TC 165 Timber Structures.
• Member, American Society for Testing and Materials ASTM Committee D-7 on Wood.

LeMAY, V.M.
• University Killam Teaching Prize, Faculty of Forestry (2003-04).
• Deputy Chair, IUFRO 4.02 (Experiments) Working Group.
• Member, Technical Review Panel, Washington Dept. of Natural Resources, State Trust Lands, Sustainability Calculations.
• Associate Editor, Canadian Journal of Forest Research.
• Associate Editor, Forest Science.
• Associate Editor, Forestry Chronicle.

LYONS, K.C.
• Member, Organizing Committee, 2004 International Mountain Logging Conference, IUFRO S3.06.00.

MANSFIELD, S.D.
• Publicity Chair, Cellulose and Renewable Materials Division of the ACS.
• Member, Poplar Council of Canada.
• Member, Wood Products and Utilization Task Leader for the Poplar Council of Canada.
• Member, Executive Committee, Cellulose and Renewable Materials Division of the ACS.
• Member, Editorial Board, Holzforschung.
• Member, International Scientific Committee for Biotechnology in the Pulp and Paper Industry.
• Member, Editorial Board, Journal of Industrial Microbiology and Biotechnology.

MARSHALL, P.L.
• President, Association of B.C. Forest Professionals (ABCFP).
• ABCFP Representative, Canadian Federation of Professional Forestry Associations.
• Member, Can. Forestry Accreditation Board.
• Associate Editor, Forestry Chronicle.
• Forestry Advisory Committee, Malaspina University College.
• Member, Advisory Committee to the UNBC Forest Resources Curriculum Committee.

MARTIN, K.M.
• 5NR Science Award to Leaders in Sustainable Development.
• Associate Editor, Canadian Journal of Forest Research.
• Associate Editor, Wildlife Biology.
• Canadian Representative to IUCN/ICBP Specialist Group for Galliformes Committee.
• Chair, NSERC Grant Selection Committee, Ecology and Evolution.
• Elected as Canadian Member, International Ornithological Congress.
• Councilor, American Ornithologists’ Union.
• Member, Wildlife Society Program Committee for 2004 Annual Meeting.
• External Evaluator, Biology Graduate Program, University of Laval.

McFARLANE, P.N.
• International Member, Review Committee of Wood KPLUS, Austria’s National Centre of Excellence in Wood Processing.
• Fellow, Institute of Wood Science.
• Member, Editorial Board, Appita Journal.
• Member, Sustainable Forest Management (SFM) Network Research Advisory Committee.
• Member, CFI Council’s Value Chain Approach to Cost Cutting Task Force.

• Member, SFM Network Management Team.

• SFM Network Research Area Leader – Value Added/Alternative Products.

McLEAN, J.A.
• President, UBC Chapter 696 Sigma Xi.

• Member, B.C. Plant Protection Advisory Council.

MITCHELL, S.J.
• Chair, ABCFP Silviculture Academic Standards Sub-committee.

• Member, Scientific Committee; Chair of Biomechanics Session, International Conference on Wind Effects on Trees, Karlsruhe, Germany.

• Adjunct Professor, Department of Wood and Forest Sciences, University of Laval.

• Chair, Fluid Dynamics Session, International Plant Biomechanics Conference, East Lansing, Michigan.

MOORE, R.D.
• Past President, Canadian Geophysical Union Hydrology Section.

• Jr. Representative for Canada to the International Association for Hydrological Science (IAHS).

• Secretary, Can. National Committee for IAHS.

• Guest Editor, Hydrological Processes.

• Guest Associate Editor, Canadian Journal of Forest Research.

• Member, Technical Review Committee, Streamline.

NELSON, J.D.
• Co-Chair, IUFRO S3.06. International Mountain Logging Symposium Planning Committee.

• Deputy Coordinator, IUFRO S4.04.10 Sustainable Harvest Scenarios.

PRESCOTT, C.E.
• Editor, Canadian Journal of Forest Research.

• Alternate Member, FIA Forest Science Board.

PRION, H.G.I.
• 2003 Teaching Award for Excellence in Geoscience and Engineering Education, Association for Professional Engineers and Geoscientists of BC (APEGBC).

• 2003 Environmental Award, (APEGBC).

• Associate Editor, Canadian Journal of Civil Engineering.

• Member, Woodworks Provincial Steering Committee.

• Member, Board of Directors, Canadian Wood Council.

• Member, CSA-086 Timber Design Code Sub-committee on Connections and Task Group on Seismic Design Awards.

OFFICES, AWARDS AND DISTINCTIONS

RICHARDSON, J.S.
• Chair, North American Benthological Society – Trustees.

• Chair, Organizer for 2004 North American Benthological Society Meeting.

• Co-Chair and Member, Oregon Spotted Frog Recovery Team (COSEWIC – endangered).

• Member, Technical Committee, South Okanagan-Similkameen Conservation Program Scientific.

• Member, Scientific Advisory Committee, Kenai River Watershed Studies Program, Alaska.

• Member, Rocky Mountain Tailed Frog Recovery Team.

• Member, Coastal Giant Salamander Recovery Team.

• Member, Freshwater Fishers of B.C. Recovery Team.

• Associate Editor, Journal of North American Benthological Society.

• Guest Associate Editor, Canadian Journal of Forest Research.
RITLAND, K.
- Associate Editor, Forest Genetics.

RUDDICK, J.N.R.
- President of American Wood Preservers Association.
- Executive of International Research Group on Wood Preservation.

SADLER, J.N.
- Editor, World Journal Microbiology and Biotechnology.
- Associate Editor, International Microbiology and Biotechnology Journal.
- Member, BCMoELP Wood Ethanol Technology Committee.
- Task Leader, IEA Biotechnology Network.
- Member, USDOE Biofuels Review Program.

SHEPPARD, S.R.J.
- SAPLING Sustainability Gateway Commendation for CALP website.
- Member, Steering Committee, International Association for Society and Resource Management, Vancouver, B.C.
- Visiting Scholar, Green College, Oxford University, UK.
- Member, Technical Advisory Board, Northmoor Trust Future Landscape Project, UK.
- Member, Scientific Board, Laser-Scanners for Forest and Landscape Assessment, Freiburg, Germany.
- Member, Editorial Advisory Board, Landscape and Urban Planning.
- Member, Editorial Advisory Board, Encyclopedia of Forest Sciences, Oxford, UK.
- Member, American Society of Landscape Architects.

SIMARD, S.
- Associate Editor, Canadian Journal of Forest Research.
- Member, FORREX Forest Resources Dynamics Working Group.

SMITH, G.D.
- Associate Editor, Institute of Wood Science.
- Member, Society of Wood Science and Technology.
- Member, Forest Products Society.

SOWLATI, T.
- Member, Institute of Wood Science.
- Member, Canadian Operational Research Society.
- Member, Forest Products Society.

WATTS, S.B.
- Member, ABCFP Biometry Academic Standards Committee.

WOOD, P.M.
- Member, National Recovery Team for Stickleback Pairs in British Columbia.
- Member, National Recovery Team for Salish Sucker and Nooksack Dace.
Our extramural funding remained at an all-time high ($11,379,000), which is 180% of our annualized net operating budget. We gained two Tier II Canada Research Chairs (Drs. Grayston and Kadla). Five faculty members received funds from the Canada Foundation for Innovation, with matching funds from the BC Knowledge Development Fund, to assist them in setting up the following laboratories:

- Surface Engineered Lumber Laboratory (Evans)
- Soil Microbial Ecology Laboratory (Grayston)
- Integrated Laboratory for Biopolymers and Biomaterials (Kadla)
- Mycorrhizal Ecology Laboratory (Simard)
- Bioprocessing Centre for Sustainable Fuels (Saddler)

Tri-Council funding again formed just over 26% of our extramural funding in 37 grants to individual faculty members. Several other federally-supported enterprises such as the Sustainable Forest Management NCE, the CFS/NSERC/SSHRC/Industry partnership program, BIOCAP Canada Foundation and the CFS Mountain Pine Beetle Initiative support our research.

Provincial funding comprised about 29% of our extramural research funding. Twenty awards from Forestry Innovation Investment Ltd. to individual faculty members contributed over $1.4 million. Grants, agreements and contracts with the BC Ministry of Forests, Ministry of Water, Land and Air Protection and Ministry of Sustainable Resource Management contributed another $680,000. The forest industry continues to strongly support our research, with more than $1.6 million contributed to our research efforts in 51 grants from 31 different forest companies and institutions.

Finally, contributions from international sources more than doubled this year and now constitute 7% of our research budget.

We also received endowed income of $1,980,942 for 2003/04. This funding is provided from endowments originally set up by Forest Renewal BC in support of five Chairs in the Faculty and private sources.

The past year saw the development of new research clusters in the Faculty of Forestry: Timber Building Technology Group, Background Ecosystem Group, and Collaborative for Business Operations Management, in addition to existing clusters: Collaborative for Advanced Landscape Planning (CALP), Forest Economics and Policy Analysis (FEPA), Centre for Advanced Wood Processing (CAWP) and Centre for Applied Conservation Research (CACR).

UBC Forestry also hosts the Forestry Genomics Project funded by Genome BC.

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<th>Extramural funding sources 2003/04 (excluding endowments)</th>
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<tr>
<td><strong>Source</strong></td>
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<td>International</td>
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<td><strong>Total</strong></td>
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Details of individual faculty research funding are listed on the following pages.
The following list reflects research funding obtained between April 1, 2003 and March 31, 2004.

S.N. Aitken
- Junior Industrial Research Chair in population genetics (NSERC/Industry $50,659)
- Adapting forest genetic resource management to climate change (BIOCAP/NSERC $117,798)
- Proposal to establish a Centre for Forest Gene Conservation at the University of British Columbia (BCCoF $203,000)
- Adaptation and gene flow in conifers (NSERC $16,000)

Y. Alika
- Effects of forest management on streamflows (NSERC $24,000)
- Effects of varying logging rates on streamflow in Upper Penticton Creek Watershed Experiment (BCCoF $36,000)
- Tsitika River sediment budgets project: Effectiveness evaluation of road deactivation at Russell Creek using a sediment budget approach (BCCoF $37,000)
- Upper Nahmint WRIP (Weyerhaeuser Canada $15,000)

P. Arcese
- Southern Gulf Island plant survey (Parks Canada $7,000)
- Genetics and conservation of island bird populations and capital upgrades to Mandarte Island research camp (Donation $20,000)
- The population demography and genetics of island birds (NSERC $39,500)
- Development of monitoring methods for the marbled murrelet (BCCoF/W&LP $50,000)

S. Avramidis
- Fractal characterization of the structure and water sorption characteristics of wood (NSERC $27,000)
- Hem-fir stability and moisture class assessment (Coast Forest and Lumber Assoc. $78,750)
- Timber drying quality prediction model (CFS $76,125)

J.D. Barrett
- Reliability of wood products (NSERC $22,000)
- Engineering properties manual (Coast Forest and Lumber Assoc. $10,000)
- Engineering properties of yellow cedar and Sitka spruce (Coast Forest and Lumber Assoc. $35,000)
- Structural performance of value-added building components (CFS $77,575)
- Engineering properties of BC coastal timbers (Coast Forest and Lumber Assoc. $90,000)

J. Bohlmann
- Strategies to improve genetic resistance to white pine weevil attack in spruce (co-investigator) (NSERC $67,150)
- Comparative biochemical and molecular studies of isoprenoid biosynthesis in pines and pine bark beetles (co-investigator) (International Human Frontier Science Program Organization $163,238)
- Forestry Genomics Project (co-investigator) (Genome B.C. $1,628,852)
- Bovine Genome Project—facility use charges at UBC (Genome Prairie $45,000)
- The mountain pine beetle epidemic: Strategies for improvement of pine host defense and reduction of fitness of beetle-associated fungi (NSERC $150,025)
- Terpenoid defenses in spruce (Picea spp.) (NSERC $48,000)

C. Breuil
- Molecular diagnostics of Ophiostoma and related fungi affecting international trade and causing tree diseases (NSERC $128,250)
- Genomics of Ophiostomatoid fungi (NSERC $30,000)
- Role of the proteinases in fungal growth and pigmentation on wood (NSERC $18,000)
- Role of extractives depletion and fungal colonization in the failure of old and second-growth western red cedar wood products (NSERC $79,825)
- Fitness and pathogenicity of the fungi associated with the MPB and other secondary beetle in green attack (NRC $80,913)
- Phytosanitary risks associated with MPB-killed trees (NRC $11,550)
- The mountain pine beetle epidemic: Strategies for improvement of pine host defense and reduction of fitness of beetle-associated fungi (NSERC $25,325)
G.Q. Bull
- Assessing the impacts of forest certification on Canadian value-added wood products businesses (NCE $28,500)
- Forest management to promote environmental services (Iisak Forest Resources $30,000)
- Forest carbon management project (NRC $12,000)
- Community-company relationships and partnerships in the forest industry (Forest Trends Assoc. $11,916)
- Institutional development of a domestic emission trading system that includes carbon offsets from the agriculture and forestry sectors (Biocap Canada Foundation $16,750)
- Forest market research in China (Forest Trends Assoc. $15,135)
- Establishing targets and trajectories for selected ecological indicators in the SFM planning process of Iisak Forest Resources Ltd., a First Nations-led forest products company (IISAK Forest Resources Ltd. $35,490)
- Ecosystem groupings for representation in the West Kootenays (BCMoSRM $12,600)

C.P. Chanway
- Nitrogen balance in pine forests: Evaluation of two possible missing links (NSERC $38,000)

D.H. Cohen
- Assessing the impacts of forest certification on Canadian value-added wood products businesses (co-investigator) (NCE $28,500)
- Benchmarking Chinese building specifiers (BC Wood $20,000)
- Forest market research in China (Forest Trends Assoc. $15,135)
- Benchmarking study of the Canadian wood products sector in a global context (NRC $80,000)
- Technology for full exploitation of wood (International Environmental Inst. $143,935)

P. Cramond
- Surface quality of MDF for value-added industries (co-investigator) (CFS $59,000)

F.L. Bunnell
- A bioregional assessment of sustainable forest management for the boreal plains (NCE $38,800)
- Developing regional biodiversity indicator models and tools to assess forest practices in coastal British Columbia (NCE $32,750)
- Applying avian indicator models in forests of northeastern British Columbia (NCE $38,000)
- East Kootenay representation analysis, 2003-04 (Slocan Forest Products/ Tembec Industries Inc. $43,407)
- Applying avian indicators in the forests of northeastern BC (Canadian Forest Products Ltd. $20,000)
- A bio-regional assessment of sustainable forest management in the boreal plains (Canadian Forest Products Ltd. $12,500)
- Refining sustainable forest management in British Columbia (BCMoSRM $400,000)
- Integrating silvicultural control of mountain pine beetle with wildlife and sustainable forest management objectives (CFS $108,740)
- Development of provincial standards for monitoring effectiveness of biodiversity conservation consistent with a results-based Forest and Range Practices Act (BCMoWL&AP $100,000)

P.D. Evans
- Development of software to quantify defects at wood surfaces (Chemical Specialties Inc. $20,282)
- Quality and surface modification of B.C. softwood for value-added products (Canfor $6,050)
- Surface Engineered Lumber Laboratory for the advanced wood processing industries (BC Knowledge Development Fund/ Canada Foundation for Innovation $265,708)
- Surface modification to improve weathering resistance (Forintek $5,400)
- Improving the hardness of hemlock for value-added products (Coast Forest Lumber Assoc. $65,000)
- Supercritical CO₂ treatment of Canadian lumber (CFS $44,350)
- Alternative wood products from stained MPB lumber (co-investigator) (NRC $80,000)

R.J. Fannin
- Service of large permeameter test device (BC Hydro $10,000)
- Geotextile filtration design, and landslide risk assessment (NSERC $28,000)
- Enhanced tools for landslide risk in timber supply analysis (FRBC $15,000)
M.C. Feller
- Natural and forest harvesting disturbances and nutrient leaching in ESSFwc2 forests (BCMof $28,300)
- Time of burning and stand susceptibility to the MPB in Canada’s southern Rocky Mountains (NRC $20,000)
- Ecology and management of riparian-stream ecosystems — streamwater physical and chemical properties (Forestry Innovation Investment $35,902)
- Maintaining open canopy conditions in Interior Douglas-fir forests at Isobel Lake — treatment effects on tree growth, forest fuels, and nutrients (BCMof $24,500)

R. Fürst
- Structural performance of value-added building components (CFS $77,575)

S. Grayston
- Canada Research Chair in soil microbial ecology (CRC $66,667)
- Canopy gaps in the submontane forests of coastal B.C.: A baseline for variable retention silviculture (co-investigator) (Forestry Innovation Investment $89,388)
- Soil Microbial Ecology Laboratory (BC Knowledge Development Fund/Canada Foundation for Innovation/ISOMASS/Bio Rad/VWR $386,891)

S. Gulati
- Integrated analysis of mitigation strategies for greenhouse gas emissions from agriculture (SSHRC $15,180)

R.D. Guy
- Carbon isotope discrimination in Tsuga heterophylla and its relationship to mineral nutrition and growth (NSERC $40,138)
- British Columbia Flux Station of Fluxnet-Canada: Influence of climate and disturbance on carbon cycling in forest and peatland ecosystems (Canadian Foundation for Climate & Atmospheric Sciences/NSERC $27,356)
- Physiological basis of resource-use efficiency trade-offs in trees (NSERC $44,000)

S.G. Hinch
- Predicting stream temperature responses to clear-cut logging: test of the Mellina et al. (2002) model (co-investigator) (Forestry Innovation Investment $67,410)
- Ecology and management of riparian-stream ecosystems: a large-scale experiment using alternative streamside management techniques (co-investigator) (Forestry Innovation Investment $196,448)
- Abnormal migration and premature mortality in Pacific salmon (NSERC $468,590)
- Energetics and behaviour of anadromous fish migrants (NSERC $16,000)

G. Hoberg
- Development and evaluation of First Nations forest policy: The Nisga’a case (NCE $33,500)
- First Nations and sustainable forestry: Institutional conditions for success (NCE $71,000)
- Research area leader assistance (NCE $16,875)
- Institutional requirements for effective implementation of ecosystem-based management land use plans and EBM resources management regimes in the coastal information team region (Coast Information Team Secretariat $37,433)

J.L. Innes
- Assessing tradeoffs between timber and non-timber values within a TRIAD zoning framework (Riverside, B.C.) (NCE $70,000)
- Cumulative impacts of development on forests in northeast British Columbia: Pilot study (NCE/Forest Research Extension Partnership $111,975)
- Forest certification and sustainable forest management (Forest Research Extension Partnership $15,000)
- Monitoring and information reporting standards for SFM in different jurisdictions of North America and Europe (Forestry Innovation Investment $46,733)

J. Kadla
- Canada Research Chair in advanced biomaterials (CRC $100,000)
- Wood and fiber quality of juvenile pine: Characterization and utilization (US Dept. of Agriculture $321,425)
- Integrated laboratory for biopolymers and biomaterials from renewable resources (BC Knowledge Development Fund/Canada Foundation for Innovation $285,402)
J.P. Kimmins
- Development of an ecologically based decision-support tool for assessing the implications of variable retention management and complex cutblocks for selected indicators of SFM (International Forest Products Ltd./NSERC $227,501)
- Role of hybrid poplar plantations for wood, farm diversification and carbon sequestration in Saskatchewan (NSERC $30,000)
- Modelling stand level response of montane spruce forests on TFL49 to intensification of management (NCE $49,700)
- Modelling hemlock dwarf mistletoe in FORECAST and FORCEE (BCMoF $25,450)
- North coast LEMS year 2 (International Forest Products Ltd. $23,000)
- Alternative approaches to regeneration of the coniferous component of boreal mixed-wood forests (NCE $8,500)
- Modelling succession, and its application in the design of sustainable forestry and agroforestry systems (NSERC $35,000)

K. Klinka
- Ecosystem mapping of the UBC Alex Fraser Research Forest (Forestry Innovation Investment $71,553)
- General research in silvics and dendrochronology (B.A. Blackwell and Associates Ltd. $9,400)
- Productivity of mixed, stratified and non-stratified forest stands (NSERC $14,000)

R.A. Kozak
- Developing a model for the healthy house (International Environmental Inst. $25,000)
- Statistical process control of colour for wood products (NSERC $16,200)
- Assessing the impacts of forest certification on Canadian value-added wood products businesses (NCE $28,500)
- Model for development and evaluation of land use and log allocation planning scenarios (co-investigator) (NCE $30,600)
- Benchmarking study of the Canadian wood products sector in a global context (NRC $50,000)
- Forest market research in China (co-investigator) (Forest Trends Assoc. $15,135)

M. Krzic
- Management approaches for rehabilitation of degraded wet sites in B.C. northern interior (co-investigator) (Forestry Innovation Investment $39,022)
- Soil conditions and tree growth on degraded and rehabilitated sites (co-investigator) (Forestry Innovation Investment $23,730)

F. Lam
- Structural performance of Japanese post and beam shear wall system (Coast Forest and Lumber Association $175,000)
- Seismic performance of timber structural systems (NSERC $33,000)
- Timber engineering education in China - faculty exchange with Tongji University (CofI $34,955)
- CAF/Forintek/UBC China-Canada ingrade testing collaboration project (Forintek $38,000)
- Innovative connections for high performance P&B walls (Coast Forest and Lumber Assoc. $115,000)
- Alternative wood products from stained MPB lumber (NRC $80,000)
- Structural performance of value-added building components (CFS $77,575)
- Studies on strength of butt jointed lumber (Canadian Forest Products Ltd. $6,300)
- Performance of floor panel (Ainsworth Lumber Co. Ltd. $80,000)

B. Larson
- Modeling growth of juvenile aspen and white spruce in western boreal Canada (Forestry Innovation Investment $21,182)

V.M. LeMay
- Comparing stand origin with forest inventory ages and boreal mixedwood landscape (NCE $35,000)
- Structural diversity measures and relationships with remotely sensed data (NSERC $15,000)
- Implementing a Prognosis regeneration submodel for the complex stands of southeastern and central British Columbia (BCMOF $31,894)

K. Lyons
- The mechanics of anisotropic materials applied to the management of forests (NSERC $15,000)
T.C. Maness
- Forest-to-product production planning model (NSERC $47,000)
- Model for development and evaluation of land use and log allocation planning scenarios (NCE $30,800)
- Mathematical model formulation of forest stewardship planning incorporating wood products, environmental and societal values (Woodflow Systems Corp. $50,000)
- Multi-criteria strategic planning for sustainable forest management (NSERC $19,000)

S.D. Mansfield
- Canada Research Chair in wood and fibre quality (NSERC $100,000)
- Elucidating the variations in fibre chemistry and morphology of aspen clones to improve pulp processing and quality (NSERC $18,000)
- Study of the effects of the over-expression (ectopic) and vascular-specific expression of UGPase, SUSY, invertase and SPS on cellulose synthesis (Cellfor Inc. $30,000)
- Increasing yield and cellulose by modification of carbohydrate allocation and metabolism (CFS/NSERC $76,000)
- Characterizing wood and fibre properties by metabolic profiling (NSERC $137,000)
- Wood quality assessment technology for the value-added industry (CFS $89,500)

P.L. Marshall
- Comparing stand origin with forest inventory ages and boreal mixedwood landscape (co-investigator) (NCE $35,000)

K.M. Martin
- Ecology of alpine and forest birds (NSERC $29,000)
- Using cavity nester biodiversity to develop indicators of forest ecosystem function and resilience (NCE $64,141)
- Species-level tests of ecological representation on the Arrow TSA (Serrouya and Associates $4,500)
- Alpine and forest landbird ecology and conservation research (Environment Canada $10,000)

P.N. McFarlane
- Innovative methods of chain of custody tracking of certified forest products (NCE $109,500)
- Surface quality of MDF for value-added industries (co-investigator) (CFS $59,000)

M. Meitner
- Centre for interactive research on sustainability (co-investigator) (Federation of Canadian Municipalities $100,000)
- Interactivity and usability of environmental visualization systems (NSERC $17,200)
- GeoCognito: connecting people with ideas with places (co-investigator) (NCE $74,400)
- Towards best practices for public processes and public acceptability in sustainable forest management: Phase 2 (co-investigator) (Forestry Innovation Investment $157,490)
- Visualization of alternative forest management scenarios (Forest Products Assoc. $5,000)

S.J. Mitchell
- Windthrow risk modeling (NCE $51,750)
- Wind drag on conifer crowns (NSERC $28,000)
- Investigation of windthrow as a natural disturbance agent in coastal BC forests (Forestry Innovation Investment $63,195)
- Naa Languaye-Opong: Development of geographic information system-based windthrow risk evaluation software (NRC $12,000)
- LLEMS windthrow (International Forest Products Ltd./NSERC $27,250)
- STEMS – silviculture treatments for ecosystem management in the Sayward (BCMoF $6,854)
- Windthrow risk modelling (Weyerhaeuser Canada $30,000)
- Integrating silvicultural control of mountain pine beetle with wildlife and sustainable forest management objectives (NRC $26,757)
- Implications of proposed parking lot for wind damage in MacMillan Park (BCMoWLP $4,500)
R.D. Moore
- Catchment hydrology and the stream environment (NSERC $23,840)
- Identifying temperature sensitive streams by modeling stream temperatures (BCMowlap $40,000)
- Ecological and geographical gradients underlying stream responses to riparian management – towards ecologically-based guidelines (NCE $39,000)
- Mountain pine beetle outbreaks in western Canada: coupled influences of climate variability and stand development (NRC $70,000)
- Ecology and management of riparian-stream ecosystems: a large-scale experiment using alternative streamside management techniques (Forestry Innovation Investment $196,448)
- Predicting stream temperature responses to clear-cut logging: test of the Mellina et al. (2002) model (co-investigator) (Forestry Innovation Investment $67,410)
- Tools for managing the impacts of forest practices on stream temperature (Forestry Innovation Investment $29,580)
- Forest hydrology (Donation $15,000)

P.A. Murtha
- Remote sensing mountain pine beetle monitoring in Lignum’s IFPA area (Lignum Ltd. $7,655)

J.D. Nelson
- Decision support systems for forest land use planning (NSERC $21,000)
- Cumulative impacts of development on forests in northeast British Columbia: pilot study (NCE $106,975)

C.E. Prescott
- Nutritional indicators for the maintenance of boreal forest productivity (NCE $30,000)
- British Columbia Flux Station of Fluxnet-Canada: Influence of climate and disturbance on carbon cycling in forest and peatland ecosystems (co-investigator) (CFCAS/NSERC $25,168)
- The roles of C and N in humus decomposition (NSERC $18,000 deferred)

H.G.L. Prion
- Junior Industrial Research Chair in design engineering (NSERC $40,000)
- Timber connections for seismic applications (NSERC $22,000)
- Performance of embedded steel anchors in heavy timber connections (Indus Systemholztechnik $6,947)
- Structural performance of value-added building components (CFS $77,575)

J.S. Richardson
- Variable retention and the conservation of small streams and their riparian areas (Weyerhaeuser Canada $27,836)
- Variation in detritus-based food webs and community structure based on quality of organic matter (NSERC $20,000)
- Ecological and geographical gradients underlying stream responses to riparian management – towards ecologically-based guidelines (NCE $39,000)
- Amphibian populations as indicators of integrity and recovery from riparian harvesting in a coastal forest (Forestry Innovation Investment $27,512)
- Demographic and viability analysis of the threatened coastal giant salamander in response to forest harvesting (Forestry Innovation Investment $47,660)
- Ecology and management of riparian-stream ecosystems: a large-scale experiment using alternative streamside management techniques (co-investigator) (Forestry Innovation Investment $196,448)
- Development of common approaches, indicators, protocols, and standards for benthic invertebrate monitoring and assessment as a decision support tool for land and water management (BCMowlap $18,000)

K.M. Ritland
- Senior Industrial Research Chair in population genetics (NSERC/Industry $52,655)
- Controlling and monitoring of selfing rates in seed orchard populations of western red cedar (BCMof $41,160)
- Forestry Genomics Project (co-investigator) (Genome B.C. $1,628,852)
- Markers and theory for measuring diversity (BCMof $32,000)
- Population genomics of plants (NSERC $80,000)

J.N.R. Ruddick
- The role of nitrogen compounds in the fixation of copper in wood (NSERC $31,900)
- Wood preservation (Arch Wood Protection $7,814)

EXTRAMURAL FUNDING & SPONSORED RESEARCH
• Wood preservation – Factors impacting on the performance of wood preserving chemicals (Forintek $4,000)
• Wood preservation – Factors impacting on the performance of wood preserving chemicals (BASF Aktiengesellschaft $26,906)

J.N. Saddler
• Substrate and enzyme factors that affect the efficient hydrolysis of cellulose to ethanol (NSERC $22,000)
• The development of a technically and economically viable pretreatment and enzymatic process for the conversion of softwood residues to ethanol (BIOCAP Canada Foundation $156,000)
• Bioprocessing Centre for Sustainable Fuels (CFI/Steris Canada/Thermo Finnigan/PerkinElmer Life and Analytical Sciences/Dionex Canada/Waters Ltd. $194,585)
• Softwood residues-to-ethanol (NRC $168,561)
• The biomass refinery or bio-factory concept research program (Alberta Innovation and Science $10,000)

S.R.J. Sheppard
• Towards best practices for public processes and public acceptability in sustainable forest management: Phase 2 (co-investigator) (Forestry Innovation Investment $157,490)
• Sabbatical leave funding (NCE $11,855)
• Best practices for public participation in sustainable forest management (NCE $7,500)
• Enhanced visualization of forest landscape dynamics (NSERC $20,000)
• Centre for interactive research on sustainability (co-investigator) (Federation of Canadian Municipalities $100,000)
• GeoCognito: connecting people with ideas with places (co-investigator) (NCE $74,400)

S. Simard
• Long-term effects of vegetation management treatments on growth and yield and stand development (Forestry Innovation Investment $103,788.72)
• Planted Douglas-fir in the Interior Dry-Belt: improving mycorrhization and root structure for better seedling performance (Forestry Innovation Investment $95,550)
• Expert system for making site preparation and vegetation management decisions in southern interior B.C. (Forestry Innovation Investment $96,598)
• Ectomycorrhizae and their networks: their role in facilitating Douglas-fir regeneration under water, site and climatic stresses (Forestry Innovation Investment $122,745)
• Density management to improve growth, yield and quality of paper birch stands in interior BC (Forestry Innovation Investment $55,125)
• Effects of young stand silviculture on conifer/broadleaf mixtures in seral ICH forests of southern British Columbia (Forestry Innovation Investment $111,384)
• The Mycorrhizal Ecology Laboratory – linking belowground with aboveground indicators of forest sustainability (BC Knowledge Development Fund/Canada Foundation for Innovation/Nikon Canada Inc. $183,000)

G. Smith
• Investigation of the bonding process for steam injection pressing (NSERC $21,500)
• Improving the properties of particleboard for value-added industries (CFS $59,000)
• Quantitative determination of the relationship of CSL composite strength with special strand length, strand angular deviation and target panel density (Huber Engineered Woods $103,326)

T. Sowlati
• Modeling of biomass formatting as part of supply logistics analysis (US Department of Energy $30,000)
• Participation in the international Smart-fm meeting in Portugal (NSERC $3,000)

B.J. van der Kamp
• Reducing the impact of Armillaria root disease via mixed species plantation including western red cedar (Forestry Innovation Investment $29,505)
• Biological control of western hemlock dwarf mistletoe (Forestry Innovation Investment $73,276)

S.B. Watts
• A survey of forest sector related research activities in British Columbia (Forestry Innovation Investment $8,295)

P. Wood
• Assigning sufficient priority to biodiversity conservation: principles and practice (SSHRC $55,506)
This list includes documents published between April 1, 2003 and March 31, 2004. Names appearing in bold-face type are those of UBC Forestry Faculty members. For further information on any of these publications (many of which are available in libraries), please contact the appropriate Faculty member directly.


McFarlane, P.N. 2003. Chain of custody tracking for certified forest products. UBC Faculty of Forestry, Branch Lines 14:3.


Public Lecture Series

Our series of free evening lectures continued for a third year (previously called the Jubilee Lectures) with ten public lectures between October, 2003 and April, 2004. The lectures, which attracted from 40 to 125 people each, were held in the Forest Sciences Centre on the UBC campus. The text and/or slides from most of these lectures can be downloaded from our website at www.forestry.ubc.ca/events.

Bryan Norton
Professor of Philosophy, School of Public Policy, Georgia Institute of Technology, Atlanta, GA
- Defining biodiversity: Do we know what we are trying to save?

Yvan Hardy
Chief Scientist, Natural Resources Canada, Ottawa, ON
- Science and technology priorities for Canada’s resource sector.

Edward John
Grand Chief, First Nations Summit

THE FIRES OF SUMMER 2003:
A reflection on the changing urban interface: what happened, why and ... what next?

Michael Feller
Associate Professor, Forest Sciences Department, UBC

Richard Kadulski
Architect

Bruce Blackwell
R.A. Blackwell and Associates

Phil Taudin-Chabot
Fire Centre Manager, BCMoF

Phil Humphrey
President, AES Inc. and Professor, Oregon State University, Corvallis, OR
- The shape of things to come: The case for a biocomposite-based revolution.

Tzeporah Berman
Program Director for ForestEthics
- How much is enough? An environmental vision for B.C.’s forests.

Hosny El-Lakany
Assistant Director-General, Forestry Department, FAO of the United Nations
- Higher international forestry education and research: Opportunities, modalities and constraints.

Stewart Rood
Professor and Board of Governors’ Research Chair in Environmental Science, University of Lethbridge, Lethbridge, AB
- Trees of the people: The science and conservation of Canadian cottonwoods.

Michael Flach
Professor, University of Innsbruck, Austria
- Wood, an efficient building material for holistic design.

Johanna Buchert
Research Manager, Product Engineering, VTT Biotechnology, Helsinki, Finland
- Enzymes: Potential tools for food and fibre industry.

Namkoong Family Lecture Series

The first Public Lecture of the 2003/04 academic year was also the inaugural lecture of the Namkoong Family Lecture Series. This lecture series is made possible by funding from the Namkoong Teaching Exchange and Research Endowment, which was established in 1995 by a gift from the Namkoong Family to promote “the exchange of scientists and philosophers between the University of British Columbia and other institutions to promote the study and development of science or philosophy pertaining to the sustainability and conservation of forests.” The desire of the late Professor Gene Namkoong (former head of the Forest Sciences Department) was to develop more fully our understanding of issues at the intersection of biological science, conservation and ethics. The fund provides for support of graduate students, teaching exchanges and public lectures.

Copies of the lecture “Defining Biodiversity: Do we know what we are trying to save?” by Bryan G. Norton from Georgia Institute of Technology, are available by writing to the Forest Sciences Department at the address on the back cover of the Faculty of Forestry Annual Report. The lecture can also be downloaded at www.forestry.ubc.ca/events.
Conservation Lecture Series

We invited internationally known members of the scientific community to UBC to participate in Conservation 500, a graduate level seminar in conservation biology organized and taught by Dr. Sue Grayston of the Forest Sciences Department. Funding for the lectures was provided by support from the H.R. MacMillan Family Fund and from the UBC Centre for Applied Conservation Research. The following scientists gave public lectures:

**Douglas Robinson**
Oak Creek Lab, Oregon State University, Corvallis, OR
- *Climate change, nest predation and bird extinctions on a tropical island.*

**Adrian DeBruyn**
School of Resource and Environmental Management, Simon Fraser University, Burnaby, B.C.
- *Pollution, production, and (energetic) pathways: Understanding human interactions with aquatic ecosystems.*

**Tom Sullivan**
Faculty of Agricultural Sciences, UBC
- *Biodiversity in an agrarian landscape: Diversity of plants and mammals in natural and orchard habitats.*

**John Deal**
Canadian Forest Products Ltd., Woss, B.C.
- *Species at Risk: Murrelet and goshawk management on north central Vancouver Island.*

**Richard Mack**
School of Biological Sciences, Washington State University, Pullman, WA
- *Phylogenetic constraint, absent life forms and pre-adapted alien plants: A prescription for biological invasions.*

**Nalini Nadkarni**
Evergreen State College, Olympia, WA
- *Beyond Tarzan and Jane: New perspectives in the emerging field of forest canopy research.*

**Jan Kirkby**
Canadian Wildlife Service, Victoria, B.C.
- *The sensitive ecosystem inventories: mapping conservation priority areas.*

**Rick Jobin**
Alberta Fish and Wildlife Forensic Lab, Edmonton, AB
- *Use of forensic DNA-typing in wildlife investigations.*

**Stan Boutin**
Department of Biological Sciences, University of Alberta, Edmonton, AB
- *Tracking biodiversity performance in Canada’s forests: Not so simple!*

**Shannon Binns**
Faculty of Agricultural Sciences, UBC
- *Rarity and diversity in an economic plant resource: The ecology and politics of managing natural Echinacea spp. populations.*
HEALTHY forests, healthy communities and healthy people – captures this year’s support to the Faculty. The Faculty’s development and alumni programs are committed to facilitating the involvement of the broader forestry community in the education, research and extension activities of the Faculty of Forestry. Thanks to the ongoing support and loyalty of our alumni and friends, industry, government and the community, the Faculty will continue to be a world leader in forest management, forest science, natural resources conservation, and wood products processing education and research.

For the period April, 2003 to March, 2004 the Faculty of Forestry raised over $1,906,447 in gifts, contributions and pledges, to support scholarships, awards, research and the upgrading of our facilities. Our actual funds received totalled $1,489,311. This represents a significant increase in contributions to the Faculty for the past few years.

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<tr>
<th>Area of designation</th>
<th>$ pledged</th>
<th>% of $ pledged</th>
<th>$ received</th>
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<td>John Worrall “Tree Enthusiast” Prize ($11,353)</td>
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<td>Total donations &amp; contributions</td>
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<td>$1,489,311</td>
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</tr>
</tbody>
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Donor gifts and contributions to the Faculty of Forestry – 2003/04

Forestry Alumni Support

Our alumni continue to be ardent and generous supporters of the Faculty. This year’s annual alumni appeal raised $61,849 to support projects such as the redevelopment of the Lloon Lake Research and Education Centre, the new John Worrall “Tree Enthusiast” Prize, the Conservation Volunteers Program and many other important projects. Our alumni, together with TimberWest Forest Corp., also generously supported the establishment of the Bob Willington Memorial Bursary in memory of Bob Willington’s contribution to forestry in British Columbia.

Our alumni also actively volunteered their time and enthusiasm to help with our annual appeal by writing letters, participating in thank you calling and generally spreading the word about activities in the Faculty.

New Staff

Our Development Team expanded with the addition of a new Development Coordinator, Erin Cederberg. Erin is responsible with assisting the Faculty’s Senior Development Officer.

Events

Over 90 alumni attended three major alumni events held during the year – the Spring Camp Tour and BBQ at the Malcolm Knapp Research Forest in April 2003, the Fall Camp Tour and BBQ at the Alex Fraser Research Forest in August 2003, and the UBC Alumni Reunion Weekend in September.

Our Spring Camp event saw the opening of the new Lloon Lake interpretive trail supported

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Also in October, the Faculty held its second Donor Recognition Evening. Scholarship winning students, together with donors, faculty and staff enjoyed the opportunity to learn more about our Faculty, our students, our research and our efforts to reach out to the community. A wonderful evening was enjoyed by all and another evening is planned for 2004/05.

In May 2003, the Julius Juhasz Memorial was also commemorated on the lawns outside the Forest Sciences Centre. Attended by over 100 Sopron alumni, friends and family of Mr. Julius Juhasz (BSF ’58), and UBC President Martha Piper, the beautiful granite memorial and bronze plaque, displaying the inspirational words of Mr. Juhasz, were unveiled thanks to the support and dedication of the Friends of Julius Juhasz.

ACHIEVEMENTS AND HIGHLIGHTS 2003–04

- Announced a long-term partnership between the Faculty of Forestry and the Canadian Cancer Society (British Columbia and Yukon) to make the Loon Lake Research and Education Centre the new home for Camp Goodtimes. For five weeks a year children aged 6-16 will enjoy the wonderful surroundings at Loon Lake. In return the Society will contribute $1 million towards the refurbishment and redevelopment of the Loon Lake Centre. This will greatly benefit our students, faculty and other visitors to the Malcolm Knapp Research Forest for many years to come.

- Established the ‘BC Forum on Forest Economics and Policy’ thanks to the generous support of Slocan Forest Products Ltd. Slocan will contribute $500,000 over three years to bring together researchers from throughout the province to stimulate research and dialogue on vital economic and policy issues confronting the forest sector in British Columbia. The Forum will also provide scholarship support for student research projects.

- Developed the CAWP Industry Partnership Program for the Centre for Advanced Wood Processing (CAWP). Funds raised through the Partnership Program will be invested in student scholarships, recruitment and co-op activities, purchase of equipment, and hiring of industry experts to provide training.

- Established six new scholarships, awards and bursaries, that will provide an additional $11,000 in support for students.

- The Faculty’s first Summer Forestry Camp for First Nations Youth was held in August 2003 thanks to the support from the Vancouver Foundation, Ministry of Community, Aboriginal and Women’s Services, and the Council of Forest Industries. Twenty-three First Nations students attended the camp held jointly at UBC and the Malcolm Knapp Research Forest.

- As part of the Faculty’s effort to revamp ‘Branch Lines’ a new Alumni and Development newsletter was developed. The newsletter aims to inform and report back to our forest community and donors on new initiatives and support for the Faculty, alumni events, alumni stories, and our annual alumni appeal.

PLANS FOR 2004–05

The key areas that we will focus on in the coming year are:

- Continuing to strengthen our relations with our alumni and supporters

- Increasing financial support available to our students.

- Loon Lake will be a major fundraising priority particularly with our annual appeal. The total funds required for the Loon Lake redevelopment are approximately $6.5 million and we are over half way towards this goal.

- Securing support for a Chair in Wood Building Design and Construction to lead a multidisciplinary research and technology program linking UBC expertise in architecture, engineering and wood science and technology. The Chair will also be one of nine priority proposals submitted by UBC to the provincial governments Leading Edge Endowment Fund for consideration for a prestigious BC Leadership Chair.

- Obtaining support for the Faculty of Forestry’s First Nations Initiative, including seeking increased financial support for First Nations students (scholarships, awards and bursaries), recruitment and retention of First Nations students, and the establishment of an endowed professorship in aboriginal forestry.

- Increasing the number of industry members for the CAWP Industry Partnership Program.

The students, faculty and staff at UBC Faculty of Forestry wish to thank all those who have contributed their time and support to the Faculty for 2003/04.
PRODUCTION INFORMATION

This Annual Report was prepared on an IBM PC AT compatible computer using Microsoft Word XP for Windows XP Pro. A final camera-ready impression was produced using an HP Laserjet 5M printer.

Cover: Cornwall cover coated one side 10 pt.
Text: Opus dull 80 lbs.

Questions concerning this report or requests for mailing list updates, deletions or additions should be directed to:

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Printed in Canada on recycled paper.
The Faculty of Forestry Web site features:

- academic program outlines and registration guides;
- profiles of Faculty members;
- department and allied program descriptions;
- online Faculty newsletters and special event announcements;
- web-based course materials and educational multimedia;
- general interest articles and web feature presentations.

Any comments or suggestions about our Web site can be addressed to Rishad Quazi, Education and Web Technology Coordinator/Webmaster, at 604-822-0024 or e-mail forestry.communications@ubc.ca.