
Preface

The highlight of any IUFRO Executive Board period is the quinquennial Congress that takes place in the August of the Board's fifth year. The next Congress is to be in Malaysia during August 2000 and consequently a great deal of IUFRO activity during 1999 was devoted to preparations for the Congress. The Executive Board, the individual Divisions, Task Forces, Special Programmes, the Congress Scientific Committee and the Congress Organizing Committee made prodigious efforts to plan a comprehensive and stimulating programme with new structures and activities within it. A major initiative for this Congress was the development of a screening process for invited papers and posters to enhance the scientific quality and the coherence of the programme; the US Forest Service kindly supplied the services of Dr Margaret Devall to assist in this process and Dr Robert Jandl of the Austrian Federal Forest Research Centre developed the underlying database. The Scientific Coordinators throughout IUFRO deserve particular praise and congratulations for their efforts in collaboration with the Congress Scientific Committee since the Congress organization has been more integrated than hitherto and required more central leadership from the Congress Scientific Committee.

Considerable effort was devoted to publicizing the work of IUFRO in general and the Congress in particular at a number of major international fora; in addition intensive approaches were made to donor agencies and other potential supporters of the Congress and of individual scientists from developing countries. In particular, the President and other members of the Executive Board made presentations at such meetings as the Intergovernmental Forum on Forests (IFF 3) in Geneva, the FAO Committee on Forestry meeting in Rome; and various meetings of the different inter-governmental initiatives on the criteria and indicators of sustainable forestry (e.g. Pan European and Montreal Processes).

The Honours and Awards Committee of the Executive Board undertook rigorous searches to identify the winners of the Scientific Achievement Awards and the Outstanding Doctoral Research Awards who will be recognized at the Congress. A procedure for identifying the winners of the newly established Best Poster Awards was also developed. In addition, the winners of a number of Distinguished Service Awards and Certificates of Appreciation were identified.

The International Council approved the election to Honorary Membership of Immediate Past-President Dr M N Salleh and former Treasurer, Professor Franz Schmit-huesen; their awards will be presented at the Congress.

The traditional work of IUFRO continued. In the year a total of 76 scientific meetings was held of which 7 were inter-divisional involving at least two research units from different Divisions; these emphasized IUFRO's stated policy of encouraging inter-disciplinary collaboration. In these meetings, 81 IUFRO research units were involved and the meetings were spread equably over all eight Divisions, the Task Forces and the Special Programme for Developing Countries. In regional terms, almost half of the meetings were held in Europe with the remainder spread equally over the other IUFRO regions; a total of 35 countries were involved in organizing these meetings, 10 of which were developing countries and 7 were countries with economies in transition.

The continuing strength of IUFRO internationally is demonstrated by the membership statistics. A total of 508 institutions were main members with 128 of their sub-stations as sub-members and 44 of their dependent units as sub-sub-members, giving a total of 680 member institutions. These are located in 108 countries and territories and, although exact numbers of individual scientists are not recorded, they are estimated at 15,000. Although some members resigned their membership during the year because of financial difficulties in meeting the foreign exchange costs of the membership fee, other members joined or re-joined.

The Secretariat and Treasury have been major supporters of all IUFRO activities throughout the year; I express my personal thanks and the thanks of IUFRO to the Governments of Austria and Switzerland for their financial and personnel provisions. In addition, I thank the Secretary and Treasurer and their staff for their continued efforts without which the modern IUFRO could not function. Considerable attention was devoted to the financial and investment policies of the Union and these have already resulted in increased dividends.

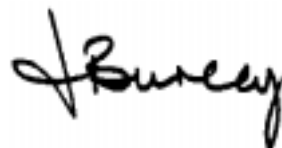
The Secretariat in particular has been instrumental in establishing, developing and monitoring the IUFRO databases and Web pages. Particular thanks are due also to the Task Force on the Internet in particular to the Division Web Moderators. A vast amount of information about the Union and its scientific activities, including the Congress, is now available to member institutions and in restricted form to the wider public.

IUFRO continued to publish valuable materials through the quarterly News, Occasional Papers and World Series. A new initiative was the establishment of the IUFRO Research Series published in collaboration with CABI, UK;

the first volumes appeared during the year and were of high scientific and editorial quality, and have already received positive acclaim.

One major event of the year from the point of view of IUFRO's future was the external review conducted by a panel chaired by former Vice-President Jim Cayford. This exhaustive review made many recommendations for the future structure and organization of the Union, particularly the organization of the Secretariat and Treasury and the composition of the Executive Board. The current Board debated these recommendations intensively throughout

the year and has prepared revised Statutes and Internal Regulations for the International Council to consider at its meetings during the Congress. If approved, these changes will contribute significantly to the role and recognition of IUFRO in benefiting individual scientists, member institutions, policy makers and the world of forestry at large as we begin the new millennium.



*Professor Jeff Burley
President*

DIVISION 1 - SILVICULTURE

Coordinator: Lisbeth Sennerby-Forsse
Deputy Coordinators: John Parrotta
Menachem Sachs
Rodolfo Salazar

Introduction

Division 1 includes the study of forest and ecosystem management; stand establishment and treatment (including fertilization); agroforestry; biomass for energy; restoration of degraded sites; mountain zone and arid zone silviculture; tropical, boreal and temperate zone silviculture and natural (extensive) and artificial (intensive) silvicultural systems.

The Division currently consists of 9 Research Groups (RG) with 32 Working Parties (WP), 41 units in total. Division officers total about 100 with an additional 6 vacancies. The officers represent more than 40 nations.

Division Matters

The Executive Board meeting 1999 took place in Denmark with Niels Elers Koch and the Danish Forest and Landscape Institute as organizers and hosts. The structural changes in Division 1 decided upon by the Board are listed below.

Changes and Vacancies in Division 1 Leadership

- **WP 1.05.05:** The European Norway Spruce Thinning Experiment. Sadly, the Coordinator Dr. Klaus Johann passed away. Ulf Johansson, Sweden is the acting Coordinator until next term.
- **WP1.05.04:** Characterization of Plant Material – Deputy Coordinator missing

- **WP 1.05.08:** Natural Stand Regeneration – Coordinator missing
- **WP 1.05.12:** Northern Forest Silviculture and Management – Coordinator missing
- **WP 1.07.14:** Silviculture in Africa – New Coordinator sought
- **WP 1.07.15:** Silviculture and Management in Arid and Semi-arid Regions – New Coordinator sought.
- **RG 1.10.00:** Deputy Coordinator Søren Madsen passed away in November 1999.
- **WP 1.17.03:** Tropical Forest Restoration. resignation by Coert Geldenhuys who is Deputy Coordinator of (replacement to be found).
- **WP 1.15.01:** Temperate Zone Agroforestry. Two new Deputy Coordinators, Leith Knowles (New Zealand) and Andrew Gordon (Canada).
- **WP 1.15.04:** Social and Economic Research in Agroforestry. The new Coordinator is Christine Holding (Kenya); the new Deputy Coordinator is Steve Franzel Australia). Sara Scherr (USA), the current Deputy Coordinator has yet to decide whether she wishes to remain in this position.
- **WPI.15.05:** *Tree fodder*. Proposed new Coordinator is Muhammad Ibrahim (Costa Rica), with current Coordinator Max Shelton, (Australia) possibly continuing in a deputy role with the current deputy Peter Thorne (UK).
- **WP 1.17.02:** Temperate and boreal forest restoration – Deputy Coordinator missing.

New Working Party Names and New Working Parties

- **WP 1.15.04:** New name: “Social and Economic Research in Agroforestry”.

- **WP 1.15.05:** New name: “Silvipastoral Systems”.

New WP 1.07.19: “Forest Dynamics and Yield Regulation Systems for Tropical/Subtropical Moist Forests”

Coordinator: Armin Seydack, Dept of Water Affairs and Forestry, South Africa

The purpose of the new WP is to act as a forum for experts to examine yield regulation systems with the aim of identifying opportunities for improvement and new developments by integrating the existing information on forest dynamics and focusing on research gaps to receive further attention.

Several Working Parties from Div 1, 2 and 4 have overlapping activities with the proposed working area. However, the **integrating focus** on yield regulation systems would be the objective of this new WP. The need for such a focus derives from the contention that the sustainability of many existing yield regulation approaches is uncertain and their performance in terms of forest conservation is challenged.

Publications

- Proceedings of IUFRO 1.15.01/CIRAD symposium in Montpellier, June 1997 (Agroforestry for Sustainable Land Use). Agroforestry systems (In press).
- Six (6) issues of the Tropical Forestry Newsletter. Published by 1.07.00.
- Proceedings of the secondary forest meeting (Guariguata and Finegan 1999).

Meetings 1999

In terms of activities 1999 was an average year with a total of 10 different meetings scheduled in the calendar of meetings. The following groups held meetings during 1999. For more detailed information please look up the Calendar of meetings on the IUFRO web.site: <http://iufro.boku.ac.at/>

- WP1.05.14/** Silvicultural Problems in Mountain Regions
- WP8.04.02:** Snow and Avalanches
Davos, Switzerland

WP1.07.09/ Silviculture in Latin America

WP2.09.00: Seed Physiology and Technology
Santo Domingo, Dominican Republic

RG1.07.00: Tropical Silviculture
Lobesa, Bhutan

WP 1.07.17: Biology and Silviculture of Dipterocarps
Bangalore, India

WP1.09.00: Short Rotation Forestry for Biomass Production
The Philippines

WP1.14.00: Unevenaged Silviculture
Edinburgh, Scotland, U.K.

RG1.15.00 / Agroforestry;

WP1.15.02 Tropical agroforestry
Turrialba, Costa Rica

RG1.17.00: Restoration of Degraded Sites
San Juan, Puerto Rico, USA;
Sao Paulo, Brazil

WP1.17.01: Reclamation of Mining Lands
Cottbus, Germany

1.05.14 Meeting Report

Structures of Mountain Forests. Report on the International IUFRO Conference 6 - 10 September 1999 in Davos. W.Schönenberger

At the invitation of the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL) 70 scientists from 21 countries all over the world gathered in the Congress Hall in Davos to exchange information on the state of the art concerning the structures of mountain forests. During the three-and-a-half-day programme no less than 40 papers and 23 posters were presented. The conference, organized by Walter Schönenberger and Werner Frey was convened under the aegis of the IUFRO-group “Silvicultural Problems in Mountain Regions” and was funded by the WSL, the Binding Foundation and the Swiss National Research Foundation.

Lisbeth Sennerby-Forsse
Coordinator, Div 1

DIVISION 2 - PHYSIOLOGY AND GENETICS

Coordinator: Eric Teissier du Cros

Deputy Coordinators: Ladislav Paule
Robert J Luxmoore

Introduction

The most time-consuming activity in 1999 was the preparation of the Congress 2000 scientific programme. This was true not only for the Division Coordinator, who

chairs the Congress Scientific Committee, but also for the Division 2 Deputy Coordinators. At the end of the year, 8 of the 10 planned Group Sessions were ready with names of authors and titles of papers. However, a lot still needs to be done with the posters.

Structural Changes

2.01.00 : Physiology. Replacement of the Coordinator Melvin Cannell, who resigned, by Robert O. Teskey,

University of Georgia, Athens, Georgia, USA. Both deputies remain in their positions.

2.01.12. Canopy Processes. Changes in coordination. The new Coordinator is: Michael G. Ryan, USDA Forest Service, Fort Collins, USA. The Deputy Coordinators are: Koen Kramer, IBN-DLO, Wageningen, The Netherlands; Pauline Stenberg, University of Helsinki, Finland, and Chris Beadle, Cooperative Research Centre for Sustainable Production Forestry, Hobart, Tasmania, Australia. A merger with 2.01.15 **Whole Plant Physiology** was discussed during the 1999 meeting, but no decision has been made yet.

2.02.20. Breeding and Genetic Resources of Southern Pines. The new Coordinator is Mark J. Dieters, Queensland Forest Research Institute, Gympie, Australia. New Deputy Coordinator: Barbara McCutchan, Westvaco Research Center, Covington, Virginia, USA.

2.04.06. Molecular Biology of Forest Trees. New Coordinator: Malcolm Campbell, Oxford Forestry Institute, U.K. New Deputy Coordinators: Björn Sundberg, Swedish University of Agricultural Science, Umeå, Sweden, John Cairney, Institute for Paper Science and Technology, Georgia, USA, and Wout Boerjan, Flanders Interuniversity, Gent, Belgium.

2.08.00. Hardwood Improvement, Culture and Genetic Resources. Robin Cromer, Coordinator, and A.R. Griffin, Deputy Coordinator, have resigned. Trevor Booth has been elected by mail ballot but, soon after, preferred to resign. Huoran Wang, Chinese Academy of Forestry, China-Beijing, former Deputy Coordinator, has accepted to take the coordination. The Deputy Coordinators are Philippe Vigneron, CIRAD Forêt, France, who works in Congo (Pointe Noire) and Dario Grattapaglia from Embrapa, Brazil.
2.08.04. Poplar and Willow Breeding and Genetic Resources. The third Deputy Coordinator is Francisco Zamudio, Talca University, Chile.

2.08.06. WP on *Nothofagus* to be established: “**Breeding and Genetic Resources of *Nothofagus* Species**”. Coordinator Roberto Ipinza, Cooperativa Mejoramiento Genético, Valdivia, Chile. Deputy Coordinators: Leonardo Gallo, INTA, Bariloche, Argentina, Fiorella Villani, CNR, Porano, Italy, and Anthony Shelbourne, New Zealand.

Activities, Publications and Plans

2.01.12. Canopy processes. Membership list of ca. 250 scientists. **Activities.** Workshop on “Canopy Dynamics and Forest Management. A Missing Link?”. August 1-11 in Estonia, Finland and Sweden. Total attendance of about 120. Sub-themes of the meeting were: remote sensing, canopy structure, climate change, whole-tree physiology, productivity, and management. **Publications.** Papers from the workshop will be published as a special issue of *Tree*

Physiology in 2000. **Plans.** Workshop “A Canopy Odyssey. The Importance of Structure in Understanding the Function of Forest Canopies”, July 11-19, 2001, in Oregon and Washington, USA. The chairman of the meeting will be Michael G. Ryan

2.01.15. Whole Tree Physiology. Publications. (1) Proceedings from “4th International Workshop on Measuring Sap Flow in Intact Plants” Zidlochovice, Czech Republic, October 3-5, 1998, 20 papers, 150 p. Publishing House of Mendel University in Brno. (2) “Abstracts of Book Literature on Forest Biology and Ecology Published in East European Countries, Part.1: Former USSR and Czechoslovakia, 1965-1992”. Both publications are available on request from Jan Cermak, Deputy Coordinator of the WP.

2.01.16. Physiology of Sexual Reproduction. 60 scientists. **Plans.** Working Party meeting is planned after the IUFRO Congress 2000.

2.02.07. Larch Breeding and Genetic Resources. 40 members. **Activities.** Extensive work had been done in Russia during the last 4 years collecting larch seed from 17 regions between Kamchatka and Karelia (60 selected trees per region). This will be the base for research on larch in which institutes in Russia, Norway, Sweden, Japan, USA and Canada will cooperate. A clear picture of the collected material and its use will be obtained in 2000. **Plans.** Meeting in France in 2001 (Organizer : Luc Pâques, INRA Orléans).

2.02.11. Norway Spruce Breeding and Genetic Resources. 100 members. **Publications.** A bibliography on genetics, breeding and gene resources of Norway spruce has been compiled together with the EUFORGEN Norway Spruce Network and is accessible from the EUFORGEN web page <http://www.cgiar.org/ipgri/euforgen>.

2.04.06. Molecular Biology of Forest Trees. Activities. International meeting convened by Malcolm Campbell in Oxford, England, “Forest Biotechnology 99” and jointly held with the International Wood Biotechnology Symposium. 190 participants of 30 countries. Covered all facets of the use of molecular biology for the breeding and genetic analysis of forest trees. **Publication.** A position statement on the use of genetic engineering in forestry intending to provide a scientific perspective from molecular biology practitioners on the controversy about the use of GMOs (genetically modified organisms) in agriculture and forestry was published in *Nature Biotechnology* under the title “Forest biotechnology makes its position known”, in its December 1999 issue (17:1145). **Plans.** The next meeting will be held in July 22-27, 2001 in Oregon. It will be organized by Steve Strauss, former WP Coordinator.

2.04.08. Cytogenetics. 50 members. **Activities.** Review of scientific papers from the 2nd IUFRO Cytogenetical meet-

ing held in Graz, Austria in September 1998. **Publications.** Proceedings of the 2nd IUFRO Cytogenetical Symposium held in Graz, Austria, "Cytogenetic Studies of Forest Trees and Shrubs. Review, Present Status and Outlook on the Future". H. Guttenberger, Z. Borzan, S. E. Schlarbaum, T. Hartman, Arbora Publishers, Zvolen, Slovakia. Special issue of "Forest Genetics" to be published in 2000. The Proceedings of the 1st Cytogenetical Symposium are still available free of charge from Dr. Viktoria Varga, University of Sopron, Hungary, E-mail : iufro@matavnet.hu **Plans.** Business meeting at the IUFRO Congress in Malaysia.

2.08.02. Improvement and Culture of Nitrogen Fixing Trees (NFT). 900 members. **Activities.** Supply of information on NFT species to various members in different countries. **Publications.** NFT News (at least one issue a year). **Plans.** Meeting of "Consultative Group for Research and Development of Acacias".

2.08.04. Poplar and Willow Breeding and Genetic Resources. 200 members. **Activities.** Meeting: International Poplar Symposium II, (IPSII), Orléans, France, September 13-17, 1999, 150 participants, 28 countries. **Publications.** Abstracts of IPSII, 101p.

*Eric Teissier du Cros
Coordinator, Div 2*

DIVISION 3 - FOREST OPERATIONS AND TECHNIQUES

Coordinator: Dennis P. Dykstra
Deputy Coordinators: Ann Merete Furuberg-Gjedtjernet (part of the year)
William Cordero
Administrative Officer: Rita Mustikasari

1. Changes in Research Groups and Working Parties

Ann Merete Furuberg-Gjedtjernet

D3.00.00

Resigned the D3 Deputy Coordinator position at the request of her employer but plans to participate in IUFRO activities.

J. T. Arnott

D3.02.03

Retired from the Canadian Forest Service but will continue to serve as 3.02.03 Deputy Coordinator until after World Congress 2000.

Gordon Adam

D3.02.02

Resigned due to a change in professional duties

Staffan Mattson

D3.02.02

Resigned due to a change in employment.

In spite of the resignation of both 3.02.02 Deputy Coordinators, **Mark Ryan**, C3.02.02 has decided not to seek replacements until the 2000 Congress because of a likely restructuring of the entire 3.02.00 Research Group.

2. Report of activities by IUFRO Units

- **3.00.00**—During the 1998 Executive Board meeting in

Costa Rica, nominations for **Distinguished Service Awards** were approved for two scientists whose work has long been associated with Division 3. The formal presentation of the award to **Prof. Dr. Simeun Tomanic** was made on 28 Sep 1999 at the Division 3 International Conference on "Emerging Harvesting Issues in Technology Transition at the End of the Century" in Opatija, Croatia. The award was presented to Prof. Tomanic by IUFRO Secretary **Heinrich Schmutzenhofer**. Arrangements have been made for **Prof. Dr. Helmut Brandl** to receive his award during the Division 3 general meeting at the World Congress in Kuala Lumpur, Malaysia in August 2000.

- **3.00.00**—The Division co-sponsored, with the **Institute of Agricultural Engineers UK** and the **American Society of Agricultural Engineers**, an international conference on "Forestry Engineering for Tomorrow" in Edinburgh, Scotland from 28-30 June 1999. 200 delegates from 30 countries attended. Over 60 technical papers were presented and published without editing in six volumes: Roads, Machinery, Harvesting, GIS, Timber, and Forestry Engineering. All six volumes are available at a cost of £50 plus postage, or individually at lower cost. It is hoped that the same group will be convened in two years for a similar event to improve coordination and avoid duplication of research and development in forestry engineering. **Contact: Geoff Freedman**, Forestry Engineering, Greenside, Peebles, Scotland EH45 8JA, UK; fax +44 1721 723-041, e-mail geoff.freedman@forestry.gov.uk.
- **3.00.00**—As a result of the retirement of **Clark Lantz**, the Division was requested to nominate a representative to serve on the Task Force on Management and Conservation of Forest Gene Resources, representing particularly the interface between forest operations and

genetics. The Task Force is chaired by **Veikko Koski** of the Finnish Forest Research Institute. Following an extensive search, in July the Division's Research Group Coordinators nominated **Judy A. Loo** of the Canadian Forest Service's Atlantic Forestry Centre in Fredericton, New Brunswick. She accepted the nomination and took office immediately, attending her first Task Force meeting in August.

- **3.00.00** participated in a seminar organized by the **Joint FAO/ECE/ILO Committee on Forest Technology, Management, and Training** and held in Passac, France, 20-24 September 1999. **John Garland** D3.07.00, and **Hans Heinemann**, C3.06.00, report that the seminar, entitled "Forest operations of the future", involved several hundred participants who reviewed the future of forest operations from the setting of Bordeaux. Papers were presented on technical, economic, and institutional issues related to forest operations, and field trips to local forest operations, processing facilities, and training sites in the Bordeaux region reinforced the reality of current operations and prospective changes using French conditions as an example. A summary report has been prepared that includes key findings, paper summaries, and suggested directions for various organizations and institutions. The report may be obtained from **Peter Poschen**, Forestry and Wood Industries Specialist, International Labour Organization, CH-1211 Geneva 22, Switzerland; fax +41 22 799 79 67, e-mail poschen@ilo.org. Local arrangements for the seminar were made by AFOCEL de la station Sud-Ouest, Domaine de Sivaillan, Les Lamberts, F-33480 Moulis-en-Medoc, France; Tel. +33 5 57 88 82 33, Fax +33 5 57 88 82 34, e-mail ffg@bordeaux-france.com.
- **Internet Task Force**—During the fourth annual Task Force meeting 22-25 June 1999 in Finland, Division 3 Administrative Officer **Rita Mustikasari** gave a comprehensive report on the activities of the Division in support of the Task Force. Among the items discussed is the e-mail list of Division 3 officers, iufro-d3@cgnet.com that has been created to support the work of the Division. The moderator is **Dennis Dykstra**, who can subscribe and unsubscribe any user to the list. **Rita Mustikasari** is the list's administrator, who has all privileges of the moderator and also receives notice of addressing errors in list subscriptions and user errors in posting messages to the list. Anyone subscribed to the list (*i.e.*, all Division 3 officers with e-mail capabilities) can submit a message to the list. At present, 76 of the Division's 91 officers have been subscribed to the list; the remaining officers do not have access to e-mail.
- **3.02.00**—A conference on "Interactions between nursery management and silvicultural operations" was

held on 28-30 September 1999 at Auburn University, Alabama, USA. **Mike Menzies** C3.02.00 reports that more than 60 scientists and practitioners attended from 14 countries. Six keynote speakers from around the world set the scene on the first day, emphasizing the importance of raising high-quality planting stock and using appropriate site preparation and after-planting care to ensure early and rapid growth. All too often, nursery and field operations have been managed separately rather than being regarded as two sides of the same coin. Another 10 papers and 10 posters expanded on this theme, with some authors focusing specifically on afforestation of difficult sites. The contrasting conditions in Iceland, Sardinia, and the wetlands of the Mississippi Basin emphasized the importance of forestry for conservation values as well as for timber production. Invited papers will be published in *New Forests* and voluntary papers in *Tree Planters' Notes*. For more information contact **Ken McNabb** D3.02.00, School of Forestry, 108 M. White Smith Hall, Auburn University, AL 36849, USA; fax +1 334 844-1084, e-mail mcnabb@forestry.auburn.edu. See also the internet site <http://sofserv.forestry.auburn.edu/sfnmc/iufro.html>. *Proceedings* from an earlier conference, the International Symposium on "Nursery management practices for the Southern pines" held 4-9 Aug 1985 have recently been produced in PDF format and can be found at the following Website: <http://www.forestry.auburn.edu/sfnmc/pubs/manuscript/symposium.html>. The *Proceedings* were posted as an information source in advance of the September 1999 meeting organized by 3.02.00.

- **3.04.00** and **3.06.00** have announced the publication of proceedings from their ad-hoc session on forest operations at the Division 8 conference "Environmental Forest Science" held 19-23 October 1998 in Kyoto, Japan. The ad-hoc session was on "Environmental Aspects in Forest Transportation Infrastructure". 139 participants from 28 countries attended the session. Two types of proceedings were published, an *Extended Abstract Volume*, published by the organizing committee, and a *Full Text Volume* published as a book entitled "Environmental Forest Science", in the Kluwer Academic Forestry Science Series. Contact person for the Division 3 sessions: **Masami Shiba** D3.04.02 and D3.06.01, Kyoto University Forest, Faculty of Agriculture, Kyoto University, Sakyo-ku, Kyoto 606-01, Japan; fax +81 75 7536451, e-mail mshiba@kais.kyoto-u.ac.jp.
- **3.04.00, 3.06.00, 3.07.00**, together with the **University of Zagreb's Faculty of Forestry, the Croatian Forest Research Institute (Jastrebarsko)**, and "**Hrvatske šume**" Inc. (Zagreb) organized an international conference on "Emerging Harvesting Issues and Technology at the End of the Century" from 27

September – 1 October in Opatija, Croatia. The conference was sponsored by the **Ministry of Science and Technology**, the **Ministry of Agriculture and Forestry**, the **University of Zagreb**, and the **Academy of Forest Sciences**. A report by **Stanislav Sever** indicates that 82 participants from 12 countries gathered to hear the presentation of 63 papers by 87 authors during the two-day conference. A highlight was the presentation by IUFRO Secretary **Heinrich Schmutzenhofer** of IUFRO's *Distinguished Service Award* to Prof. Dr. Sc. **Simeun Tomanic** for his long-time and distinguished work in numerous IUFRO activities. Prof. Tomanic took part in five IUFRO Congresses, served as representative of Croatia on the International Council, was Coordinator and Deputy Coordinator of several research groups, and was a member of the Organizing Committee for the 1986 IUFRO World Congress in Ljubljana. Papers presented during the conference sessions were organized into four groups: (a) significance and effects of forestry science in forestry technology implementation; (b) improved understanding and solution of forest engineering problems; (c) contributions to sustainable forest management; and (d) economic success of forest technologies. A poster exhibition was held as well as a photographic exhibition by Prof. **Ante P. B. Krpan**. In addition, a study tour was organized to Gorski Kotar, the mountainous region of Croatia, where participants were informed of the principles of management by the selection system and demonstrations were provided of working techniques and equipment for felling, processing, skidding, long-distance transportation, and skidtrail construction. For information on the *Proceedings*, contact **Stanislav Sever** D3.06.00, Faculty of Forestry, University of Zagreb, Svetosimunska 25, H-10000 Zagreb, Croatia; fax +385 1 218616, e-mail stanislav.sever@zg.tel.hr. The web site for the conference is <http://www.iufro99cro.hr/>.

3.06.00, 3.07.00, 3.10.00 and the **Oregon State University Forest Engineering Department** co-sponsored the "International Mountain Logging and 10th Pacific Northwest Skyline Symposium" 28 Mar – 1 Apr 1999 in Corvallis, Oregon, USA. Thirty papers were presented on applications of forest engineering to help sustain and enhance valuable resources from mountain forests. Approximately 300 people attended, with 12 countries being represented. The symposium and its *Proceedings* were dedicated to Oregon State University Professor Emeritus **John E. O'Leary**, who organized the first Pacific Northwest Skyline Symposium in 1969. Copies of the *Proceedings* can be ordered from the Department of Forest Engineering, Oregon State University, Corvallis, OR 97331-5706, USA; fax +1 541 737-4316, e-mail fedept@cof.orst.edu.

- **3.09.00**—A meeting entitled "Management Alterna-

tives for Thinning Stands from Harvesting and Economical Points of View" was held 5-7 May 1999 in Ennis, Western Ireland. A report by **John Lyons** indicates that approximately 80 people attended, representing 15 countries, and 27 papers were presented. As with many Division 3 meetings, the majority of participants were not "scientists" but rather consultants, engineers, university staff, forest management and operations staff, training managers, mill operators, harvesting contractors and farmers. The meeting included visits to forest areas and helped contribute to the debate, "To thin, or not to thin?" Difficulties associated with small blocks of forest in remote areas were highlighted, and it was emphasized that in many situations it is important to improvise and innovate, rather than trying to develop entirely new systems. *Proceedings* were published in advance through COFORD, the National Council for Forest Research and Development (**Eugene Hendrick**, University College Dublin, Belfield, Dublin 4, Ireland; fax +353 1 706 1180). They can also be obtained from **Pieter D. Kofman** C3.09.00, Danish Forest and Landscape Research Institute, Kvak Møllevej 31, DK 7100 Vejle, Denmark; tel. +45 75 88 22 11, fax +45 75 88 20 85, e-mail pdk@fsl.dk.

- **3.10.00** and **Forest Engineering Southern Africa (FESA)** co-sponsored a conference entitled "Timber Harvesting and Transportation Technologies for Forestry in the New Millennium", 10-11 June 1999 in Pietermaritzburg, South Africa. According to **Loren Kellogg**, Twenty-five papers were presented under three session themes: (1) improving timber utilization and economics, (2) worker training programs and ergonomics, and (3) implementing environmental assessments. The conference also included a poster session and South Africa's first international forestry trade exhibition, Woodfor Africa 99. Approximately 100 people attended from 10 countries. *Proceedings* can be ordered from the Department of Forest Engineering, Oregon State University, Corvallis, OR 97331-5706, USA; fax +1 541 737-4316, e-mail fedept@cof.orst.edu.

3. Cancelled meetings originally scheduled for 1999

The following meetings were cancelled due to low numbers of pre-registrations:

June 1999: **Wetland forest operations**; 3.11.02
North Carolina, USA

Awatif Hassan D3.11.02, Department of Forestry, North Carolina State University, Raleigh, NC 27695-8002, USA; fax +1 919 515-7231, e-mail hassan@cfr.ncsu.edu

13-17 Sep 1999: **Forest and site alterations due to harvesting operations: agents, impacts, and consequences**

3.11.01, Forsitrisk 2, ECE, FAO, ILO
 Feldafing, Germany
Dietmar Matthies D3.11.01, Universität München,
 Lehrstuhl für Forstliche Arbeitswissenschaft und

Angewandte Informatik, Hohenbachernstrasse 22, D-85354
 Freising, Germany; fax +49 8161 714767, e-mail
 mat@forst.uni-muenchen.de

Dennis P. Dykstra
Coordinator, Div 3

Structure of Division 3

Coordinating Unit	
3.00.00 Forest operations and techniques	
Research Group	Working Party
3.02.00 Operational methods in the establishment and treatment of stands	
	3.02.01 Stand establishment operations
	3.02.02 Stand treatment operations
	3.02.03 Nursery operations
3.04.00 Operational planning and control; work study	
	3.04.01 Planning and control
	3.04.02 Work study, payment, labour productivity
3.05.00 Forest operations in the tropics	
3.06.00 Forest operations under mountainous conditions	
	3.06.01 Accessibility of mountain forests
	3.06.02 Harvesting in mountain forests
3.07.00 Ergonomics	
	3.07.01 Physical work environment
	3.07.02 Psycho-social problems
	3.07.03 Health and safety
	3.07.04 Ergonomics in the timber industry
	3.07.05 Ergonomic assessment of mechanization
3.08.00 Small-scale forestry	
3.09.00 Economics and harvesting of thinnings	
3.10.00 Harvesting, wood delivery and utilization	
	3.10.01 Harvesting and product quality
	3.10.02 Harvesting and utilization of nonwood tree biomass
	3.10.03 Harvesting and tree processing
	3.10.04 Harvesting and forest energy
	3.10.05 Wood delivery
3.11.00 Forest operations and environmental protection	
	3.11.01 Site impact caused by forest operations
	3.11.02 Forest operations on sensitive sites
	3.11.03 Methods and techniques for site protection and improvement

Publications by the IUFRO Secretariat in 1999

IUFRO World Series No. 9-es

Terminología de ordenación forestal. Términos y definiciones en español. Equivalencias en alemán, inglés, francés, italiano, portugués, húngaro y japonés. IUFRO 4.04.07 SilvaPlan y el proyecto de terminología de IUFRO SilvaVoc

Occasional Paper No. 12

Global Forest Information Service - Papers presented at the Global Forest Information Service Side Event

Occasional Paper No. 13

IUFRO Task Force "Forest Science-Policy Interface" -

Papers presented at a Side Event of the Third Intergovernmental Forum on Forests (IFF 3)

Annual Report 1998 in English/French/German/Spanish
IUFRO News - Vol 28, Issues 1-4 (issue 4 - Congress Registration Package with Scientific Congress Programme Supplement)

IUFRO News en español (1 issue)

Note: Find a full list of publications by the IUFRO Secretariat at the end of this Annual Report.

DIVISION 4 - INVENTORY, GROWTH, YIELD, QUANTITATIVE AND MANAGEMENT SCIENCES

Coordinator: Klaus v. Gadow
Deputy Coordinators: Victor K. Teplyakov
Harold E. Burkhart

Contact: Dr. Tomasz Zawila-Niedzwiecki, Associate Professor - Forest Remote Sensing and GIS, Institute of Geodesy and Cartography, Department of Cartography, 2/4 Jasna St., 00-950 Warsaw – Poland, tel. + (48 22) 828 0269 ext. 105, tel/fax: + (48 22) 827 0328, e-mail: tzawila@igik.edu.pl

Meetings

4.11.03 Asheville, USA, 3-6 May 1999

“The application of scientific knowledge to decision-making in managing Forest Ecosystems”

4.13.00/4.04.02, Prague, 13-16 May 1999

“From Theory to Practice – gaps and solutions in managerial economics and accounting in Forestry”

Faculty of Forestry, Czech University of Agriculture Prague in Praha/Suchdol. Organizing committee Dr. Hans Jöbstl (joebstl@mail.boku.ac.at), Dr. Maurizio Merlo (merlo@ipdunidx.unipd.it) and Dr. Ludek Sisak (sisak@lf.czu.cz). 187 p. provisional proceedings have been published.

4.11.00/4.01.03, Turrialba, Costa Rica, 31 May-6 June, 1999

“Long-term observations and experiments in forestry - focus on tropical forests”

Organized by: Dr. Christoph Kleinn (email: kleinn@catie.ac.cr).

4.11.00/4.01.03, Borovets, Bulgaria, 31 May-6 June 1999

“Planning and analysis of experiments in irregular forests”

Organized by: Dr. Michael Köhl (email: koehl@forst.tu-dresden.de). **This meeting had to be cancelled!**

4.02.05/4.12.00/8.05.00, Rogow, Poland, 1-3 June 1999

“Remote sensing and forest monitoring”

The Conference was organized under the auspices of the Polish Minister of Environmental Protection, Natural Resources and Forestry. The idea of organizing a remote sensing conference, between the IUFRO Congresses in Tampere 1995 and Kuala Lumpur 2000, was born in 1996 during the discussions in the group of IUFRO officers from 4.02.05-Remote Sensing and World Forest Monitoring, 4.12.00-Remote Sensing Technology and GIS and 8.05.00-Forest Fire Research. The major objectives were to review the state-of-the-art of remote sensing as a tool of forest monitoring and inventory, the research and application problems of the use of remote sensing in forestry and the present and future remote sensing systems in relation to forestry oriented applications; to discuss the recommendations concerning future activities of IUFRO remote sensing activities in relation to the IUFRO 2000 Congress and to produce conference proceedings summarizing the use of remote sensing in forestry.

4.13.00/4.04.02, Salzburg, Austria, June 11-12, 1999

“Forest Assets Valuation - Forestry Performance Accounting”

Contact: Dr. Hans A. Jöbstl, Universitaet fuer Bodenkultur, Abteilung fuer Rechnungswesen, Gregor Mendel-Strasse 33, A-1180 Vienna, AUSTRIA, Tel.: +43-1-47654-4421, Fax: +43-1-47654-4429

e-mail: joebstl@mail.boku.ac.at.

See <http://iufro.boku.ac.at/iufro/iufro.net/d4/wu41300/otherdoc/ws-wver.htm>.

4.02.00, Arusha, Tanzania, 12-16 July 1999

“Workshop on Off-forest Tree Resources of Africa”

The workshop attracted 62 scientists and stakeholders from 25 countries. It was co-sponsored by Sokoine University of Agriculture (SUA, Tanzania), the International Centre for Research in Agroforestry (ICRAF), the African Academy of Sciences (AAS), the United States Department of Agriculture (USDA) and the International Foundation for Science (IFS). The Food and Agriculture Organization of the United Nations (FAO) and Global Environmental Facility (GEF) were also represented. The workshop participants discussed the topic under four main themes: a) tree resources inventory and monitoring; b) biodiversity and ecology; c) resource management, products and services and d) socio-economic aspects and institutional arrangements. A provisional working party of 21 scientists was formed to advance work on tree resources outside forests (TROFs). This team will form the first IUFRO working party on TROFs, and will be represented at the IUFRO World Congress in Malaysia in the year 2000. Contact Dr. A. B. Temu, Leader: Capacity and Institutional Strengthening, International Centre for Research in Agroforestry, P.O. Box 30677 Nairobi, Kenya Fax 254-2-521001; Tel 254-2-521450 email: a.temu@cgiar.org, Internet: <http://www.cgiar.org/icraf>.

4.02.07, Joensuu, Finland, 5-13 August 1999

“Forestry Scenario Modelling in Risk Analysis and Management”

International Seminar and Summer School. The conference was organized by the European Forest Institute and the Finnish Forest Research Institute, together with the IUFRO working unit 4.02.07 Large-scale forest inventory and scenario modelling. The aims of the meeting were 1) to define the needs for risk analysis and management in forest man-

agement planning and policy making from the perspective of different stake-holders (state forestry, forest industry, non-industrial private forest owners, politicians), 2) to introduce different methodologies in risk analysis and management, 3) to present some practical applications and demonstrate the applicability of some existing forestry scenario models in risk analysis and management, 4) to summarize the role of scenario modelling in risk analysis and management. During two days of the seminar 50 participants from 15 countries had an opportunity to get an overview on risk analysis and management in forest management planning and policy making based on 15 presentations, including three keynotes. Contact: Dr. Tuula Nuutinen, The Finnish Forest Research Institute, Joensuu Research Station, P.O. Box 68, FIN-80101 Joensuu, Finland, Tel. +358-13-2514043, Fax: +358-13-2514111, e-mail: tuula.nuutinen@metla.fi.

Aug 8-12, Krasnoyarsk, Russia

"Assessment Methods of Forest Ecosystems Status and Sustainability"

4.12.00 Remote Sensing Technology and Geographic Information Systems; Scientific Council on Forest Problems and V.N. Sukachev Institute of Forest, Russian Academy of Sciences, Siberian Branch

Elena Muratova, V.N. Sukachev Institute of Forest, Russian Academy of Sciences, Siberian Branch, Agadengorodok, Krasnoyarsk, Russia 660036; Fax: +7-39-12-43-36-86; e-mail: ecos@ifor.krasnoyarsk.su

Aug 15-20, Khabarovsk, Russia

"The World's Natural Forests and Their Role in Global Processes"

4.02.06 Resource Data in the Boreal Regions; Federal Forest Management Service of Russia, USDA Forest Service, IIASA, and others

Johann Goldammer, Fire Ecology Research Group, c/o Freiburg University, PO Box, D-79100 Germany

Fax: +49-761-808012; Tel: +49-761-808011

e-mail: jggold@ruf.uni-freiburg.de

Victor Grek, 71 Volochaevskaya Street, 680030 Khabarovsk, Russia, Fax: +7-4212-216798; Tel: +7-4212-21795

e-mail: sergey@niilkh.khabarovsk.su

Sep 15-17, Madison, Wisconsin, USA

"9th Workshop on Artificial Intelligence and Related Topics"

4.11.03 Expert systems and Information Management; SAF Working Group E-5, USDA FS Southern Research Station Daniel L. Schmoltdt, USDA Forest Service, Brooks Forest Products Center, Virginia Tech, Blacksburg VA 24061-0503, Tel (org): +1-540-2314674; Fax: +1-540-2318868;

E-mail: dlschmol@facstaff.wis.edu

http://www.srs4702.forprod.vt.edu/meetings/AI_Workshop/sept99.html

Oct 1-3, Chandigarh, India

"Multipurpose Trees"

4.02.02. Multipurpose inventories, DNAES (Dayanand National Academy of Environmental Scientists)

R.K. Kohli, Department of Botany, Panjab University Chandigarh 160014, India, Fax: +91-172-541409

Tel (direct): +91-172-541441 ext. 1228

Tel (org): +91-172-541441

e-mail (org): pulib@puniv.chd.nic.in

Oct 3-6, Darmstadt, Germany

"150 Years of the Faustmann Formula: The Consequences for Forestry and Economics in the Past, Present, and Future"

4.04.04 Economic Planning Systems for Forest Management, Sun Joseph Chang, Louisiana State University, USA

e-mail: xp2610@lsuvm.sncc.lsu.edu

<http://www.lsu.edu/guests/sjchang>

Oct 26, Portland, Maine, USA

"Effects of Environmental Changes on Forest Growth"

4.01.08 Effects of Environmental Changes on Forest Growth; co-sponsored by NCASI Forestry Research, Heinrich Spiecker, Institute for Forest Growth, University of Freiburg, Bertoldstr. 17, D-79085 Freiburg, Germany,

Tel: +49-761-2033737; Fax: +49-761-2033740;

E-mail: instww@ruf.uni-freiburg.de

Publications

At present only tentative proceedings of the events held in Prague (187 pages, incomplete) and Salzburg (87 pages) in 1999 are available. Final proceedings of the 1996 symposium in Edinburgh ("The Living Forest"), to which the Division and M. Merlo's Group were only contributing, have appeared. The papers delivered in Rome (1998) will hopefully be published still this year, those of Prague (1999) probably not.

Division 4 - Structure

The present Division 4 structure with 29 IUFRO Units is as follows:

4.00.00

Inventory, growth, yield, quantitative and management sciences

C Klaus v. GADOW, kgadow@gwdg.de

D Harold E. BURKHART, burkhart@vt.edu

D Victor K. TEPLYAKOV, tepl@aha.ru

(new: vkt_iucn@interser.ru)

4.01.00

Mensuration, growth and yield

C J.P. SKOVSGAARD, jps@fsl.dk

D Todd H. MOWRER, tmowrer/rmrs@fs.fed.us

4.01.03

Design, performance and evaluation of experiments

- C Andreas ZINGG, andreas.zingg@wsl.ch
- D Valerie LEMAY, lemay@unixg.ubc.ca

4.01.04

Growth models for tree and stand simulation

- C Ivo KUPKA, kupka@lf.czu.cz
- D Margarida TOMÉ, magatome@isa.utl.pt
- D Rod KEENAN, rodney.keenan@brs.gov.au

4.01.06

Instruments and methods in forest mensuration

- C David A. MAC LEAN, dmaclean@fcmr.forestry.ca
- D Ralph L. AMATEIS, ralph@vt.edu

4.01.08

Effects of environmental changes on forest growth

- C Kari MIELIKÄINEN, Kari.Mielikainen@metla.fi
- D Heinrich SPIECKER, instww@sun1.ruf.uni-freiburg.de

4.01.09

Process-based models for predicting forest growth and timber quality

- C Annikki MÄKELÄ, annikki.makela@helsinki.fi
- D Joe LANDSBERG, Joe.Landsberg@cbr.clw.csiro.au
- D Hubert HASENAUER, hasenau@edv1.boku.ac.at

4.02.00

Forest resources inventory and monitoring

- C Risto PÄIVINEN, risto.paivinen@efi.fi
- D H. Gyde LUND, gklund@worldnet.att.net
- D Ashbindu SINGH, singh@edcmail.cr.usgs.gov
- D August Basil TEMU, atemu@cgnet.com
- D Jerry VANCLAY, j.vanclay@cgiar.org

4.02.01

Resource data in the tropics

- C Thelma KRUG, thelma@ltid.inpe.br
- D M. ATUL, hau@hau.ren.nic.in
- D Mohammed ELLATIFI, m.ellatifi@mailcity.com
- D Robert DAVIS, robert.davis@fao.org

4.02.02

Multipurpose inventories

- C R. K. KOHLI, pulib@puniv.chd.nic.in
- D Yoshihiro NOBORI, ynobori@tdsl.tr.yamagata-u.ac.jp
- D Songkram THAMMINCHA, fforskt@nontri.kv.ac.th

4.02.03

Forest inventory on successive occasions

- C Chris BRACK, c.brack@anu.edu.au
- D Timothy G. GREGOIRE, timothy.gregoire@yale.edu
- D Ed FRAYER, wefrayer@mtv.edu
- D Ernest FOLI, : fax +233-51-60121

4.02.04

Geographic and management information systems

- C Roman ALVAREZ, rab@igiris.igeograf.unam.mx
- D Kim DRALLE, kdr@sns.dk
- D Timo TOKOLA, timo.tokola@forest.joensuu.fi

4.02.05

Remote sensing and world forest monitoring

- C Tomasz ZAWILA-NIEDZWIECKI, tzawila@igik.edu.pl
- D David EVANS, dle@sfr.msstate.edu
- D Sten FOLVING, sten.folving@jrc.it
- D Jusof KAMARUZAMAN, kamaruz@forn.upm.edu.my

4.02.06

Resource data in the boreal regions

- C Anatoly X. SHVIDENKO, shvidenk@iiasa.ac.at
- D Vernon J. LABAU, 72114.447@compuserve.com
- D Steen MAGNUSSEN, smagnuss@nrca.gc.ca

4.02.07

Large Scale Forest Inventory and Scenario Modelling

- C Tuula NUUTINEN, Tuula.Nuutinen@metla.fi
- D Howard HOGANSON, hogan001@maroon.tc.umn.edu
- D Bruce MANLEY, b.manley@fore.canterbury.ac.nz

4.04.00

Forest management planning and managerial economics

- C Walter SEKOT, h440t8@edv1.boku.ac.at
- D Janos GAL, jgal@efe.hu
- D Lauri Valsta, lauri.valsta@metla.fi

4.04.01

Inventory of stands

- C Otto ECKMÜLLNER, ottoeckm@edv1.boku.ac.at
- D Oscar AGUIRRE CALDERON, oaguirre@ccr.dsi.uanl.mx

4.04.02

Managerial economics

- C Maurizio MERLO, merlo@ipdunidx.unipd.it
- D Andrzej KLOCEK, info@fswitch.sggw.waw.pl

4.04.03

Forest management planning methods

- C Romualdas DELTUVAS, laa@nora.lzua.lt

4.04.04

Economic planning systems for forest management

- C David W. KLEMPERER, david.klemperer@vt.edu
- D Masahiro AMANO, masahiro@ss.ffmpeg.affrc.go.jp
- D Julio CENTENO, jcenteno@ciens.ula.ve

4.04.06

Planning and economics of fast-growing plantation forests

- C Oscar GARCÍA, ogarcia@unbc.ca
- D Peter BLANDON, greenhil@lgu.ac.uk

4.04.07

SylvaPlan - Forest management terminology

- C Othmar GRIESS, fax: +43-316-8050510
- D Pierre SCHRAM, schram@pt.lu
- D Marten NIEUWENHUIS, nieuwenh@agriculture.ucd.ie

4.04.08

Nature conservation planning

- C Renate BÜRGER-ARNDT, rbuerge@gwdg.de
- D Hubertus VAN HENSBERGEN, hjvh@land.sun.ac.za

4.11.00

Statistical methods, mathematics and computers

- C Michael KÖHL, koehl@forst.tu-dresden.de
- D Christoph KLEINN, ckleinn@catie.cr

4.11.01

Statistical methods

- C George GERTNER, gertner@uiuc.edu
- D Biing GUAN, btguan@ccms.ntu.edu.tw

4.11.02

Mathematics

- C Keith RENNOLLS, k.rennolls@greenwich.ac.uk
- D Celia Gaillard DE BENITEZ, benitez@unse.edu.ar

4.11.03

Expert systems and knowledge management

- C Daniel L. SCHMOLDT, dlschmol@facstaff.wisc.edu
- D Robert Muetzelfeldt, r.muetzelfeldt@ed.ac.uk
- D Alan Thomson, athomson@pfc.cfs.nrcan.gc.ca

4.12.00

Remote sensing technology and Geographic Information Systems (GIS)

- C Barbara KOCH, ferninfo@sun2.ruf.uni-freiburg.de
- D Yousif HUSSIN, hussin@itc.nl
- D Matthias SCHARDT, schardt@joanneum.ac.at

4.12.01

Monitoring subtropical forests using remote sensing technology

- C Hugo Raúl Zerda, hzerda@unse.edu.ar

4.13.00

Managerial, social and environmental accounting

- C Hans JÖBSTL, jöbstl@mail.boku.ac.at
- D Maurizio MERLO, merlo@ipdunidx.unipd.it

*Klaus v. Gadow,
Coordinator, Div 4*

DIVISION 5 - FOREST PRODUCTS

Coordinator: John A Youngquist
Deputy Coordinators: Cathy H H Wang
András Winkler
Christian G Sales

1. IUFRO Congress 2000 and the Congress Scientific Committee

Dr. Cathy Wang is the Division 5 representative on this committee. Division 5 has received approximately 400 poster or oral presentation summaries for the IUFRO World Congress. Handling this large number of summaries has been a major job for the Division 5 officers. These summaries have been reviewed by D5 Research Group Co-ordinators or their designates, and assigned as either oral or poster presentations. Some of the summaries have been rejected and some have been assigned to a prioritized waiting list because the poster and oral presentation space allocated to D5 is below that needed to accommodate the submis-

sions. A request for additional poster and oral presentation space has been made to the Congress Scientific Committee.

Dr. Robert Youngs will serve as the D5 representative on the Best Poster Award Judging Committee at the IUFRO 2000 Congress.

2. Division Web Updates

Division 5 expresses a special thank you to Ms. Brigitte Cabantous, the D5 web moderator, for her dedication and enthusiasm in making the Division's web pages something all of us can be very proud of. Efforts continue to obtain information updates from D5 Research Group (RG) and Working Party (WP) officers to ensure that the D5 web pages are as accurate as possible. The mailing list for general web communications will be expanded to deputies, in an effort to obtain the involvement of more RG and WP officers. The most active Research Groups in Division 5

are 5.11.00 (Non-wood Forest Products) and 5.09.00 (Tree ring analysis). Additionally, 6 working parties have been very active. details can be seen under Events at the homepages of the individual units (go to <http://iufro.boku.ac.at/iufro/iufro/d5list.htm>):

- 5.01.04-
- 5.09.00-
- 5.06.02-
- 5.06.04-
- 5.04.06-

3. All Division 5 Conference

Year 2002 or 2003 - Bidding rules for the next all Division 5 Conference have been drafted and are now posted on the Division 5 web page. We are looking for host institutions and cities, and hope that the venue for the next Division 5 conference will be finalized prior to the IUFRO 2000 World Congress.

4. Changes in Division, Research Group and Working Party Leadership

-5.01.00 – Wood Quality –

Dr. John Phelps, University of Illinois, Carbondale, Illinois, USA, has assumed the position of Co-ordinator.

-5.01.02 - Natural Variations in Wood Quality -

Dr. S.Y. (Tony) Zhang, Research Scientist, Forintek Canada Corp. Quebec, Canada is the new Co-ordinator for this Working Party.

-5.02.00 – Timber Engineering –

Dr. Frederic Rouger, Centre Technique du Bois, Paris, France, has replaced Dr. Preben Hoffmeyer as Co-ordinator of this RG.

-5.03 – Wood Protection –

Ms. Susan LeVan, Research Group Leader, has asked to be replaced. Dr. Robert White has agreed to serve as the interim Group Leader, and to organize the Congress 2000 scientific program for this RG.

-5.03.04 – Protection from Fire –

Dr. Shigehisa Ishihara has retired from this position, and Dr. Anton Osvald has assumed the leadership of this Working Party.

-5.04.08 – Milling and Machining –

Dr. Tanaka is the new Coordinator of this WP, replacing Dr. Szymani.

-5.04.12 – Surfacing and Finishing –

Dr. Dawson replaces Dr. Sell as the WP Coordinator.

-5.05.00 – Composites and Reconstituted Products –

Dr. Kelin Ye is a new Deputy Coordinator.

-5.05.05 – This Working Party on Protection of Composite and Reconstituted Products has been eliminated to avoid duplication with Research Group 5.03 activities.

-5.06.01 – Utilization of Forest Products from Dry Areas

Professor El Osta, the Coordinator of this Working Party, passed away in August of 1998. Dr. Bernard Thibaut has assumed the leadership of this WP for the rest of the period.

-5.08.00 – Production and Utilization of Bamboo and Related Species –

Dr. Abdul Latif Mohmod has assumed the position of WP Coordinator.

-5.11.00 - Non-wood Forest Products -

Dr. Shiva, Advisor and Founder President, Centre of Minor Forest Products, Dehra-Dun, India, is a Deputy Coordinator for this Research Group. Ms. Alka Shiva is the contact person for 5.11.00.

-5.11.03 – Edible products from the forests

Dr. Quiment replaces Dr. Jones as the new Working Party Coordinator.

4. Division 5 Profile

This document has been prepared and is now in place on the IUFRO Web Page. It provides background information on the focus of Division 5, what activities we participate in, and who provide the leadership.

5. Reorganization of RG 5.11 – Non-wood Forest Products

We are now seeking expressions of interest from individuals who are active in this field and who would be interested in serving as Coordinator or Deputy Coordinator of this Research Group for the next IUFRO term from January 1, 2001 through December 31, 2005. Please contact John Youngquist or Cathy Wang if you are interested in serving in one of these capacities. We will be working to reorganize this group to minimize conflicts both within and between existing research groups and working parties, and hope to have a proposal developed for Executive Board consideration.

6. Publication

Dr. Robert Youngs and Mr. John Youngquist have prepared a paper entitled "Forest Products Research in IUFRO: History and Potential" which was presented at the "International Conference on the Utilization of Plantation Timber" held from May 21-23, 1999, in Chi-Tou, Taiwan, Republic of China. This paper will be refined further, presented at the IUFRO World Congress 2000 by Dr. Robert Youngs, and placed at the Division 5 portion of the IUFRO web site.

*John Youngquist
Coordinator, Div 5*

DIVISION 6 - SOCIAL, ECONOMIC, INFORMATION, AND POLICY SCIENCES

Coordinator: Niels Elers Koch
Deputy Coordinators: Perry J Brown
Max Krott

eastern South Africa to view and learn about forestry policy and operations, water policy and development, and national park policy and management. The excursion concluded at Kruger National Park.

1. Introduction

1.1 IUFRO All Division 6 Conference

"Contribution of Science to the Development of Forest Policies", January 7-15 Pretoria, South Africa

The first ever all Division 6 conference was held in Pretoria and north-eastern South Africa from January 7-15, 1999. The conference focused on the topical issue of the contributions of science to the development of forest policies. Approximately 80 delegates from 19 countries attended with a particularly committed group of delegates from eight African countries.

The conference was headlined with keynote addresses from *Tami Sokutu* representing the South African Minister of Water and Forest Affairs, Professor *Kadar Asmal* and *Robert Lewis, Jr.*, Deputy Chief for Research of the United States Forest Service. Two major cases of science and policy development were highlighted from South Africa (*Fred Kruger, Themba Simelane, Tisha Greyling* and *Solly Manyaka*) and North America (*Jack Ward Thomas* and *James Burchfield*). The following plenary papers were presented: Integrating Science and Policy Development: Case of the National Research Council and US Policy focused on Nonfederal Lands by *Paul Ellefson* (USA); Environmental Impact Assessment in Europe by *Ulrike Proebstl* (Germany); Human Values, Institutional Structure, and Ecosystem Sustainability by *George Peterson* (USA); and Looking at International Forestry Information Through Web Links by *Alois Kempf* (Switzerland).

In addition to the keynote, case study, and plenary presentations numerous research presentation and round table discussion sessions were held. These sessions offered the opportunity for researchers to present their work on the topic and for them to share ideas about research needs, research approaches, and policy developments.

Concludingly, Dr. *Harold Fred Kaiser* was honoured: *Niels Elers Koch* and *Perry Brown* presented Dr. Kaiser the IUFRO Distinguished Service Award as an acknowledgment of his commitment to the IUFRO work during many years. Fred Kaiser had been two times Division Coordinator and a successful meeting organizer.

After the close of the formal conference sessions, the delegates made an excursion into the mountains of north-

A document including the keynote, case study, and plenary papers and brief reports of round table discussions is being prepared. When it is completed it can be obtained from Dr. Perry Brown, Director of the Montana Forest and Conservation Experiment Station at The University of Montana, Missoula, MT, USA (pbrown@forestry.umt.edu) and Deputy Coordinator of Division 6, who was responsible for the success of the conference.

1.2 All Division 6 Business Meeting in Pretoria 9 January 1999

Participants:

Niels Elers Koch, Co-ordinator
Perry Brown, Deputy Co-ordinator
Tuija Sievänen, 6.01.00
Ulrike Proebstl, 6.01.06
Alois Kempf, 6.03.00
Denver Burns, 6.00.06
Elisabeth Johann, 6.07.00
Harold Fred Kaiser, 6.11.00
Linda Langner, 6.11.04
Markku Penttinen, 6.11.04
Anne P. Hoover, 6.11.07
Siegfried Lewark, 6.15.00
Jens Nytoft Rasmussen, Secretary to the Co-ordinator (rapporteur)

Agenda

1. Structure of Division 6
2. IUFRO World Congress in Kuala Lumpur 2000
 1. The Co-ordinator referred to the **future structure of Division 6** and reminded of the fact that no officer could hold the same position for more than 2 times 5 years.
 2. The structure and the deadlines for the preparation of the World Congress was recalled.
 - a. Division 6 officers will be responsible or co-responsible for **5 sub-plenary sessions** (of a total of 20). It was agreed that the five sessions are in good progress
 - b. Division 6 is responsible for **15 slots** of approximately two hours each for Task Forces and **Group Sessions**.
 - c. Division 6 is responsible for the provision of 5 (or more) **state-of-knowledge reports**.

The following suggestions were discussed:

1. Technology Transfer (editor: *Cynthia L. Mimer*)
2. History and Forest Resources (editor: *Mauro Agnoletti*)
3. Urban Trees and Forests (editor: *Kjell Nilsson, John Dwyer and Thomas Randrup*)
4. Recreation, National Parks and Recreation (responsible: *Tuija Sievänen*)
5. Presentation Technologies (editor: *Siegfried Lewark*)
6. Non-market valuation (responsible: *Denver Burns*)

It was suggested that Division 6 should aspire to regularly up-date a kind of state of knowledge report for each of the Research Groups during the next period.

- d. Max Krott, Deputy Co-ordinator, was appointed as responsible for the Division 6 **poster session**.

1.3 Division 6 on the IUFRO Net

A strong effort has been made by *Alois Kempf* to achieve a comprehensive presentation on the IUFRO net of the Division's units, their mandate and activities.

During 1998/1999 the following units have entered the IUFRO Net with the listed facilities (ab = About the unit; nl = Newsletters; ev = Events; pu = Publications; li = Links)

- 6.01.00 ab, nl
- 6.01.02 ab, ev
- 6.06.04 ab, ev
- 6.07.00 ab, ev, pu, li
- 6.11.02 ev, nl
- 6.11.04 ab
- 6.11.05 ab
- 6.11.07 ab
- 6.12.01 ev
- 6.12.03 ab, ev, pu
- 6.16.00 ab, ev

1.4 Division 6 State-of-Knowledge reports in connection with the KL 2000 World Congress

IUFRO 6.01 Research Group preliminary outline:
State of knowledge report in Forest Recreation, Landscape Planning and Nature Conservation

Aim and content:

1. Central themes of recreation, landscape management and nature conservation research since the beginning of 60's, and particularly in the last decade.
2. Five to ten most important subjects of interest and research results
3. What is the state of managing these issues/themes
4. How have we advanced in our theoretical and methodological development
5. What are the emerging issues that may shape our direction in the next five years

2. Report of Activities - Publications

2.1

Swiss Federal Institute of Technology Zurich, Working Papers, International Series 1999:
Bibliography 1984-1997 of the IUFRO Research Group Forest Law and Environmental Legislation
Published by IUFRO 6.13.00, *Franz Schmithüsen and Georg Iselin*

2.2

Swiss Federal Institute of Technology Zurich, Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie 21, 1999:

Experiences with New Forest and Environmental Laws in European Countries with Economies in Transition. Proceedings of the International Symposium jointly organized by the IUFRO Research Group 6.13.00 and the Austrian Federal Ministry of Agriculture and Forestry, Ossiach, June 1998

Published by IUFRO Working Group 6.13.00. *Franz Schmithüsen, Peter Herbst and Dennis Le Master*

2.3

College of Forestry and Wildlife Resources, Virginia, USA 1999: Extension Forestry: Bridging the Gap Between Research and Application. Proceedings of the IUFRO Extension Working Party Symposium. July 19-24, 1998

Published by IUFRO Working Party 6.06.03. *James E. Johnson*

2.4

College of Forestry and Wildlife Resources, Virginia, USA 1999: Extension Forestry: Science and Practice for the 21st Century. Proceedings of the IUFRO Extension Working Party Symposium. September 7-12, 1997. Nairobi, Kenya
Published by IUFRO Working Party 6.06.03. *Roland Beck*

2.5

AISF -EFI International Conference on Forest Management in Designated Conservation & Recreation Areas. 7-11 October 1998, Florence, Italy. University of Padua Press. 535 p. (includes 55 papers)

Published by IUFRO Research Group 6.01.00

2.6

Ken Cordell 1999. Outdoor Recreation In American Life. Sagamore Publishing

Published by IUFRO Research Group 6.01.00

2.7

De Vries, S. and Bruin, A.H. 1998. Segmenting recreationists on the basis of constraints. A first step towards modeling the demand for outdoor recreational facilities. DLO Winand Staring Centre, Wageningen (The Netherlands), Report 121. 82.p.

Published by IUFRO Research Group 6.01.00

2.8

Sievänen, T. (toim.) 1998. LVVI - esitutkimusraportti (a pilot report of the Finnish Outdoor Recreation Demand and Supply Assessment study, in Finnish, a brief summary available in English). Metsäntutkimuslaitoksen tiedonantoja 702

Published by IUFRO Research Group 6.01.00

2.9

India 1998: Biodiversity Conservation in U.P. Hills: A Peoples' viewpoint

Published by IUFRO Working Group 6.07.01. *Ajay S. Rawat*

2.10

India 1998: Forestry in Central Himalaya

Published by IUFRO Working Group 6.07.01. *Ajay S. Rawat*

2.11

India 1998: Forests on Fire: Politics and Ecology of Himalayan Tarai

Published by IUFRO Working Group 6.07.01. *Ajay S. Rawat*

2.12

India 1998: Corbetts' Naini Tal: Travails of a crumbling city

Published by IUFRO Working Group 6.07.01. *Ajay S. Rawat*

2.13

News of Forest History, no. 28, 1999.: Forest History in Romania.

Published by IUFRO Research Group 6.07.00 and the Austrian Forest Association. *Elisabeth Johann*

2.14

Sigrid Schwenk 1998: Bibliography of the Literature of Hunting from 1851-1945 in German Language. de Gruyter. In co-operation with IUFRO 6.07.05. *Sigrid Schwenk*

3. Report of Activities - Meetings held

3.1

Report of the IUFRO All Division 6 Conference, Pretoria, South Africa, January, 7-9, 1999.

Research Group 6.01 Round Table Session

"Recreational Assessments Studies", reported by *Sjerp de Vries* and *Tuija Sievanen*.

Round table leader: *Tuija Sievanen* (Finland)

Panelists: *Niels Elers Koch* (Denmark), *Linda Langner* (USA), *William Steingrube* (Germany), *Sjerp de Vries* (The Netherlands). About 12 participants from Finland, Germany, The Netherlands, South Africa, Switzerland, US, Zimbabwe.

A short introduction to the session was given by *Tuija Sievanen*. The aims of the session were:

- to share ideas and approaches regarding conducting national recreation surveys

- to discuss theory and methods
- to discuss the contribution of recreation survey studies to forest policy,
- recreation policy and practical planning
- to search for and establish links between these studies and
- to promote international co-operation.

Tuija Sievanen gave a historical overview of national surveys in different countries. And a number of cases from various countries were presented and discussed.

Means for international cooperation

Koch informed that the IUFRO Board would especially welcome an international state-of-knowledge report, including the present hot issues within the domain of the Research Group. This would be another issue on which international cooperation would be welcome, besides sharing knowledge on the methodology of surveys etc. *Tuija Sievanen* suggested to organize a special workshop on international cooperation in the conduction of national recreational surveys.

3.2

Research Symposium in Copenhagen, Denmark: 'Urban Greening and Landscape Architecture'

The symposium was held at The Royal Veterinary and Agricultural University Copenhagen (Denmark) from 23-25 June 1999. The event was jointly organized by the university, the Danish Forest and Landscape Research Institute, and the Royal Academy of Fine Arts, Copenhagen, in collaboration with IUFRO Division 6, among others. The symposium was held in conjunction with the 36th International Federation of Landscape Architects (IFLA) World Congress in Copenhagen and with a meeting of COST-Action E12 'Urban Forests and Trees', a network of European urban forestry researchers.

The aim of the symposium was to provide a scientifically and intellectually stimulating environment for the discussion of present and future research within the fields of urban greening and urban forestry. Managing and developing urban green space is becoming increasingly important in a society which is now predominantly urban. The design, planning, establishment and management of urban woodlands, parks, street trees and other vegetation involves a wide range of disciplines. The symposium's participant list acknowledged this, as the approximately 150 participants from more than 30 countries represented professions such as forestry, landscape architecture, horticulture, landscape ecology and the social sciences.

The programme reflected the richness in perspectives and approaches. Architects and landscape architects such as Jan Gehl (Denmark), Eivor Bucht (Sweden) and Marc Trieb (USA) emphasized the importance of public urban (green) spaces from a design and management perspective. Roger

Ulrich (USA) presented his innovative studies aiming at the quantification of the impact of urban green and nature on the health of urban dwellers, while former USDA Forest Service Chief Jack Ward Thomas (USA) elaborated on the 'urbanization' of North-American forests and stressed the importance of sustainable urban development.

Apart from the plenary sessions and an excursion along Copenhagen's urban green spaces, three concurrent sessions with 36 presentations in all took place. Session 1 dealt with objectives, form and functions of urban greening, Session 2 included papers on plant establishment and plant selection for urban uses, while Session 3 had planning and management of urban greening as its theme.

For more information on the symposium or for ordering a copy of the proceedings (at 100 DKK + postage) please contact Dr. *Thomas Randrup* or Dr. *Cecil C. Konijnendijk*, Danish Forest and Landscape Research Institute, Hoersholm Kongevej 11, DK-2970 Hoersholm, Denmark, Fax: +45-45 76 32 33; Tel.: +45-45 76 32 00; E-mail: cck@fsl.dk

3.3

Research Seminar in Copenhagen, Denmark, 3 September 1999, organized by the Danish Forest and Landscape Research Centre and IUFRO Division 6:

Forest Science and Forestry Contributing to Quality of Human Life in Developing Countries.

A number of the distinguished members of the Executive Board of IUFRO, including the former President Dr. *M. N. Salleh* and the IUFRO Secretary *DI H. Schmutzenhofer*, gave presentations for a 60 person audience in connection with the IUFRO EB Meeting in Denmark, Norway and Sweden in September 1999. The seminar, chaired by the Division 6 Co-ordinator, Dr. *Niels Elers Koch*, addressed the challenges for forestry in Africa, Asia, Latin America and Eastern Europe. A summary was given by Dr. *Robert Szaro* of IUFRO-SPDC. Proceedings edited by *Jens Nytoft Rasmussen* will be issued at the beginning of 2000.

3.4

2nd International Symposium on

"Experiences with New Forest and Environmental Laws in European Countries with Economies in Transition"

29 September – 3 October, 1999

Ossiach (Austria) organized by IUFRO 6.13.00 Forest Law and Environmental Legislation by Peter Herbst.

IUFRO 6.13.00, the forest law and environmental legislation subject group, aims to promote exchange of information amongst researchers and practitioners active in forest law and environmental legislation all over the world and to permanently review the state of the subject, thereby setting priorities concerning research and practice.

The 2nd International Symposium on "Experiences with new forest and environmental laws in European countries with

economies in transition" was held in Ossiach, Austria, 29 September – 3 October, 1999. The meeting was sponsored by the Austrian Government (Ministry of Agriculture and Forestry), additional funds were provided by the ETH Zürich.

Twenty-six participants representing sixteen nations participated in the 1999 meeting. The symposium consisted of 4 main parts:

It started with the presentation of IUFRO, its structure and activities, by IUFRO's Secretary General, *DI H. Schmutzenhofer*, and of IUFRO 6.13.00 by the Group's Co-ordinator, Prof. *Schmithüsen*, who both participated in the meeting.

Part 2 consisted of lectures by Prof. *LeMaster* (Purdue University, USA) on "Application of Forest Policy Tools in Eastern European Countries" and the official representative of FAO, Dr. *Lindsay*, on "International Trends in Forestry Legislation".

The most extensive part, part 3, comprised sessions on the situation in European countries with economies in transition, including the presentation of papers from Bulgaria, Czech Republic, Estonia, Latvia, Lithuania, Romania, Slovak Republic, Slovenia, and Ukraine. The whole range of possible stages of development of forest law and environmental legislation as well as problems concerning implementation and administration were covered by these presentations and discussions.

Part 4 was a moderated collection of impending problems and topics; selected according to their relevance to the participants, these topics were discussed during the meeting. The results will be presented at the 6.13.00 group session during the XXI IUFRO World Congress in Malaysia, on Friday, 11 August 2000.

3.5 Other meetings held in 1999:

Jun 14-17, Joensuu, Finland

"*The Role of National Forest - Programs to Ensure Sustainable Forest Management*"

6.12.00 Forest Policy and Forestry Administration; *EFI Brita Pajari*, Seminar Coordinator, European Forest Institute, Torikatu 34, 80100 Joensuu, Finland, Tel.: +358 (0)13 252 0223; Fax: +358 (0)13 124 393; E-mail: brita.pajari@efi.fi; Website: <http://www.efi.fi/events/>

Aug 23-28, Aberdeen, Scotland, U.K.

"*Forestry and Rural Development in Industrialized Countries*"

6.11.02 Forestry and Rural Development in Industrialized Countries; 3.08.00 Small Scale Forestry; *Bill Slee* or *Irene Wilson*, Department of Agriculture, University of Aberdeen, 581 King Street, Aberdeen, AB 24 5UA, Scotland, U.K. Tel: +44-1224 -274-140 e-mail: rwslee@abdn.ac.uk e-mail: i.wilson@abdn.ac.uk

Sep 5-8, Edenkoben, Germany
"European Forest Policy as a Challenge for the State Forest Services - 9th IUFRO European Forum for State Forest Services"

6.12.00 Forest Policy and Forest Administration
Max Krott, University of Goettingen, Department of Forest Policy and Nature Conservation, Büsgenweg 5 D-37077 Göttingen, Germany Tel (org): +49-551-393412; Fax: +49-551-393415 E-mail: mkrott@gwdg.de

Sep 5-10, Tuscany, Italy,
"Cultural Values of Woodlands and Forests"
6.06.04 Education and Research in Silviculture; University of Florence, Forestry Department
Petro Piussi, Università degli Studi di Firenze, Istituto de Selvicoltura, Via S. Bonaventura, 13, 50145 Firenze, Italy, Tel/Fax: +39-055-2335014; E-mail: lpiussi@dada.it

Sep 12-19, Lviv, Ukraine
"Forestry Education and Research in the Context of Environmental and Development Problems: Strategies for XXI Century"
6.15.00 Improving Education and Further Education in Forestry; Ukrainian State University of Forestry and Wood Technology; Ministry of Education of the Ukraine; SILVA Network; Yuri Tunytsya or Gregory Krynytsky, Ukrainian State, University of Forestry and Wood Technology, 103 Gen. Chuprynka str., UA-290057 Lviv, Ukraine, Tel/Fax: +380-322-352269; Fax: +380-322-971765; Tel: +380-322-352411, E-mail: EDUFOR21@forest.lviv.ua E-mail: krynytsk@forest.lviv.ua

Sep 28 - Oct 1, La Bresse (Vosges), France
Int'l Meeting: "La Sapinière: du mythe de la ligne bleue aux enjeux actuels"
6.07.00 Forest History, Parc Naturel Régional des Ballois des Vosges, Groupe d'Histoire des Forêts Françaises, etc. Claude Michel, Parc Naturel Régional des Ballois des Vosges, F-68140 Munster, Tel: 0389779020; Fax: 0389779030, E-mail: balleden@wanadoo.fr

Oct 4-10, Bled, Slovenia
"Forest Ownership Structures and Extension"
6.06.03 Extension
Jurij Begus, Slovenia Forest Service, Vecna pot 2, p.p. 7; 1001 Ljubljana, Slovenia, Tel: +368-61-123-5432; Fax: +368-61-123-5361; E-mail: Jurij.Begus@gov.si

Nov 6-9, Nauni-Solan., India
"International Workshop of Forestry, Extension and Participatory Management"
6.06.02 Technology Transfer, 6.11.01, Economic and Social Aspects of Forestry in Developing Countries
Dr. Y.S.Parmar, University of Horticulture and Forestry, Dr. PK Khosla, H.P.K.V.V. Palampur – 176062 (HP) India, Tel:01894-30521, Fax:+91-1894-30511
E-mail: atul@hpkv.hp.nic.in or atul1028@email.com

Dr. BS Hansra, E-mail: hansra@kab.delhi.nic.in
Dr. OP Sharma, E-mail: dext@yaspuhf.ren.nic.in

Nov 23-26, Curitiba, Brazil
"6th Meeting of the Latin American and Caribbean Forest Information Systems Network"
6.03.04 Latin American and Caribbean Forest Information Systems Network
Erich Gomes Schaitza, EMBRAPA- Florestas, Estrada da Ribeira km 111, 83411-000; Colombo, Brasil, Tel: +41-766-1313; Fax: +41-766-1276; E-mail: erich@cnpf.embrapa.br

5. Changes During the Year in Research Groups and Working Parties

5.1 Education and Research in Silviculture (6.06.04)

A new Coordinator, *Pelle Gemmel* has been appointed
Pelle Gemmel
Swedish University of Agricultural Sciences
Southern Swedish Forest Research Centre
Box 49
S-230 53 Alnarp SWEDEN
Tel: +46/40 415 187
Fax: +46/40 462 325
E-mail: pelle.gemmel@ess.slu.se

The former Coordinator, *Pieter Schmidt* will continue his work for IUFRO as the Deputy Coordinator. His new address is:

Pieter Schmidt
Tropenbos Cameroon Programme
B.P.219
Kribi
Cameroon
Tel: 00 237 46 13 22
Fax: 00 237 46 14 19
E-mail: tropenboscameroon@compuserve.com

5.2 Social and Economic History (6.07.02)

Dr. *Steven Anderson* has been appointed as Deputy Coordinator

Steven Anderson, President
Forest History Society
701 Vickers Ave.
Durham, NC 27701
USA
Phone: (919) 682-9319
FAX: (919) 682-2349
stevena@duke.edu

Niels Elers Koch
Coordinator, Div 6

DIVISION 7 FOREST HEALTH

Coordinator: David F Karnosky
Deputy Coordinators: Bo E Långström
Kazuo Suzuki
Manfred Tesche

Introduction

Division 7 had a vigorous year with five major meetings held and several significant publications. Plans for our Forest Health activities at the IUFRO World Congress are also proceeding well, as we now have nearly 60 presentations scheduled in the programme in 12 sessions. In addition, we have accepted nearly 100 posters for Division 7, so we will have a significant presence of Division 7 scientists at the Congress.

Changes in Division 7 Working Parties

7.03.04 Diseases and insects in forest nurseries

Coordinator:
Stephen Fraedrich
USDA Forest Service
320 Green Street
Athens, Georgia USA 30602
Telephone: 706-559-4273
Fax: 706-559-4287
E-mail: Fraedrich_Stephen/sr_athens@fs.fed.us

Deputy Coordinator:
Jarmo Holopainen
Department Ecology and Environmental Science
University of Kuopio
P.O. Box 1627
FIN-70211 Kuopio, Finland
Telephone: 358-17-163203
Fax: 358-17-163230
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Deputy Coordinator:
Zdenka Prochazkova
VULITMVS
Uherske Hradiste
686 04 Kunovice
Czech Republic
Fax: 420-632-549119
E-mail: vulhmvs@brn.pvet.cz

7.01.05 Environmental effects on resistance expression

P.W. Wargo resigned as Coordinator. No new leader has yet been appointed. Therefore, the position is vacant at the moment.

7.04.00 Impacts of air pollution on forest ecosystems was reorganized into the following working groups:

7.04.01 Diagnosis, monitoring and evaluation
Coordinator: John Skelly, USA
Deputy Coordinator: Sam Linzon, Canada
Deputy Coordinator: Marco Ferretti, Italy

7.04.02 Mechanisms of action and indicator development
Coordinator: Jürg B. Bucher, Switzerland
Deputy Coordinator: Jesada Luangjame, Thailand
Deputy Coordinator: Elena Paoletti, Italy

7.04.03 Soil and nutrient cycles
Coordinator: Ulrika Rosengren-Brinck, Sweden
Deputy Coordinator: Andrzej Bytnerowicz, USA
Deputy Coordinator: Helen Jones, UK

7.04.04 Influences of air pollution and climatic change on genetics, adaptation, and succession
Coordinator: Gerhard Müller-Starck, Germany
Deputy Coordinator: Wieslaw Prus-Glowacki, Poland

7.04.05 Restoration and sustainable management
Coordinator: Gordon Weetman, Canada
Deputy Coordinator: Vit Sramek, Czech Republic
Deputy Coordinator: Algirdas Augustaitis, Lithuania

Division 7 Research Group Activities

Meetings Held

7.01.00, 7.04.00, 2.01.00, 2.02.00, 2.04.00, 2.08.00 - "Genetic Response of Forest Systems to Changing Environmental Conditions." Munich, Germany, September 12-17, 1999.

7.03.04 "The Fourth Meeting of Diseases and Insects in Forest Tree Nurseries." Suonenjoki, Finland, July 25-28, 1999.

7.03.06 7.03.07 "Integrated Management of Forest Defoliators." Victoria, British Columbia, Canada, August 15-18, 1999.

7.02.07 "Diseases of Tropical Trees." Kuala Lumpur, Malaysia, March 15-18, 1999.

7.02.09 "International Meeting on Phytophthoras in Forest and Wildland Ecosystems". Grants Pass, Oregon USA, August 29 - September 3, 1999.

7.03.10 "Methodology of Forest Insect and Disease Survey in Central Europe". Second Workshop of the IUFRO Working Party, Sion-Chateauf, Switzerland, April 20-23, 1999.

Publications

Delatour, C., J.J. Guillaudin, B. Lung-Escarmant, and B. Marcais (Eds.) 1998. Root and butt rots of forest trees. 9th International Conference on Root and Butt Rots, Les Colloques No. 89 INRA Editions, France. 459 pp.

Suzuki, K. (Ed.) 1999. Sustainability of pine forests in relation to pine wilt and decline. Proceedings Division 7 Symposium. Tokyo. October 27-28, 1998. 336 pp.

Forster, B., M. Knizek, and W. Grodzki (Eds.) 1999. Methodology of forest insect and disease in central Europe. Proceedings Second Workshop of IUFRO Working Party 7.03.10. Sion-Chateauf, Switzerland, April 20-23, 1999. 300 pp.

Sheppard, L.J. and J. Neil Cape. (Eds.) 1999. Forest growth responses to the pollution climate of the 21st century. Proceedings IUFRO 7.04.00 18th Workshop on Air Pollution Stress, Edinburgh, Scotland, September 21-23, 1998. Kluwer

Academic Publishers. Dordrecht, The Netherlands. 448 pp.

Müeller-Starck, G. 1999. Genetic response of forest systems to changing environmental conditions - Analysis and management. Book of Abstracts. University of Munich. IUFRO Conference - Division 2 and 7. 98 pp.

Csoka, G., Mattson, W.J., Stone, G.N., and Price, P. 1999. The biology of gall inducing arthropods. USDA Gen. Tech. Rept. NC-199, North Central Research Station, 1992 Folwell Ave. St. Paul, Mn. 55108, USA. 329 p.

Lieutier, F., Mattson, W.J., and Wagner, M.R. 1999. Physiology and genetics of tree-phytophage interactions. INRA publications, INRA editions, Route de St. Cyr, 78026 Versailles Cedex, France. 374 p.

*David F Karnosky
Coordinator, Div 7*

DIVISION 8 FOREST ENVIRONMENT

Coordinator: Kyoji Sassa
Deputy Coordinators: Kamis Awang
Timothy Boyle
Alain Franc

General Information

Division 8 organized the first Divisional Conference in Kyoto on 19-23 October, 1998. The research contents and the structure of this new Division were discussed in order to integrate all fields of forest sciences and other related sciences dealing with the environment into Environmental Forest Science. The full text proceedings published by Kluwer Academic Publisher (Forest Science Series, Volume 54, ISBN 0-7923-5280-7) were highly esteemed and are available from the publishing house (FAX: +31-78-639-2254, e-mail:services@wkap.nl). The conference participants issued the Kyoto Appeal "Environmental Forest Science for Sustainable Development" (see IUFRO Annual Report 1998). Based on the discussions and also in accordance with the 1998 Kyoto Appeal, two steps were taken in 1999:

1. A new Research Group "8.08.00 Forests and Climate" was established and the previous "8.03.00 Environmental Influences" was renamed as "8.03.00 Forest Hydrology". Climate and water are very essential factors for the environment as the key issue for the earth in the 21st century. In awareness of the significance of **Climate and Water** for

forest science and the environment of the world, these two fields have been emphasized in the IUFRO units.

2. In accordance with the concept of the IUFRO Kyoto Appeal, the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Disaster Prevention Research Institute, Kyoto University, agreed, in December 1999 on the "Memorandum of Understanding concerning cooperation in research for landslide risk mitigation and protection of the cultural and natural heritage as a key contribution to environmental protection and sustainable development in the first quarter of the twenty-first century"

In the first quarter of the twenty-first century, the global population is estimated to reach around 8 billion. To accommodate this increased population and to manage its subsequent and inevitable urbanization and mountain development, it is important to join efforts world-wide to enhance research, investigation and educational aspects in the fields of landslide risk mitigation and the protection of the cultural and natural heritage and other fragile assets of humanity. This purpose falls within the IUFRO Kyoto Appeal and the activities are a part of the work of IUFRO Division 8.

Changes in the Structure of the Division

New officers (*in italics*) have been selected and some of the present officers have been moved due to the research group reorganization in 8.03.00 and 8.08.00. The name of Research Group 8.04.00 was changed. (Note: "C" stands for Coordinator and "D" for Deputy Coordinator).

8.01.00 Ecosystem

8.01.00 Ecosystem

ANDERSSON, Folke (D)

Swedish University of Agricultural Sciences (SLU)
Department of Ecology and Environmental Research
Section of Systems Ecology
P.O. Box 7072, SE-75007 Uppsala, Sweden
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Email: Folke.Andersson@eom.slu.se

8.01.00 Ecosystem

KING, Hen-Biau (D)

Division of Watershed Management
Taiwan Forest Research Institute
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Email: hbking@serv.tfri.gov.tw

8.01.04 Tropical and subtropical forest ecosystems

KOHLI, Ravinder Kumar (D)

Department of Botany, Punjab university
Chandigarh-160 014, India
Tel: +91-172612884, Fax: +91-172-541409
Email: kohli%botany@puniv.chd.nic.in

8.01.06 Mediterranean shrub ecosystems

NE'EMAN, Gidi (D)

Dept. of Biology, University of Haifa at Oranim
Tivon 36006, Israel
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Email(pers): <gneeman@research.haifa.ac.il>

8.01.07 European Forest Ecosystems

ANDERSSON, Folke (C)

Swedish University of Agricultural Sciences (SLU)
Department of Ecology and Environmental Research
Section of Systems Ecology
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Tel: +46-18-672 450, Fax: +46-18-673 430
Email: Folke.Andersson@eom.slu.se

8.02.00 Site

8.02.00 Site

BOYLE, James R. (C)

Department of Forest Resources, Oregon State
University, Peavy Hall 108, Corvallis, OR 97331, USA
Tel: +1-541-737-4036, Fax: +1-541-737-2668,
Email: boylej@ccmail.orst.edu

8.03.00 Forest Hydrology

8.03.00 Forest Hydrology

FAHEY, B., New Zealand (moved from 8.03.02 C) (C)
Forest Hydrology)

8.0.003 Forest Hydrology

KOWALIK, Piotr, Poland (moved from 8.03.02 D) (D)
Forest Hydrology)

8.03.00 Forest Hydrology

SIDLE, Roy C. (D)

Faculty of Forestry, Department of Forest Resources
Management, University of British Columbia, 2357 Main
Mall, Rm. 270, Vancouver, British Columbia V6T 1Z4,
Canada
Tel: +1-604-8224770, Fax: +1-604-822-9106
Email: sidle@pop.unixg.ubc.ca

8.03.00 Forest Hydrology

TANI, Makoto (D)

Graduate School of Agriculture Kyoto University
Kitashirakawa Oiwake-cho, Kyoto 606-850, Japan
Tel: +81-75-7536086, Fax: +81-75-753-6088
Email: tani@kais.kyoto-u.ac.jp

8.04.00 Natural Disasters

8.04.04 Watershed Management

Working party name was changed. (Old name:
Erosion control by watershed management)

8.05.00 Forest Fires

8.05.00 Forest Fires

CONARD, Susan G. (D)

Fire Ecology Research, USDA Forest Service
Vegetation Management and Protection Research
Auditors Building (1CEN), 201 14th Street, SW,
Washington, DC 20250, USA
Tel: +1-202-205 1541, Fax: +1-202-205 2497
Email: sconard/wo@fs.fed.us

8.05.00 Forest Fires

GOLDAMMER, G. Johann (D)

Fire Ecology Research Group, The Global Fire
Monitoring Center, Max Planck Institute for Chemistry,
c/o Freiburg University, P.O. Box, D-79085 Freiburg,
Germany
Tel: +49-761-808011, Fax: +49-761-808012
Email: jggold@uni-freiburg.de

8.07.00 Biodiversity

8.07.00 Biodiversity

DALLMEIER, Francisco (moved from 8.07.00 D) (C)

8.07.00 Biodiversity

SZARO, Robert (moved from 8.07.00 C) (D)

8.08.00 Forests and Climate

8.08.00 Forests and Climate

SCARASCIA-MUGNOZZA, Giuseppe (C)

Dept. of Forest Environment and Resources

University of Tuscia, Via De Lellis, 01100 Viterbo, Italy

Tel: +39-0761-357395, Fax: +39-0761357389

Email: <gscaras@unitus.it>

8.08.00 Forests and Climate

XU, Deying (moved from 8.03.00 D) (D)

8.08.01 Forest Meteorology and Climatology

HAGER, Herbert, Austria (moved from 8.03.01 C) (C)

8.08.01 Forest Meteorology and Climatology (D) SUN,

Ji-Zheng, China (moved from 8.03.01 D)

8.08.02 Impact of wind on forests (C) QUINE, C.P., UK

(moved from 8.03.04 C)

Activities in 1999

- 1) Reorganization of Division 8 was done based on the discussions in the Kyoto Conference.
- 2) Preparation of Division 8 Sessions in XXI IUFRO World Congress 2000.
- 3) Feb 7-12, Mt. Carmel, Israel, MEDPINE-Mediterranean Pine International Workshop, 8.00.00 Forest Environment, Department of Biology, 2.02.13, Gidi Ne'eman and Ido Izhaki, e-mail: gneeman@research.haifa.ac.il
- 4) Mar 1-5 Phoenix, AZ, USA, National Interagency Fire Behaviour Workshop 8.05.00 Forest Fire Research, Wayne Cook, E-mail: wcook/rmrs_missoula@fs.fed.us

- 5) June 1-3, Rogow, Poland
IUFRO Conference on Remote Sensing and Forest Monitoring
Tomasz Zawila-Niedzwiecki, SGGW Warsaw Agriculture University, Faculty of Forestry, E-mail: tzawila@giswitch.sggw.waw.pl
- 6) June, 14-17, Rauris, Austria
2nd International Workshop on Master Planning in Torrent Watersheds on the Base of Hazard Mapping.
Gernot Fiebiger, Torrent and Avalanche Control, Salzburg, FAX: +43-662-870215
- 7) Sep 6-10, 1999, Davos, Switzerland
International Workshop on Structure of Mountain Forests – Assessment, Impacts, Management, Modeling.
Walter Schonenberger, Section Mountain Forests, Swiss Federal Institute for Forest, Snow and Landscape. E-mail: walter.shoenenberger@wsl.ch
- 8) Sep 19, Paris, France
Workshop on Landslide Investigation and Stabilization
Hideaki Marui, Research Institute for Hazards in Snowy Areas, Niigata University.
E-mail: maruihi@cc.niitaga-u.ac.jp
- 9) Sept 20-22, Paris, France
IGCP-425 Meeting on Landslide Hazard Assessment and Cultural Heritage,
Kyoji Sassa, Disaster Prevention Research Institute, Kyoto University, E-mail: sassa@scl.Kyoto-u.ac.jp

*Kyoji Sassa
Coordinator, Div 8*

TASK FORCE ON ENVIRONMENTAL CHANGE

Coordinator: John L. Innes

This has been a very active year for the Task Force. All the reports, which are the principal output of the Task Force, were in preparation. By the end of 1999, one of the reports ("Forest dynamics in heavily polluted regions") had been published as the first volume in the new **IUFRO Research Series**. A second report, dealing with air pollution problems in developing and rapidly industrializing countries, was submitted to CABI Publishing at the end of 1999. Executive summaries for both of these reports are currently in preparation. Several other reports were nearing com-

pletion towards the end of 1999, and the majority of the outstanding reports will be published in 2000.

The Task Force was active at the 3rd session of the Inter-governmental Forum on Forests. We represented IUFRO at the special side meeting organized to highlight the links between research and policy. We also organized a field excursion on one day of the meeting, attended by about 80 delegates. During the excursion, we showed delegates an environmental change monitoring site run by the Swiss Federal Institute for Forest, Snow and Landscape Research, emphasizing the close links between policy and research in this project and pointing out the high level of international cooperation involved in the project.

Members of the Task Force have been actively involved in authoring or reviewing several important reports, including the forthcoming “Land use and climate change” of the Intergovernmental Report on Climate Change. This report is particularly important as it concerns the role of forestry in national carbon budgeting. In addition Task Force members have acted as chairpersons or invited delegates at many international meetings during 1999. In this respect,

an important contribution was to chair the World Forest Forum on “Forests and Atmosphere – Water – Soil” in Soltau, Germany in July 1999.

In 2000, activities will concentrate on finishing the report series and organizing a special session at the IUFRO World Congress.

J.L. Innes
Task Force Coordinator

TASK FORCE ON FORESTS IN SUSTAINABLE MOUNTAIN DEVELOPMENT

Coordinator: *Martin Price*

The principal activity of the Task Force during 1999 was the preparation of a report, to be published by CAB International in the **IUFRO Research Series** in time for the IUFRO Congress 2000. The first draft table of contents, including potential authors of papers, was completed in late 1998. This, and a series of later drafts, were circulated among members of the FAO Forestry Department (Mette Løyche Wilkie, Douglas McGuire, El Hadji Sène), the Intergovernmental Forum on Forests (Tage Michaelsen), the IUFRO Task Force (Larry Hamilton, Pietro Piussi), the Mountain Institute (Elizabeth Byers, Jane Pratt), and the Swiss Agency for Development and Cooperation (Ulrich Lutz), who commented on the structure and contents and suggested potential authors.

The 132 authors of the 91 contributions to this report come from a very diverse range of backgrounds and from around the world. For some topics, authors were able to provide a comprehensive overview at the global scale. For others, an overview is provided at a regional or country scale. Other authors have provided case studies which illustrate topics at local to national scales. This approach was taken in recognition that a comprehensive global overview of all the relevant topics is probably not possible at present; in addition, a secondary aim was to ensure reasonable representation within the authorship – and the topics considered – from different parts of the world. The need for such a diversity of authors has been noted as a problem with ‘Mountains of the World: A Global Priority’ (edited by B. Messerli and J.D. Ives, 1997; Parthenon Publishing) which was largely written by male authors from western Europe and North America. However, given the relative availability of literature resources and the variation in scientific cultures across the world, the principle of diversity may in some cases have led to a less developed treatment of an issue than might be expected.

Each author was asked to include the following

elements in her or his contribution:

- 1) why we need to know (i.e., importance of topic vis-à-vis the roles of forests in sustainable development in mountain regions);
- 2) what we know (e.g., results of research);
- 3) how we know (e.g., methodology);
- 4) what we need to know (e.g., missing information or data, importance of gaps in information or data; or insufficient research activities in certain places or on certain sub-topics);
- 5) what next (e.g., desirable future research or other activities).

Most authors attempted to answer these questions – or were asked to do so, after review of their initial contributions – and the recommendations for future action deriving from the answers to the last two questions may be used to define priorities for future research and action, as discussed in the introductions to each of the ten sections of the report, which are as follows:

- Part 1. Mountain forests: location, characteristics, and trends (7 articles, 6 case studies)
- Part 2. Mountain communities and their forests (5 articles, 3 case studies)
- Part 3. Interdependencies between mountain and lowland populations (3 articles, 4 case studies)
- Part 4. Perceiving and assuring the multiple functions of mountain forests (5 articles, 8 case studies)
- Part 5. Multiple functions from mountain forests I: Mountain forests: sources of wood (4 articles, 5 case studies)
- Part 6. Multiple functions from mountain forests II: Agroforestry and non-timber forest products (4 articles, 7 case studies)
- Part 7. Multiple functions from mountain forests III: Diverse societal benefits (9 articles, 2 case studies)
- Part 8. Legislation, policies, and economic instruments (4 articles, 3 case studies)
- Part 9. Institutions for mountain forests (5 articles, 1 case study)

Part 10. Research, implementation and communication (4 articles, 1 case study)

Funding, totalling c. \$66,000, was provided by Department for International Development (UK), Swiss Agency for Development and Cooperation, Food and Agriculture Organization of the United Nations, and Norwegian Ministry of Foreign Affairs for the eventual production

and dissemination of the report. This assistance permitted the employment of a full-time assistant, Nathalie Butt, who contributed to all aspects of preparing the report, which was delivered to CAB International on time in mid-December 1999.

Martin Price
Task Force Coordinator

REPORT FROM THE CENTRAL EUROPEAN REGION

One year before the XXI IUFRO World Congress, Region 2 - Central Europe - comprises nine countries with a total of 67 main member organizations and 132 IUFRO officers.

Member countries:

Austria, Belgium, Czech Republic, France, Germany, Luxembourg, The Netherlands, Slovenia and Switzerland

IUFRO officers

Country	Members/ Officers of EB/EEB	Division		Research Group		Working Party		Total
		C	D	C	D	C	D	
Austria	1			6	5	7	2	21
Belgium					1		1	2
Czech Rep.	1			1		3	2	7
France	3	1			5	10	11	30
Germany	3	1	1	7	7	11	12	42
Luxembourg							1	1
Netherlands				1	2	3	3	9
Slovenia					1	1	3	5
Switzerland	1			3	1	4	6	15
Total	9	2	1	18	22	40	40	132

Forestry research in the region - as probably in the whole of Europe - was again influenced, *inter alia*, by follow-up activities of the Lisbon Ministerial Conference on the Protection of Forests in Europe (Pan-European Process, continuation of Helsinki Process). The adopted Lisbon resolutions have initiated a lot of activities concerning C&I, reflecting also social aspects of forestry. Great progress has also been made in ongoing programmes such as ICP Forests (particularly in the intensive monitoring of forest conditions and assessment) Euforgen - covering networking in forest genetic resources etc.

In order to reflect all matters referring to sustainable forest management, various types of forestry institutions, including research institutions, were included in the discussions on certification in forestry. The discussion resulting in the creation of the PEFC (Pan European Forest Certification) seriously started at the end of 1998. The question was also raised if we can leave this matter only to traders and entrepreneurs without any scientific input. The valuation of

forest benefits and the importance of improving the image of forestry in order to get more public awareness, through research, education and extension, *inter alia*, were among the topics considered as very important as well. Several points regarding this problem were included in the Rome declaration of the COFO ministerial conference at FAO (March 1999) through the representatives from IUFRO and Germany. It was declared that this item was not only important for developing countries, or one or two ECE countries of the Region 2, but for other countries as well. This is also reflected in the current transformation in forestry research, which is sometimes characterized by problems with funding of research generally.

The cooperation with and contributions from International Council (IC/ID) members from the Central European Region also need some improvement. However, there were many meetings organized and held in the Region in the frame of the activities of all IUFRO Divisions.

Main Characteristics of the Research Situation in Member Countries

(based on material provided by International Council Members)

Austria

The tasks of the forestry research in Austria include in particular:

- surveys on the status and development of Austrian forests; environmental monitoring,
- identification of the causes of forest damage (wildlife, air pollution, etc.),
- examining problems of forest land use planning and torrent and avalanche control,
- testing of equipment, tools, machinery, chemicals and other devices and, materials designed for forestry use,
- testing of forest reproductive material,
- testing of operational methods and application techniques for suitability in forestry.

Major projects cover: Contributions to the Conservation of Genetic Diversity; Natural Forest Reserves; Austrian Forest Damage Monitoring System; Intensive and Long-term Monitoring Plots; Austrian Bioindicator Grid; Austrian Forest Inventory; Ecosystem Studies in the Limestone Alps (altitudinal profile). Some of the investigations form part of large-scale research projects and surveys; some are executed in the framework of the European Union; some have been integrated into projects coordinated by other Austrian research institutes.

Belgium

Forestry research was very intensive in the last few years, despite the great difficulty to find adequate funding. It was strongly stimulated at the Flemish Institute for Forestry and Game Management. This institute, which became regionalized recently, made strong progress, mainly by public support.

Research at the university level became more difficult, as almost all funds must be found outside, from third sources. Nevertheless many projects could be acquired.

A difficult point in the whole strategy is that it remains very hard to plan something on a long-term basis. Projects are short in term, and scientists have only short-term contracts. Senior researchers are very few, especially at the university level.

The forest administration is not interested anymore - or just very little - in more fundamental research topics. At the moment, they just want to see some practical results in the forests regarding daily problems without having a really good understanding of the background of the problems. Points of interest are, of course, sustainability and biodiversity. In this respect, there is an increasing interest from the biological (ecological) side for research in forests. There is a strong increase of multi-disciplinary forest research. There is both collaboration between different

forest groups on the one hand and not directly related forest groups on the other hand.

Of course, the internationalization of forest research is rising exponentially. However, real, serious and intensive collaboration remains a difficult task.

Czech Republic

The most important message for research as such in Czechia is the fact that a National Policy of Research and Development (R&D) was adopted. Consequently, the government confirmed the proposal to increase the share of GDP to R&D up to 0.7 % in the three coming years. A new trend also brought the evaluation of outputs and results of R&D instead of activities and institutions.

The direct access to the 5th Framework Programme of the EU is considered as very important. Forestry research is also included in the renewal of the agricultural and forestry policy, and one of the measures to be taken is: "to specify the position of the state forestry research within the framework of the anticipated amendment to the Forestry Act". However, a final decision about forestry research and its long term and sustained funding has still a long way to go. There is a lack of funds to fully fulfil some of the tasks resulting from previous commitments on the international level.

Long-term research priorities did not change too much; concrete research projects needed to solve practical tasks should become more accurate through the National Forestry Programme.

Forestry research will celebrate its 80th anniversary in 2001; several international meetings should take place on that occasion in the country. Two new institutions sent a membership application form to IUFRO in the 1999.

Germany

Research topics with priorities are as follows:

- close-to-nature silviculture: many questions have to be answered concerning e.g. natural regeneration, use of "pioneer species" as part of the natural succession, growth and treatment of mixed forests,
- forest nature reserves: development of ecosystems including flora and fauna without human activities are monitored on many plots and involve many scientific disciplines,
- sensitivity studies of forest ecosystems against air pollution, climate change etc. have been included in a European network of research plots (level II),
- biodiversity on the level of genetic structures is intensively studied,
- innovative design and environmentally friendly production of wooden and wood based products is an important issue to increase the use of wood, also with respect to recyclability,
- economic studies on the effects of different silvicultural treatments are increasingly based on complex growth models of trees and stands.

Currently, all forest faculties are more or less undergoing a process of revision in curricula as well as in organization. The majority of the forest research institutes of individual German states are facing budget cuts and personnel restrictions. This is in concordance with reductions in the budgets as well as in ongoing organizational changes of most of the state forest services in the countries of the Central European Region.

A biannual scientific congress is planned, focussing on recent results and progress in forest science. Certification issues – comparison of standards of FSC and PEFC - reveals major differences between these two schemes, main crucial points are clear cuts, use of chemicals and game management (regulation of deer population).

The Netherlands

Forestry research on a purely sectoral basis is declining. There is a clear demand, however, for a more integrative approach of forestry within a broader ecological and so-

cial context. Social and economic aspects are becoming more important.

Forests, natural landscapes and landscape elements are more and more regarded together as valuable natural features of rural and urban regions alike. The former distinctions between these fields of interest tend to fade away in policy and research.

Research priorities in natural resource management have to reflect more clearly the changes in policy making, resource use and public perception. The importance of non-material goods and services of forests and nature areas is still getting stronger.

There is a growing need for research results to be delivered and transferred in a better way to facilitate implementation of findings by policy makers and resource managers. Researchers have to anticipate the need for application in real world situations.

Karel Vancura

Executive Board Member - Central Europe

REPORT FROM THE NORTH AMERICAN REGION

Canada

is characterized by the abundance of its natural resources and, in particular, by the vastness of its forests, nearly half the nation's land area. Forest management in Canada has become more complex and information demands are multiplying. The resources of public forest research organizations are shrinking and the private sector is assuming more of the costs of forest management, including increased management responsibilities for forest planning, regeneration and public input processes.

National Forest Strategy

Canadians have adopted a five-year strategy bringing together the ecological, economic, social and cultural aspects of forest conservation and use. The National Forest Strategy (1998-2003) - Sustainable Forests - A Canadian Commitment reconciles the range of expectations placed on the forest and forest managers by economic pursuits, the resilience of forest ecosystems, and the needs and attitudes within Canadian society. Early implementations from the Strategy include:

- The Forest Stewardship Recognition Program.
- FORCAST, a private sector coalition for the advancement of forest science and technology
- The Forest Website at www.forest.ca, a one-stop access to forest-oriented websites.

International Forum on Forests (IFF)

As directed by the nineteenth Special Session of the United Nations General Assembly on the implementation of the Agenda 21, the IFF decided to focus its work on three

interlinked categories. Working within Category III, Costa Rica and Canada along with 18 other countries and organizations have agreed to enter into a partnership to initiate a process to identify possible elements and work toward a consensus on the usefulness of having international arrangements and mechanisms, for example, a legally binding instrument on all types of forests.

Criteria and Indicators

The Canadian Council of Forest Ministers will report to the UN Commission on Sustainable Development in year 2000 on the status of Canadian criteria and indicators. Canada continues to be strongly committed to the Montreal Process

Research

The Canadian Forest Service (CFS) has, for 100 years, functioned as a source of scientific knowledge and technological development in the forestry sector. Through its 5 research centres and 10 research networks across Canada, the CFS conducts basic and applied research on forest ecosystems and the advancement of sustainable forestry. Within the CFS Science and Technology Program, CFS researchers have taken a leading role in the development of a wide range of forestry knowledge bases and technologies, including: wildland fire research, remote sensing technologies and forest pest management.

Climate Change

CFS climate change scientists pursue their efforts in support of important scientific institutions such as the Inter-

national Union of Forest Research Organizations (IUFRO), and the International Geosphere Biosphere Program (IGBP). The CFS will also host the International Conference on the Role of Boreal Forests and Forestry in the Global Carbon Budget, to be held in Edmonton in May 2000. Provincial agencies operating programs of forest research include the Ontario Ministry of Natural Resources Forest Research Institute and the Centre for Northern Ecosystem Research, and the British Columbia Ministry of Forests Research Branch, with sections dedicated to Forest Practices, Forest Biology and Forest Productivity and Decision Support. In Quebec, the Ministère des Ressources Naturelles conducts forest research on ecology, forest growth and yield and silvicultural practices.

The CFS science department has recently developed a three year strategic plan that will prioritize its science and technology programs and projects. The strategic plan offers five strategic directions:

Canadian Forest Service Strategic Directions

1. Enhance Canadian capacity to practice sustainable forest management:

- a) synthesis & integration of information and knowledge, and provision of systems for enhanced decision making capability;
- b) optimization of fibre production through development of approaches and tools;
- c) conservation and protection of ecosystems.

2. Strengthen ability to measure progress towards sustainable forest management supporting C&I:

- a) validate indicators and, where necessary, develop improved or new indicators;
- b) develop monitoring techniques in support of indicators at national and local levels;
- c) contribute as necessary to report on C&I's.

3. Promotion and transfer of knowledge for sustainable forest management:

- a) transfer technologies, knowledge & information;
- b) enhance technical innovation in the forest sector by support and influence.

4. Position Canada to address global forest issues by supporting efforts to meet international commitments:

- a) provide scientific support to Climate Change issues;
- b) provide scientific support to biodiversity issues concerning Canadian Forests;
- c) provide scientific support to international forest policy issues.

5. Fulfill other federal responsibilities through provision of scientific input and advice:

- a) provide and exchange information with aboriginal communities;
- b) provide scientific input to policy groups in CFS, NRCan and other federal agencies.

United States of America

This summary of Forest and Rangeland Research is organized under seven functional areas.

Maintaining and Enhancing Productive Capacity of Forests and Rangelands.

The nation depends on its forests and rangelands to meet a multitude of needs: wood fiber for paper and structural wood products for housing and furniture, clean water to drink, recreation, conservation of biological diversity and aesthetic values, habitat for fish and wildlife, etc. Demands on these resources are projected to increase substantially in the future, yet the available land base is shrinking. Research areas include: basic vegetation management; improved silvicultural systems, tree genetics, and harvesting methods; more efficient processing for traditional forest products; and methods for restoring degraded ecosystems. Examples of recent accomplishments in this area include: produced improved guidelines for thinning, prescribed fire, fertilization, and harvest systems to enhance forest and soil productivity and to maintain health, vigor, and insect-resistance of pine and hardwood forests; development of models of landscape-scale changes in forest vegetation structure under alternative management scenarios; scientific information linked to broad public involvement and interagency coordination, in order to develop the scientific basis for management recommendations and decisions.

Maintaining and Enhancing Forest and Rangeland Health.

Sustained production of goods and services from our forests and rangelands depends on maintaining healthy, vigorous ecosystems. All ecosystems are subject to a suite of natural and human-induced disturbances (including management practices). The major disturbance agents affecting forest and rangeland health in the U.S. are insects, diseases, and weeds (including NIS); fire; air pollution; excessive grazing; extreme weather (flooding and erosion, drought, and severe wind), and global environmental changes. These disturbances annually cost billions of dollars in production losses and expenses for control and restoration. Examples of recent accomplishments in this area include: new information on dispersal behaviour, life history, and efficacy of biological and chemical controls for the Asian longhorned beetle and the basis of a new patent for an improved, more potent virus to control gypsy moth without adverse environmental impacts; fuel management programs reducing risks and costs associated with wildland fire; models of potential impacts of global change on vegetation are being adapted to include changes in disturbance factors.

Maintenance of Forest and Rangeland Contributions to Carbon Cycles.

Carbon storage is affected by changing land use patterns, management practices, the balance between harvest and re-growth of forest stands, frequency and intensity of disturbances, and changes in weather, climate, and atmospheric chemistry. Currently, carbon stocks of US forestlands are increasing, especially in the eastern part of the country, as abandoned farmland returns to forest. Examples of recent accomplishments in this area include: development of a system for monitoring carbon storage; evaluation of the impacts of mechanical incorporation of logging residues and other woody biomass into forest soils on stand carbon storage and productivity

Conservation and Maintenance of Soil, Water, and Air Resources.

Research on watershed processes is central to understanding how forests are stressed by air pollutants and how disruption of fundamental ecological processes (e.g., nutrient cycling) can degrade the ecosystem. Providing land managers with adequate information to protect and restore watershed health can improve the efficiency of management of public lands and may reduce the costly and time consuming appeals and litigation. Examples of recent accomplishments in this area include: synthesis of research results on watershed research in California; developed detailed understanding of interactions between urban populations and riparian resources, and alternatives for restoring degraded river corridors in metropolitan areas; developed and evaluated analytical protocols for assessing forest roads and their impacts on interdependent forest resources.

Maintenance and Enhancement of Long-term Multiple Socio-economic Benefits to Meet the Needs of Societies.

Sustaining forest ecosystems requires knowledge of how people interact with nature. As populations continue to grow, the demand for wood products and paper increases, and there is increased recognition of non-commodity forest values that directly impact quality of life. Air quality, water purity, availability of recreations, wildlife habitat, and spiritual values are receiving increased recognition and often conflict with traditional timber uses. Social science provides both understanding what people want from ecosystems and how they value these benefits and information needed to help meet society's needs for wood and paper products with efficient and environmentally sensitive technologies. Examples of recent accomplishments in this area include: urban forest research with tree shading of paved areas; influence of recreational participation of ethnic groups in National Forests; bio-pulping techniques using natural white-rot fungi.

Conservation of Biodiversity.

Achieving sustainable forest management in North America requires that we develop the ability to protect, manage, and restore forest habitats and ecosystems in order to preserve biological diversity. Species diversity is a key indicator of biological diversity. Many species at risk of not maintaining viable breeding populations, are officially classified as threatened and endangered (T&E), rare, or extinct. Currently, over 1,100 species of plants and animals are federally listed as threatened or endangered in the US. Another 2,500 species are categorized by the Forest Service as sensitive (S) species for which population viability is a concern. This large number of species at risk raises concerns about the sustainability of current forest management practices. Most current land management appeals and litigation result from managers not having adequate information to develop conservation plans for TES species. Time-consuming appeals and litigation not only increase the cost of land management but also limit opportunities for effectively and efficiently managing forest resources and uses. The long-term research goals are to develop the scientific basis for more effective management of wildlife and fish habitats; maintaining viable populations of animal and plant species; reduced species listings; reduced appeals and litigation; and greater latitude in and reduced costs of land management. Examples of recent accomplishments in this area include: threatened and endangered species research on the northern spotted owl; aquatic biodiversity assessments for freshwater mussels and warm water fish; protection of songbird populations by assessments of factors at local and landscape levels.

Inventory and Monitoring.

Forest ecosystem inventory and monitoring is critical to maintaining the ecological, economic, and social sustainability of America's forests. In the absence of reliable information regarding forest status and trends, efforts to improve forest management and policy will be based on guesswork. The information needed is supported through an integrated research program with three major components: Forest Inventory and Analysis (FIA), Forest Health Monitoring (FHM), and Monitoring Methods Research (MMR).

The **FIA** program is the Nation's forest census. We report on current status and past trends in forest ecosystem attributes including location, area and forestry data.

The **FHM** program is designed to report on status and trends in forest health. It consists of three phases: a detection monitoring component to detect changes in forest health; an evaluation component (conducted in cooperation with State and Private Forestry) designed to evaluate causes of changes in forest health and provide guidance for appropriate management activities; and an intensive site monitoring component designed to develop quantitative linkages between observed changes in forest health and the likely long term impacts.

The **MMR** program tests usefulness of new technology, develops new and improved methods of addressing information needs, and develops tools to link monitoring protocols to on-the-ground management activities. Examples of recent accomplishments in this area include: imple-

menting annual forest inventory; integrated watershed monitoring in the Chesapeake Bay Watershed; monitoring Mexican spotted owl populations.

Carl Winget
Executive Board Member - North America

REPORT FROM THE WESTERN PACIFIC REGION

IUFRO was very active in Region 9 throughout 1999. Several new members were approved by the Executive Board, and many successful meetings were held in member countries. IUFRO continued to be well represented at some key fora held in the Region on forest research and forest policy. Most activity however centered on *Malaysia* in the lead up to the XXI *IUFRO World Congress* to be held in Kuala Lumpur in August 2000. Members of the Policy and Planning Committee of the IUFRO Executive Board met with the Congress Organizing Committee in early December 1999 to review progress towards staging this major international event. All aspects of the Congress were reviewed including the Venue, the Scientific Program, the Scientists Assistance Program, the In-Congress Tours and the Post-Congress Tours. It is expected that the Western Pacific Region will be well represented at the Congress, the first to be held in the southern hemisphere.

Forestry and forest-related research and development varied across the Region in response to new Government policies and industry initiatives. Some of the more significant developments and initiatives in member countries are summarised below:

Forest Research (formerly FRI), the principle Research and development (R & D) provider for the forestry sector in *New Zealand*, has recently completed a substantial strategic shift in its R & D activities. The changes have been made in response to new Government priorities, a substantial downturn in the forestry sector, and **Forest Research's** business objectives. In the first stage, approximately 15% of R & D effort has been shifted away from forest resource production R & D into areas higher in the value chain, e.g. secondary processing. Particular attention is to be placed on gaining more information on longer-term markets for wood-based products and developing new building systems that incorporate wood-based materials. The changes being made are strongly endorsed by the forestry sector in New Zealand, as the most immediate need is to utilise the extensive radiata pine resource in New Zealand.

Brunei Darussalam recently launched the Princess Rashidah Young Nature Scientists Award. The Royal Patron of the Award, who is an avid advocate of environmental protection, is the eldest daughter of His Majesty the Sultan of Brunei Darussalam. The Award is aimed at encouraging young Bruneians to pursue careers in nature

sciences and related vocations, and to help ensure the perpetuation of the country's unique and rich natural heritage. Secondary school students have formed Forestry Clubs to join the annual competition for the Award. Main organiser of the project is the Forestry Department under the Ministry of Industry and Primary Resources, with the support of other government, private, academic and research institutions including the Brunei Shell Petroleum Company (as sponsor) and the Royal Botanic Gardens at Kew, England.

An international seminar on Biotechnology was held in Bandar Seri Begawan, Brunei Darussalam on 7 November 1998. It was jointly organised by the Forestry Department and the University of the Philippines Circle – Brunei, a private academic and professional association. Among the speakers and participants were delegates from Japan, Philippines, New Zealand, Singapore, Malaysia, and Brunei. The theme of the Seminar was "Biotechnology – The Wave of the Next Millennium: Opportunities for Brunei Darussalam". Copies of the Proceedings are available from the Forestry Department.

In the *Fiji Islands*, a number of overseas-funded projects continued to be the central focus of forestry research. These projects included:

- The South Pacific Regional Initiative on Forest Genetic Resources, now widely known as the SPRIG Project, funded by AusAid.
- The Sustainable Indigenous Forest Management Project covering an area of 6,000ha and funded by the Pacific German Regional Forestry Project.
- Control of termites in mahogany plantations, funded by ACIAR.
- Nutrition of tropical hardwood species under plantation conditions funded by ACIAR.

As a consequence of research, Fiji is now using direct sowing of seeds in the field in preference to the planting of bare rooted mahogany seedlings. Field survival has dramatically increased from an average of 50% to over 80%. The use of the fungus *Metarhizium anisopliae* and a nematode *Heterorhabditis indicus* to control *Neotermes* in mahogany plantations looks very promising on the basis of initial research.

In Australia, the Research Priorities and Co-Ordination Committee (RPCC) of the Standing Committee on Forestry (SCF) undertook a major review in 1999 of national research co-ordination and priority setting. For the past three decades, Australia has addressed these important issues through a national process termed the Research Working Group system. Eleven discipline-based Groups have been successfully operating for over three decades, providing strategic advice to SCF on forestry R & D. The Groups have also served a very effective networking role.

As a result of the review, SCF approved a restructuring of the Research Working Group system from 11 to 7 Groups in order to achieve a more integrated approach to key issues such as sustainable forest management, pest incursion management and expansion of the plantation estate. The terms of reference for RPCC, which *inter alia* manages the Research Working Group system, were also revised to make them more outcome-focused.

D W Flinn

Executive Board Member - Western Pacific

IUFRO's Special Programme for Developing Countries - SPDC

This year marked some important milestones and changes for IUFRO's Special Programme for Developing Countries (IUFRO-SPDC). We were successful in our efforts to secure funding from the European Commission for a project designed to support the establishment of the Global Forest Information Service in Africa. We were also able to support a number of workshops and training sessions but were unable to generate general purpose funds to maintain our discretionary scientists assistance programme. A few highlights of our activities are given below:

Capacity Building in Africa

IUFRO-SPDC continues to play a leading role in creating the enabling environment for national forestry research institutions to upgrade the skills of professional foresters in Africa and to sustainably manage African forests and their resources. Our Deputy Coordinator for Africa, Dr. Atse Yapi, has continued his efforts in this regard and has further strengthened our links to the Forestry Group of FAO, at their Regional Office for Africa in Accra, Ghana. IUFRO-SPDC focused its efforts on the following areas: (1) further developing partnerships within Sub-Saharan Africa, (2) organizing a grant writing training workshop in cooperation with AAS (African Academy of Sciences) and IFS (International Foundation for Science) in October, 1999 in Zimbabwe, (3) organizing a training workshop on resource and personnel management held in January in Pretoria, South Africa, and (4) participating in AFORNET Eco-Regional Workshops in Accra, Ghana (May) and Zomba, Malawi (June).

Capacity Building in Asia

BIOTechnology Assisted REFORestation Project (BIO-REFOR): Early in December 1999, the 8th Annual International Conference of the BIOTechnology assisted REFORestation project was held in Kathmandu, Nepal. This conference was hosted by the Department of Plant Resources and the Department of Forest Research and Survey from the Ministry of Forest and Soil Conservation of Nepal and sponsored by BIO-REFOR, and IUFRO-SPDC. The local organizing committee headed by Mr. M.S. Bista, Mr. R.B. Bista, and Mr. R.B. Joshi did a superb

job of organizing the conference and its post-workshop excursion to Daman and Royal Chitwan National Park.

Capacity Building in Eastern Europe

Effects of Forest health on Biodiversity in the Carpathian Mountains: The project built on last year's efforts by examining in greater depth several additional aspects of the potential impact of stress on forests. The dendrochronology core sampling was finished on all sites and analyses will start next year. The bark beetle sites were sampled in all countries for the second year. The quantity and quality of data improved significantly in 1999 because (1) measures were taken to assure that all cooperators had the necessary supplies and equipment earlier in the season and (2) a standardized data form was provided to investigators. Preliminary observations on two year's data suggests that the more polluted sites are characterized by higher beetle captures in pheromone traps over time and higher beetle densities/dm² in sections dissected from infested trees. The genetics team selected the trees, collected samples, and has started isozyme analyses of all samples. Preliminary spruce results suggest that sensitive trees have a greater number of rare alleles than do tolerant trees. Foliage and humus sampling was done at all 26 sites and the samples are currently being analyzed.

Capacity Building in Latin America

With the arrival of the new IUFRO-SPDC Deputy Coordinator, Dr. David Langor, there has been a renewal of efforts to develop forest research capacity building activities and projects in Latin America. Proposals have been developed and submitted to develop new training courses and workshops on the topics of Evaluation and Maintenance of Forest Health and Forest Valuation. Furthermore, resources are being sought to support organization of conferences on these topics in Latin America. In an effort to meet the demand for affordable textbooks in Spanish, we have solicited funding to support publication of several books on regional topics. Considerable effort has been made to liaison with Latin American colleagues to foster collaborative capacity building activities.

Scientist Assistance Programme

IUFRO-SPDC provided over US\$270,000 to scientist support in 1999 including \$30,000 to individual scientists and working party organizers, \$45,000 for the Division 6 Meeting and Workshop in South Africa, \$5,000 for the grant writing workshop in Zimbabwe, \$5,000 for a strategic planning workshop, Zimbabwe, \$5,000 for the off forest tree resources meeting in Tanzania, \$2,500 for a FORAFRI meeting in Gabon, \$2,500 for the "Women in Forestry" Symposium in Norway, \$25,000 for the IUFRO Latin American Congress in Chile, \$10,000 for the meeting "Advances in the Production of Forest Tree Seed in Latin America" in Santo Domingo, and \$139,184 for BIO-REFOR including the workshop in Nepal.

Although these figures appear promising, there will be a marked change in the future of our scientists' assistance programme brought about by changes in how donors wish to distribute their support. We are no longer able to find resources to maintain our small discretionary travel grants. All future assistance for IUFRO workshops and meetings will be restricted to those meetings where we can successfully compete for additional support from other sources. This means that any support secured will be given directly to those workshop organizers who work closely with us in developing funding proposals. We will no longer be able to accept applications or requests from individual scientists. All scientist assistance funding for the year 2000 has already been committed and we will be unable to assist in securing funds for any other events.

Information Services

Training Manuals: Dr. Pat Reid (Director, School of Natural Resources, University of Arizona, Tucson, AZ) has worked hard on finishing a draft of our latest training manual entitled "Handbook for Preparing and Writing Proposals." We are now in the process of finalizing the manual and developing a set of Microsoft Powerpoint slides as a companion to the manual.

IUFRO-SPDC on the Web: The IUFRO-SPDC website continues to expand its content which includes SPDC inserts in the IUFRO news, topical papers, and timely announcements of activities and changes to the programme.

Global Forest Information Service

IUFRO-SPDC is happy to announce that our 3 year project proposal submitted to the European Commission DG VIII "Mobilizing scientific information on forests to promote their sustainable management in ACP countries" has been approved. The project will establish regional nodes within ACP countries that will facilitate access to and dissemination of scientific and technical information on forests and their utilization. These nodes will be located in the Pacific (Fiji), Western Africa (Ghana and Senegal), Eastern Africa (Kenya), and Southern Africa (Zimbabwe). We have expanded our partnership with FAO to ensure that these efforts are coordinated and fit within an overall global system. As a result two project staff members will be co-located at FAO in Rome. As we implement the project we will include a wide variety of other partners to help us develop the network. Our objectives are: (1) to improve access to reliable scientifically based information on forests in ACP countries and their utilization, (2) to build capacity in selected regional research institutions to develop and manage internet-based systems to facilitate broad access to research information on forests in the ACP countries, (3) to share experience and good practice in information management between ACP countries, and (4) to enhance integration and comparability between national data on forests throughout the ACP countries

Personnel - News

Dr. David Langor from the Canadian Forest Service (CFS) arrived in June, 1999 and started as Deputy Coordinator for Programme and will concentrate on capacity building in Latin America.

Robert C. Szaro, Coordinator
David Langor, Deputy Coordinator for Programme
Atse M. Yapi, Deputy Coordinator for Africa

SILVAVOC

SilvaVoc: A New Face in the Internet

At the beginning of 1999 SilvaVoc decided to present itself with a new face on the Internet. It was necessary to improve the design of the SilvaVoc home page, to make it more userfriendly and give a better guidance through the services offered by SilvaVoc. The main information is given in the four official IUFRO languages, as the need and importance for communication e.g. in Spanish was expressed at several occasions. This new home page received a positive echo from the IUFRO Task Force on Internet and other experts and has been on-line since May

1999. The following paragraphs follow the structure of the SilvaVoc homepage and provide a short explanation of their contents:

About SilvaVoc

Short introduction. As a result of the ideas received from the review process in the IUFRO Secretariat this page includes also some ideas on what terminology work is, and gives some definitions of expressions used in terminology science, like term, definition, concept, glossary etc.

Bibliography

Apart from bibliographical references it contains links to on-line glossaries and terminological publications. These links are regularly up-dated and completed with additional information.

Terminological Database SilvaTerm

The web-version of the terminological database SilvaTerm was finalized in 1998 by Niels Bruun de Neergaard with the help of experts in this field. Special attention was given to a simple and userfriendly design and application.

In the past year, a number of IUFRO officers were contacted in order to generate input of definitions to terms in the SilvaTerm terminological database. Generally, the need for expert input is acknowledged but it reveals to be a much longer process than expected. This is due to workload, but also to their wish to express their opinion rather on a definition than to produce one. For all who want to check the database for a term, its equivalent term in another language or who wish to provide us with a definition, please do not hesitate to visit the web-site and to use the input form given at <http://iufro.boku.ac.at/iufro/silvavoc/svdatabase.htm> or <http://iufro.boku.ac.at/iufro/silvavoc/subform.htm>

MEXFT'98

Contains all abstracts of the Workshop on Multilingualism and Expert Co-operation in Forest Terminology (MEXFT'98), organized together with IUFRO Unit 6.03.02 in Switzerland in 1998, and a collection of useful hyperlinks in forest terminology. The Proceedings of the Workshop were promised by the WSL publishing section for September 1999.

Related Projects

Contains links to 6.03.02 and the Directory of Experts. There are also links to other projects with a direct involvement of SilvaVoc, e.g. IUFRO Unit 4.04.07 SilvaPlan for the production of the Terminology of Forest Management Planning.

The German version (Othmar Griess and Horst Kurth) has been available since December 1998.

ODA Logo

The logo of the donor appears on all major publications resulting from the cooperation with Japan.

In April 1999, a visit to Japan presented the opportunity to reinforce the good cooperation and working links with the partners in Japan. The project coordinator is most grateful to the Japanese government for receiving financial support for another period, which is of vital importance for the continuation of the project activities.

Activities were undertaken in person or by delegation to other members of the IUFRO Secretariat to make the project better known among member organizations, with the aim of encouraging cooperation on the establishment of a glossary in agroforestry and with the IUFRO Units to actively contribute to terminology work, for example by suggesting input of terms and definitions into the terminology on-line database SilvaTerm by using the respective input form (<http://www.iufro/boku.ac.at/silvavoc>).

Towards the end of the year, cooperation with 4.04.07 yielded another result: Thanks to strong input of H. Siebert, Ronnie de Camino Veloso, Latin America, O. García and Alberto Madrigal, Spain, the publication of the Spanish version of the Terminology of Forest Management Planning, IUFRO World Series 9-es „Terminología de ordenación forestal“ was finalized and can be ordered at the IUFRO Secretariat. It contains around 700 terms and definitions in Spanish and equivalent terms in English, German, French, Italian, Portuguese, Hungarian and Japanese.

Regular contacts with Michèle Kaennel Dobbertin, coordinator of 6.03.02 for general cooperation in terminology matters, and with FAO for the establishment of a glossary on forest genetic resources completed the range of activities in the past year, most of them with a view to prepare the IUFRO World Congress 2000.

Renate Prüller
SilvaVoc

FINANCES

For the first time in the financial year 1999, a general statement was prepared for IUFRO in EURO. This overall statement is called IUFRO/UNION and includes the individual statements for IUFRO Secretariat/Finance Office, SPDC and Terminology.

Table 1: IUFRO UNION Profit and Loss Account

With an income of EUR 1,117,096 and an expenditure of EUR 858,449, the profit and loss account shows an excess of income over expenditures of EUR 258,647. This surplus is mainly due to *not realized exchange profits of EUR 189,285*. This amount was added to the revaluation re-

serves for currency risks of the corresponding three IUFRO sub-units for future exchange rate losses. In 1998, the profit and loss account showed a deficit of CHF 227,325 corresponding to approximately EUR 142,078 (CHF 1 = EUR 0,625) due to the excess of expenditures in the SPDC account (See Annual Report 1998, chapter Finances).

**Table 2: IUFRO/SPDC
Profit and Loss Account**

The profit and loss account of IUFRO/SPDC shows a surplus of income of EUR 34,548. Included in this amount is the total of unrealized exchange gains of EUR 50,944. Therefore, the real result of SPDC's profit and loss account for 1999 shows an excess of expenditure over income (loss) of EUR 16,396. The Government of Japan was again the primary source of income with their generous ninth grant for the series of BIOREFOR workshops and core support to the SPDC. In 1999, IUFRO/SPDC also gratefully acknowledged the continuing financial support of the Canadian Forest Service, the USDA Foreign Agricultural Service and the USDA Forest Service. The assistance of these donors is essential to the continuation of many SPDC projects. The expenses are listed in detail in Table 2. Travel costs and loss on exchange could be reduced considerably; compared to the previous year, the expenses for sponsorship and awards decreased, but is comparable to the expenses in 1997.

**Table 3: IUFRO/Secretariat and Finance Office
Profit and Loss Account**

INCOME

IUFRO Secretariat Vienna

In 1999, the subsidy from the Austrian Government that IUFRO received again in 1999 amounted to EUR 60,876 for wages and rental costs; this amount is comparable with the 1998 provision.

Finance Office Zurich

For the year of report the net income from membership dues decreased by EUR 18,688 to EUR 185,150.

The unrealized net profit on exchange of EUR 122,895 is the main portion of the returns totalling EUR 153,299.

The income of publication sales in the amount of EUR 5,002 did not reach the same level as in 1998, but was satisfactory.

In 1999 the strategy of investments has been changed: In September we started to invest part of the fixed-term deposit money in Equity funds. As a result, in comparison to the last year, the income from interest slightly decreased

to EUR 32,411. In future years the income on interest will decrease, since the profit/loss of funds will be paid in terms of a capital gain/loss only at the time of selling the investment funds.

The contribution of the Swiss Federal Institute for Snow, Forest and Landscape Research (WSL) for the bookkeeping and collecting appears for the second time now in the Annual Account with an amount of EUR 48,750.

Given an income of EUR 507,864 and expenses of EUR 354,565, the profit and loss account shows a surplus of income over expenses of EUR 152,299.

EXPENSES

Table (3) shows the details of expenses and income for the IUFRO Secretariat Vienna and the Finance Office Zurich.

In 1999, the total personnel costs amounted to EUR 101,555, as compared to EUR 95,815 in 1998, which is an increase of 6%. This was caused by expenses related to the preparation of the IUFRO World Congress (Screener, development of database, data input).

Operational costs decreased from EUR 129,754 in 1998 to EUR 128,312 in 1999.

In comparison with 1998 the total expenses increased in the year of review by EUR 20,151 to EUR 354,565.

**Table 4: IUFRO/TERMINOLOGY
Profit and Loss Account**

INCOME

As in the previous years, the Terminology Project received a subsidy of USD 150,000 from ODA Japan. Income in the amount of EUR 21,582 resulted from interest earnings, both realized and not realized. Additional income came from interest earnings (EUR 6,137) and from not realized exchange gains, namely EUR 14,445.

EXPENSES

The total amount of EUR 100,782 was spent in 1999; the expenses in 1998 had amounted to EUR 127,626. This reduction of expenses is mainly due to reduced operational costs in 1999. Thus, the Terminology Project has accumulated reserves for the Congress year 2000.

1 Euro (EUR) = 1.60 CHF
(For comparison with 1998 statements)

Table 1 IUFRO/UNION: Profit and Loss Account as of December 31, 1999, in EURO

<i>Expenses</i>		<i>Income</i>	
	<i>EUR 1999</i>		<i>EUR 1999</i>
	IUFRO	IUFRO	
Personnel Costs	139'055	Income	507'864
Operating Costs	<u>215'510</u>		
	354'565		
Profit on Exchange not real.	<u>122'895</u>		
Profit	30'404 153'299		
	507'864		507'864
TERMINOLOGY		TERMINOLOGY	
Personnel Costs	41'385	Income	171'582
Operating Costs	<u>59'397</u>		
	100'782		
Profit on Exchange not real.	15'445		
Profit	55'355 70'800		
	171'582		171'582
SPDC		SPDC	
Personnel Costs	75'702	Income	437'651
Operating Costs	<u>327'400</u>		
	403'102		
Profit on Exchange not real.	50'945		
Surplus of Expenses	-16'397 34'548	Surplus of Expenses	0
	437'651		437'651
TOTAL: IUFRO/UNION		TOTAL: IUFRO/UNION	
Personnel Costs	256'142	Income	1'117'096
Operating Costs	<u>602'307</u>	Surplus of Expenses	0
	858'449		
Profit on Exchange not real.	189'285		
Profit	69'362 258'647.29		
	1'117'096		1'117'096

Table 2 IUFRO/SPDC: Profit and Loss Account as of December 31, 1999, in EURO

<i>Expenses</i>		<i>Income</i>	
	<i>1999</i>		<i>1999</i>
	<i>EUR</i>		<i>EUR</i>
Salaries	37'878	Sale/FORSTAT, RES	225
Other Personnel Costs	<u>37'824</u>	Interests	21'406
Total Personnel Costs	75'702	Realized Profit on Exchange	2'719
Travel	24'773	Profit on Exchange, not realized	58'307
Printing	695	Other Revenues/ Grants/ Agreements	<u>354'994</u>
Postage	2'410		
Telecom	8'562	TOTAL INCOME	437'651
Bank Charges	2'925		
Realized Loss on Exchange	10'081	Surplus of Expenses	0
Office Supplies	1'673		
Rent & Utilities	2'150		
New Eqmnt/Leas./Write-offs	4'112		
Legal Expenses/Auditing	2'492		
Other Expenses	265		
Sponsorship/Awards	<u>267'262</u>		
Total Operating Costs	327'400		
TOTAL EXPENSES	403'102		
Surplus of income	<u>34'548</u>		
	437'651		437'651

Table 3 IUFRO Secretariat/Treasurer's Office, Profit and Loss Account as of Dec. 31, 1999, in EURO

<i>Expenses</i>		<i>Income</i>	
	<i>Ann.Acc.1999</i>		<i>Ann.Acc.1999</i>
	EUR	Secretariat Vienna	EUR
Secretariat Vienna		<i>Contributions by the Austrian Government:</i>	
Salaries	86'844	- Salaries	43'944
Other Personnel Costs	14'711	- Rent	16'931
Total Personnel Costs	101'555	Other Revenues	<u>2'000</u>
Travel	19'085		
Printing	13'658		
Postage	31'047		
Telecom	11'305		
Bank Charges	1'160		
Office Supplies	3'795		
Rent/Leasing	20'924		
New Equipment/Write-offs	15'104		
Legal Expenses + Auditing	7'414		
Other Expenses	968		
Sponsorship/Awards	<u>3'852</u>		
Total Operat. Costs Vienna	128'312		
TOTAL EXP. VIENNA	229'867	TOTAL INCOME VIENNA	62'876
Finance Office Zurich		Finance Office Zurich	
Salaries	<u>37'500</u>	Membership Dues	203'581
Total Personnel Costs	37'500	Sale of Publications	5'002
President's Office	203	Interests	32'411
Postage	732	Profit on Exchange, not realized	154'132
Printing	352	Realized Profit on Exchange	7
Write-offs	18'431	Other Income	1'105
Realized Loss on Exchange	21'629	Grants/Agreements	12'500
Loss on Exchange, not realized	9'615	<i>Contribution WSL (CH):</i>	
Bank Charges	7'848	- Salary	37'500
Legal Expenses + Auditing	1'478	- Infrastructure	11'250
Other Costs	11'250	Increase of provision for currency risks	
Congress Costs	15'660	Increase of provision USDA Fund	-12'500
Decrease/provision currency risks			
Total Operat. Costs Zurich	87'198		
TOTAL EXPENSES ZURICH	124'698	TOTAL INCOME ZURICH	444'988
Total Operat. Costs Vie+Zur	215'510		
TOTAL EXPENSES	354'565		
Surplus of income	153'299	TOTAL INCOME	507'864
	507'864		

Table 4 IUFRO Terminology, Profit and Loss Account as of Dec. 31, 1999, in EURO

<i>Expenses</i>	<i>1999 EUR</i>	<i>Income</i>	<i>1999 EUR</i>
Salaries	36'412	Grants and Agreements	150'000
Other Personnel Costs	4'973	Profit on Exchange, not realized	15'445
Total Personnel Costs	41'384.80	Interest earnings	<u>6'137</u>
Travel	6'359	TOTAL INCOME	171'582
Printing	2'040		
Postage	888		
Telecom	2'559		
Bank Charges	978		
Loss on Exchange	0		
Office Supplies	688		
New Equipment/Write-offs	1'312		
Other Expenses	44'247		
Sponsorship/Awards	<u>325</u>		
Contributions for projects			
Total Operating Costs	59'397		
TOTAL EXPENSES	100'782		
Surplus of Income	70'800		
	171'582		171'582

Membership - Admissions 1999

Australia - 844.00.00

Cooperative Research Centre for Catchment
Hydro Department of Civil Engineering
Monash University
Clayton, Victoria 3168

Chile - 842.00.00

Universidad de Talca
Facultad de Ciencias Forestales
2 Norte 685 / PO Box 747-721 Talca

France - 835.00.00

Forest Ecosystem Research Coordination Unit
19, Avenue du Maine
F-75732 Paris

Guatemala - 843.00.00

Instituto Nacional de Bosques
7 Avenida 12-90, Zona 13
Ciudad Guatemala 01013

India - 837.00.00

Indian Institute of Forest Management (IIFM)
Nehru Nagar / PO Box 357
Bhopal 462003

Italy - 838.00.00

Università degli Studi di Bari
Istituto di Sistemazioni Idraulico-Forestali
Facoltà di Agraria
Via Amendola 165/AI-70126 Bari

Netherlands - 840.00.00

DLO-Instituut voor Agrotechnologisch Onderzoek
PO Box 17
NL-6700 Wageningen

Pakistan - 836.00.00

Save the Environment-Afghanistan (SEA)
UPO Box 831 Peshawar

Paraguay - 832.00.00

Universidad Nacional de Asuncion
Facultad de Ciencias Agrarias
CC 1618
Asunción

Philippines - 833.00.00

University of Philippines at Los Baños
College of Forestry and Natural Resources College
Laguna

Portugal - 834.00.00

RAIZ-Instituto de Investigacao da Floresta e Papel
Herdade da Torre Bela,
Ap. 15P-2065 Alcoentre

Togo - 841.00.00

Direction des Productions Forestieres
BP393
Lome

Trinidad and Tobago - 161.00.00 (Reinstatement)

Forestry Division
PO Box 30
Port-of-Spain
St. James

United States - 839.00.00

World Forestry Center
4033 SW Canyon Road
Portland, Oregon 97221

Membership - Withdrawals 1999

Australia - 747.00.00

Bunnings Forest Products
Bunnings Treefarms
PO Box 444
Manjimup, Western Australia 6258

Canada - 612.00.00

Ontario Ministry of Environment
Air Resources Branch
880 Bay St. 4th Floor
Toronto, Ontario M5S 128

Chile - 673.00.00

Shell Chile
División Forestal

Casilla 4, Correo 9
Santiago

Italy - 535.00.00

Università degli Studi di Firenze
Facoltà di Agraria
Istituto di Geopedologia e Geologia Applicata
Piazzale delle Cascine
151-50144 Firenze

New Zealand - 591.00.00

Fletcher Challenge Forests
Private Bag 92114
Auckland

Norway - 759.00.00
 Ostlandsforskning
 PO Box 1066 Skurva
 N-2601 Lillehammer

United States - 036.08.07 (sub-submember)
 Southeastern Forest Experiment Station
 Southern Forest Fire Laboratory
 USDA Forest Service
 PO Box 182-A Dry Branch, Georgia 31020

IUFRO Structure of Divisions ordered by Coordinators, Deputy Coordinators and Working Units

Division 1

C	Sennerby-Forsse Lisa	Sweden	1.00.00	C	Seitz Rudi	Brazil	1.07.09
D	Salazar Rodolfo	Costa Rica	1.00.00	D	Montagnini Florencia	Costa Rica	1.07.09
D	Parrotta John	United States	1.00.00	C	Simpson John	Australia	1.07.13
D	Sachs Menachem	Israel	1.00.00	D	Bai Jiayu	China	1.07.13
C	Brissette John	United States	1.05.00	C	Moutanda Antoine	Congo	1.07.14
D	Grosse W. Hans	Chile	1.05.00	D	Kadio Adjumane Aimé	Côte d'Ivoire	1.07.14
D	Luis J.F.S.	Portugal	1.05.00	C	Kandeel S.A. Ezzat	Egypt	1.07.15
D	Puttonen Pasi	Finland	1.05.00	D	Wrann Johannes	Chile	1.07.15
C	Kaunisto Seppo	Finland	1.05.01	C	Aminuddin M.	Malaysia	1.07.16
D	Jeglum John	Sweden	1.05.01	D	Donovan Deanna	United States	1.07.16
C	Grosse W. Hans	Chile	1.05.03	C	Mauray-Lechon Gema	France	1.07.17
D	Zajackowsky Jan	Poland	1.05.03	D	Turner I.	Singapore	1.07.17
C	Puttonen Pasi	Finland	1.05.04	D	Chan Hung Tuck	Malaysia	1.07.17
C	Johansson Ulf	Sweden	1.05.05	D	Balasubramaniam K.	India	1.07.17
C	Lust Noël	Belgium	1.05.06	D	Thanh Phong Nguyen	Viet Nam	1.07.17
D	Brooks R.T.	United States	1.05.06	C	Seydack Armin	South Africa	1.07.19
D	Silva Natalino	Brazil	1.05.08	C	Christersson Lars	Sweden	1.09.00
C	Aksoy Hüseyin	Turkey	1.05.11	D	Lee Don K.	Korea (Rep)	1.09.00
D	Ozalp Gulen	Turkey	1.05.11	D	Wright Lynn L.	United States	1.09.00
D	Courbet Francois	France	1.05.11	C	Abrahamson Lawrence	United States	1.09.01
D	Kerrouani Haddou	Morocco	1.05.11	D	Suadican K.	Denmark	1.09.01
D	Navratil Stan	Canada	1.05.12	C	Kenney W.A.	Canada	1.09.02
C	Hou Quing Jiang	China	1.05.13	D	Verma K.S.	India	1.09.02
D	Sidle Roy C.	Canada	1.05.13	C	Paule Ladislav	Slovakia	1.10.00
D	Wight Bruce	United States	1.05.13	C	Glover G.	United States	1.13.00
C	Montero Gonzalez G.	Spain	1.05.14	D	Frochot H.	France	1.13.00
D	Schoenenberger Walter	Switzerland	1.05.14	D	Wagner Robert G.	United States	1.13.00
D	Canellas Isabel	Spain	1.05.14	C	Emmingham W.	United States	1.14.00
D	Piussi Pietro	Italy	1.05.14	D	Liu Shirong	China	1.14.00
C	Luis J.F.S.	Portugal	1.05.15	C	Sinclair Fergus L.	United Kingdom	1.15.00
D	Mercurio Roberto	Italy	1.05.15	D	Khosla Prem Kumar	India	1.15.00
D	Senn Josef	Switzerland	1.05.15	D	Hsiung Wenyeue	China	1.15.00
D	Vorobjev V.	Russian Federation	1.05.15	D	Prinsley Roslyn	Australia	1.15.00
D	McCaughy W.	United States	1.05.15	C	Gold Michael	United States	1.15.01
C	Eder Walter	Germany	1.05.16	D	Sibbald Alan	United Kingdom	1.15.01
D	Prpic Branimir	Croatia	1.05.16	D	Knowles Leith	New Zealand	1.15.01
C	Spiecker Heinrich	Germany	1.06.00	D	Gordon Andrew	Canada	1.15.01
D	Rogers Robert	United States	1.06.00	C	Beer John	Costa Rica	1.15.02
D	Somogyi Z.	Hungary	1.06.00	D	Simons Tony	Kenya	1.15.02
C	Vanclay Jerry	Australia	1.07.00	C	Auclair Daniel	France	1.15.03
D	Maitre Henri Felix	France	1.07.00	D	Van Noordwijk Meine	Indonesia	1.15.03
D	De las Salas F. Gonzalo	Colombia	1.07.00	C	Holding Christine	Kenya	1.15.04
D	Sabogal Cesar	Brazil	1.07.00	D	Franzel Steve	Kenya	1.15.04
C	Finegan Bryan	Costa Rica	1.07.05	C	Ibrahim Muhammad	Costa Rica	1.15.05
D	Silva Natalino	Brazil	1.07.05	D	Shelton Max	Australia	1.15.05
C	Ewel Katherine C.	United States	1.07.08	D	Thorne Peter	United Kingdom	1.15.05
D	Saenger Peter	Australia	1.07.08	C	Parrotta John	United States	1.17.00
				D	Lamb David	Australia	1.17.00
				C	Huettl Reinhard F.	Germany	1.17.01

D	Setiadi Yadi	Indonesia	1.17.01
C	Stanturf John	United States	1.17.02
D	Madsen Palle	Denmark	1.17.02
C	Lamb David	Australia	1.17.03
D	Montagnini Florencia	Costa Rica	1.17.03
D	Nair K.K.N.	India	1.17.03
C	Atzmon Nir	Israel	1.17.04
D	Castillo Sanchez Victor	Spain	1.17.04
D	Puri Sunil	India	1.17.04

Division 2

C	Teissier du Cros Eric	France	2.00.00
D	Luxmoore Robert J.	United States	2.00.00
D	Paule Ladislav	Slovakia	2.00.00
C	Teskey Robert O.	United States	2.01.00
D	Chalupka Wladyslaw	Poland	2.01.00
D	Pereira Joao S.	Portugal	2.01.00
C	Horsley Stephen B.	United States	2.01.08
C	Sudachkova Nina E.	Russian Federation	2.01.10
D	Aloni Roni	Israel	2.01.10
D	Tyree Melvin T.	United States	2.01.10
C	Hallgren Stephen	United States	2.01.11
D	Wang Ya-Nan	China – Taipei	2.01.11
C	Ryan Michael G.	United States	2.01.12
D	Kramer Koen	Netherlands	2.01.12
D	Stenberg Pauline	Finland	2.01.12
D	Beadle Chris	Australia	2.01.12
C	Topa Mary A.	United States	2.01.13
D	Malajczuk Nicholas	Australia	2.01.13
C	Doulis Andreas	Greece	2.01.14
D	Hänninen Heikki	Finland	2.01.14
C	Kaufmann Merrill R.	United States	2.01.15
D	Cermak Jan	Czech Republic	2.01.15
D	McMurtie Ross	Australia	2.01.15
D	Paliwal Kailash	India	2.01.15
C	Chalupka Wladyslaw	Poland	2.01.16
D	Cecich Robert A.	United States	2.01.16
C	Roulund Hans	Denmark	2.01.17
D	Monteuuis Olivier	France	2.01.17
C	Matyas Csaba	Hungary	2.02.00
D	Okoro Ogonnaya Otusi	Nigeria	2.02.00
D	Volosyanchuk Roman	Ukraine	2.02.00
C	Bastien Jean-Charles	France	2.02.05
D	Woods Jack	Canada	2.02.05
C	Martinsson Owe	Sweden	2.02.07
D	Nagasaka Kazutoshi	Japan	2.02.07
D	Wyckoff Gary W.	United States	2.02.07
C	Skroppa Tore	Norway	2.02.11
D	Mikola Jouni	Finland	2.02.11
D	Sabor Janusz	Poland	2.02.11
C	Ducci Fulvio	Italy	2.02.13
D	Fady Bruno	France	2.02.13
D	Aravanopoulos Ph.	Greece	2.02.13
C	Schlarbaum Scott E.	United States	2.02.15
D	Blada Ioan	Romania	2.02.15
D	Kriebel Howard B.	United States	2.02.15
C	Oleksyn Jacek	United States	2.02.18
D	Stahl Erik G.	Sweden	2.02.18
D	Goncharenko Grigori	Belarus	2.02.18
C	Ades Peter	Australia	2.02.19
D	Balocchi Claudio	Chile	2.02.19
D	Carson Michael J.	New Zealand	2.02.19

C	Dieters Mark J.	Australia	2.02.20
D	McCutchan Barbara G.	United States	2.02.20
C	Hong Jusheng	China	2.02.23
C	Adams W. Thomas	United States	2.04.00
D	Koski Veikko	Finland	2.04.00
D	Vendramin Giovanni G.	Italy	2.04.00
C	Yeh Francis C.	Canada	2.04.01
D	Savolainen Outi	Finland	2.04.01
C	Bongarten Bruce	United States	2.04.02
D	Ericsson Tore	Sweden	2.04.02
C	Strauss Steven	United States	2.04.06
D	Jouanin Lise	France	2.04.06
D	Campbell Malcolm	United Kingdom	2.04.06
C	Borzan Zelimir	Croatia	2.04.08
D	Guttenberger Helmut	Austria	2.04.08
D	Toda Yoshihiro	Japan	2.04.08
C	Neale David	United States	2.04.09
C	Wang Huoran	China	2.08.00
D	Vigneron Philippe	France	2.08.00
D	Grattapaglia Dario	Brazil	2.08.00
C	Dyer Colin	South Africa	2.08.01
D	Balocchi Claudio	Chile	2.08.01
D	Boshier David	United Kingdom	2.08.01
D	Lal Piare	India	2.08.01
D	Hardiyanto Eko	Indonesia	2.08.01
D	Hodge Gary	United States	2.08.01
D	Stanger Terry	South Africa	2.08.01
D	Dieters Mark J.	Australia	2.08.01
C	Pinyopusarek Khongsak	Australia	2.08.02
D	Werner Dietrich	Germany	2.08.02
C	Borralho Nuno M.G.	Portugal	2.08.03
D	Ipinza Roberto H.	Chile	2.08.03
D	Bouillet Jean-Pierre	Congo	2.08.03
C	Villar Marc	France	2.08.04
D	Gullberg Urban	Sweden	2.08.04
D	Stanton Brian	United States	2.08.04
D	Zamudio Francisco	Chile	2.08.04
C	Steiner Kim C.	United States	2.08.05
D	Savill Peter S.	United Kingdom	2.08.05
C	Ipinza Roberto H.	Chile	2.08.06
D	Gallo Leonardo	Argentina	2.08.06
C	Edwards David George	Canada	2.09.00
D	Musoke R.	Uganda	2.09.00
D	Vozzo John	United States	2.09.00
C	Muhs Hans-Jakob	Germany	2.10.00

Division 3

C	Dykstra Dennis P.	United States	3.00.00
D	Cordero William	Bolivia	3.00.00
D	Furuberg Gjedtjernet A.	Norway	3.00.00
C	Menzies Mike	New Zealand	3.02.00
D	McNabb Ken	United States	3.02.00
D	Fjeld Dag	Norway	3.02.00
C	Kaushal Parvinder	India	3.02.01
D	Cazaux Jean-Pierre	France	3.02.01
D	Hall Peter New	Zealand	3.02.01
C	Ryans Mark	Canada	3.02.02
C	Mattsson Anders	Sweden	3.02.03
D	Arnott James	Canada	3.02.03
D	Herman Barri	United States	3.02.03
C	Mikkonen Esko	Finland	3.04.00
D	Field David	United States	3.04.00

D	Magnussen Steen	Canada	4.02.06	D	Glos Peter	Germany	5.02.00
C	Nuutinen Tuula	Finland	4.02.07	D	Green David W.	United States	5.02.00
D	Hoganson Howard	United States	4.02.07	C	Beall Frank C.	United States	5.02.01
D	Manley Bruce	New Zealand	4.02.07	D	Kucera Ladislav J.	Switzerland	5.02.01
C	Sekot Walter	Austria	4.04.00	C	White Robert	United States	5.03.00
D	Gal Janos	Hungary	4.04.00	D	Preston Alan F.	United States	5.03.00
D	Valsta Lauri	Finland	4.04.00	D	Vihavainen Tuija	Finland	5.03.00
C	Eckmuellner Otto	Austria	4.04.01	C	Osvald Anton	Slovakia	5.03.04
D	Aguirre Calderon Oscar	Mexico	4.04.01	D	Sheau-Horng Lin	China – Taipei	5.03.04
C	Merlo Maurizio	Italy	4.04.02	C	GnanaharanRajamoney	India	5.03.09
D	Klocek Andrzej	Poland	4.04.02	D	Wong Andrew	Malaysia	5.03.09
C	Deltuvas Romualdas	Lithuania	4.04.03	D	Fernandez Ana Maria	Chile	5.03.09
C	KlempererW. David	United States	4.04.04	C	Rosen Howard N.	United States	5.04.00
D	Amano Masahiro	Japan	4.04.04	D	Hattori Nobuaki	Japan	5.04.00
D	Centeno Julio	Venezuela	4.04.04	D	Vanek Manfred	Austria	5.04.00
C	García Oscar	Spain	4.04.06	C	Fortin Yves	Canada	5.04.06
D	Blandon Peter	United Kingdom	4.04.06	D	Kanagawa Yasushi	Japan	5.04.06
C	Griess Othmar	Austria	4.04.07	D	Perré Patrick	France	5.04.06
D	Schram Pierre	Luxembourg	4.04.07	C	Pizzi Antonio	France	5.04.07
D	NieuwenhuisMaarten	Ireland	4.04.07	D	Hse Chung-Yun	United States	5.04.07
C	Buerger-Arndt Renate	Germany	4.04.08	C	Szymani Ryszard	United States	5.04.08
D	Van Hensbergen H. J.	South Africa	4.04.08	D	Groenlund Anders	Sweden	5.04.08
C	Köhl Michael	Germany	4.11.00	C	Birkeland Rolf	Norway	5.04.10
D	Kleinn Christoph	Costa Rica	4.11.00	D	Massey Joseph G.	United States	5.04.10
C	Gertner George	United States	4.11.01	C	Sell Jürgen	Switzerland	5.04.12
D	Guan Biing	China – Taipei	4.11.01	D	Roux Marie-Lise	France	5.04.12
C	Rennolls Keith	United Kingdom	4.11.02	C	Maness Thomas	Canada	5.04.13
D	Benitez Celia Gaillard	Argentina	4.11.02	D	Sachers Markus	Germany	5.04.13
C	Schmoldt Daniel L.	United States	4.11.03	C	Plackett David	Denmark	5.05.00
D	Thomson Alan J.	United States	4.11.03	D	Rowell Roger	United States	5.05.00
D	Muetzelfeldt Robert I.	United Kingdom	4.11.03	D	Ye Kelin	China	5.05.00
C	Koch Barbara	Germany	4.12.00	C	Kawai Suishi	Japan	5.05.01
D	Hussin Yousif	Netherlands	4.12.00	D	Ballerini Aldo	Chile	5.05.01
D	Schardt Matthias	Austria	4.12.00	C	Hse Chung-Yun	United States	5.05.02
C	Zerda Hugo Raul	Argentina	4.12.01	D	Barbu Marius	Austria	5.05.02
C	Jöbstl Hans	Austria	4.13.00	D	Xuhe Chen	China	5.05.02
D	Merlo Maurizio	Italy	4.13.00	C	Gatenholm Paul	Sweden	5.05.03

Division 5

C	YoungquistJohn A.	United States	5.00.00	D	Sanadi Anand	United States	5.05.03
D	Sales Christian G.	France	5.00.00	C	Militz Holger	Netherlands	5.05.04
D	Winkler András	Hungary	5.00.00	D	Harun Jalaluddin	Malaysia	5.05.04
D	Wang Cathy H.H.	Canada	5.00.00	D	Takats Peter	Hungary	5.05.04
C	Phelps John E.	United States	5.01.00	C	Hong L.T.	Malaysia	5.06.00
D	Baas Pieter	Netherlands	5.01.00	D	Foudjet Amos	Cameroon	5.06.00
D	Saranpää Pekka	Finland	5.01.00	D	BhatK. Mahabala	India	5.06.00
C	Aloni Roni	Israel	5.01.01	C	Thibaut Bernard	France	5.06.01
D	Takabe Keiji	Japan	5.01.01	D	El Kortbi Mohamed	Morocco	5.06.01
D	Barnett John	United Kingdom	5.01.01	C	Bhat K. Mahabala	India	5.06.02
C	Zhang Tony	Canada	5.01.02	D	Thibaut Bernard	France	5.06.02
D	Fujita Minoru	Japan	5.01.02	D	Okuyama Takashi	Japan	5.06.02
D	Peszlen Ilona	Hungary	5.01.02	C	Waugh Gary	Australia	5.06.03
C	Nepveu Gérard	France	5.01.04	D	Bailleres Henri	France	5.06.03
D	Malan François	South Africa	5.01.04	D	Garcia Jose N.	Brazil	5.06.03
D	Thörnqvist Thomas	Sweden	5.01.04	D	Turner Philip	South Africa	5.06.03
C	Cown Dave	New Zealand	5.01.05	C	Fung Paul Y.H.	Australia	5.07.00
D	Nakai Takashi	Japan	5.01.05	D	Rosen Howard N.	United States	5.07.00
D	Leban Jean-Michel	France	5.01.05	C	Connor Mike	Australia	5.07.01
D	Johansson Germund	Sweden	5.01.05	D	Hoi Why Kong	Malaysia	5.07.01
D	Araman Philip	United States	5.01.05	C	Abdul Latif Mohmod	Malaysia	5.08.00
D	Barbour Jamie	United States	5.01.05	D	Bhat K. Mahabala	India	5.08.00
C	Rouger Frederic	France	5.02.00	D	Maoyi Fu	China	5.08.00
				D	Chaves Ana Cecilia	Costa Rica	5.08.00
				D	Kigomo Benard	Kenya	5.08.00
				D	Tang Jung-Lei	China – Taipei	5.08.00

C	Janssen Jules J.A.	Netherlands	5.08.01
D	Gnanaharan Rajamoney	India	5.08.01
C	Wimmer Rupert	Austria	5.09.00
D	Vetter Roland E.	Brazil	5.09.00
C	Juslin Heikki	Finland	5.10.00
D	Becker Michel	Germany	5.10.00
D	Cohen David H.	Canada	5.10.00
D	Bush Robert J.	United States	5.10.00
D	Ishii Yutaka	Japan	5.10.00
D	Jelvez Arnaldo	Chile	5.10.00
C	Raychaudhuri Syama P.	India	5.11.00
D	Shortle Walter C.	United States	5.11.00
D	Shiva Mahabir Prasad	India	5.11.00
C	Raychaudhuri Syama P.	India	5.11.02
D	Rembold H.	Germany	5.11.02
C	Quiment Roch	Canada	5.11.03
D	Subansenee Wanide	Thailand	5.11.03
C	Salo Kauko	Finland	5.11.04
D	Lee Su See	Malaysia	5.11.04
C	Barbour Jamie	United States	5.12.00
D	Wong Andrew	Malaysia	5.12.00

Division 6

C	Koch Niels Elers	Denmark	6.00.00
D	Krott Max	Germany	6.00.00
D	Brown Perry J.	United States	6.00.00
C	Sievänen Tuija	Finland	6.01.00
D	McLaughlin Bill	United States	6.01.00
D	Chen Chaw-Ming	China – Taipei	6.01.00
C	Ammer Ulrich	Germany	6.01.02
D	Axelsson-Lindgren Chr.	Sweden	6.01.02
C	Jensen Frank S.	Denmark	6.01.04
D	Kim Seong-Il	Korea (Rep)	6.01.04
C	Reunala Aarne	Finland	6.01.05
D	Chaudary G.C.	India	6.01.05
C	Proebstl Ulrike	Germany	6.01.06
D	Ito Taichi	Japan	6.01.06
C	Kempf Alois	Switzerland	6.03.00
D	Sommer Deborah	United States	6.03.00
C	Brown Virginia	United States	6.03.01
D	Karjalainen Annikki	Finland	6.03.01
C	Kaennel-Dobbertin M.	Switzerland	6.03.02
D	Haddon Brian	Canada	6.03.02
C	Rütze Matthias	Germany	6.03.03
D	Koler Cvetka-Teja	Slovenia	6.03.03
C	Motta T. Maria Teresa	Colombia	6.03.04
D	Ugalde Luis	Costa Rica	6.03.04
D	Schaitza Erich Gomes	Brazil	6.03.04
C	Burns Denver	United States	6.06.00
D	Schlaepfer Rodolphe	Switzerland	6.06.00
D	Fryk Jan	Sweden	6.06.00
C	Miner Cynthia	United States	6.06.02
D	Sharma O.P.	India	6.06.02
C	Johnson James E.	United States	6.06.03
D	Beck Roland	Germany	6.06.03
C	Gemmel Pelle	Sweden	6.06.04
D	Schmidt Pieter	Cameroon	6.06.04
C	Johann Elisabeth	Austria	6.07.00
D	Gundermann Egon	Germany	6.07.00
D	Arnould Paul	France	6.07.00
C	Rawat Ajay S.	India	6.07.01
D	Grove Richard	Australia	6.07.01

C	Agnoletti Mauro	Italy	6.07.02
D	Anderson Steve	United States	6.07.02
C	Watkins Charles	United Kingdom	6.07.04
C	Schwenk Sigrid	Germany	6.07.05
C	Kaiser Harold F.	United States	6.11.00
D	Simula Markku	Finland	6.11.00
C	Bertrand Alain	France	6.11.01
D	Mgeni A.	Tanzania	6.11.01
D	Hansra B.S.	India	6.11.01
C	Smyth Jack H.	Canada	6.11.02
D	Ota Ikuo	Japan	6.11.02
D	Spinelli Rafaele	Italy	6.11.02
C	Langner Linda	United States	6.11.04
D	Penttinen Markku	Finland	6.11.04
C	Petrov Anatoly	Russian Federation	6.11.06
D	Le Master Dennis	United States	6.11.06
C	Hoover Anne P.	United States	6.11.07
D	Broadhurst Richard	United Kingdom	6.11.07
C	Tikkanen Ilpo	Finland	6.12.00
D	Glück Peter	Austria	6.12.00
D	Risbrudt Christopher	United States	6.12.00
C	Solberg Birger	Norway	6.12.01
D	Zimmermann Willi	Switzerland	6.12.01
C	Cortner Hanna	United States	6.12.02
D	Ellefson Paul V.	United States	6.12.02
C	Essmann Hans F.K.	Germany	6.12.03
D	Harou Patrice A.	United States	6.12.03
C	Schmithüsen Franz	Switzerland	6.13.00
D	Gallardo E.	Chile	6.13.00
D	Herbst Peter	Austria	6.13.00
D	Siegel William C.	United States	6.13.00
C	Nilsson Kjell	Denmark	6.14.00
D	Dwyer Jr. John F.	United States	6.14.00
D	Jim C. Y.	Hong Kong	6.14.00
C	Lewark Siegfried	Germany	6.15.00
D	Cubbage Fred	United States	6.15.00
D	Khurana D.K.	India	6.15.00
D	Miller Hugh G.	United Kingdom	6.15.00
C	Haynes Richard W.	United States	6.16.00
D	Yukutake Kiyoshi	Japan	6.16.00
D	Baudin Anders	Sweden	6.16.00
C	Nilsson Per Olov	Sweden	6.17.00
D	Bengston David	United States	6.17.00

Division 7

C	Karnosky David F.	United States	7.00.00
D	Långström Bo E.	Sweden	7.00.00
D	Tesche Manfred	Germany	7.00.00
D	Suzuki Kazuo	Japan	7.00.00
C	Mattson William	United States	7.01.00
D	Niemela Pekka	Finland	7.01.00
C	Wingfield Michael	South Africa	7.01.01
D	Yamaoka Yichi	Japan	7.01.01
D	Harrington Thomas C.	United States	7.01.01
C	Lieutier Francois	France	7.01.02
D	Wagner Mike	United States	7.01.02
C	Rousi	MattiFinland	7.01.03
D	Hirokawa Hirofumi	Japan	7.01.03
C	Yanchuk Alvin	Canada	7.01.04
D	Bastien Catherine	France	7.01.04
D	King John	Canada	7.01.04
C	Wargo Phillip W.	United States	7.01.05

D Schaffhauser Horst	Austria	8.04.02	C DeGraaf Richard	United States	8.06.02
D Fujisawa Kazunori	Japan	8.04.02	D Gray Paul	Canada	8.06.02
C Marui Hideaki	Japan	8.04.03	D Maruyama Naoki	Japan	8.06.02
D Marden Michael	New Zealand	8.04.03	D Askins R.	United States	8.06.02
D Fukuoka Hiroshi	Japan	8.04.03	C Schwenk Sigrid	Germany	8.06.03
C Ziemer Robert R.	United States	8.04.04	D Daigle J.	United States	8.06.03
D Marinov Ivan T.	Bulgaria	8.04.04	D Wanden Stig	Sweden	8.06.03
C Omura Hiroshi	Japan	8.04.05	C Dallmeier Francisco	United States	8.07.00
D Scheuringer Erich	Austria	8.04.05	D Manokaran N.	Malaysia	8.07.00
C Stocks Brian	Canada	8.05.00	D Hermy M.	Belgium	8.07.00
D Goldammer Johann G.	Germany	8.05.00	C Scarascia Mugnozza G.	Italy	8.08.00
D Conard Susan G.	United States	8.05.00	D Xu Deying	China	8.08.00
D George Charles W.	United States	8.05.00	C Hager Herbert	Austria	8.08.01
C DeGraaf Richard	United States	8.06.00	D Ji-Zheng Sun	China	8.08.01
D Larsson Tor-Bjorn	Norway	8.06.00	C Quine C.P.	United Kingdom	8.08.02

Honorary Membership

With effect from April 7, 1999, **Dr. Moh'd Nor Salleh from Malaysia** was elected to Honorary Membership, IUFRO's highest award, in recognition of his outstanding commitment and excellent services rendered to the Union. Dr. Salleh was IUFRO President from 1991 to 1995 and is presently on the Executive Board as Immediate Past President.

Distinguished Service Award

At the Executive Meeting in Denmark in September 1999, several candidates for the DSA were recommended, but no final decisions were made and no awards were presented. However, the Awards that had been decided upon in 1998 were not presented in that year, as was erroneously stated in the 1998 Annual Report, but will be presented in 2000 with one exception: **Prof. Dr. Sc. Simeun Tomanic** from Croatia received his award in September 1999 at a meeting of IUFRO Units 3.04.00/3.06/00/3.07.00 in Opatija (see also on page 7 of this report).

Certificates of Appreciation

In 1999, Certificates of Appreciation for a significant contribution to the organization or activities of IUFRO were presented to:

Prof. Roger Malimbwi

IUFRO Workshop on Off-forest Tree Resources of Africa, Arusha, Tanzania

Prof. August Temu

IUFRO Workshop on Off-forest Tree Resources of Africa, Arusha, Tanzania

The Danish Forest and Landscape Research Institute – FSL

EB Meeting in Skjoldenaesholm and Copenhagen

Prof. Dr. Niels Elers Koch

EB Meeting in Skjoldenaesholm and Copenhagen

Dr. Jens Rasmussen

EB Meeting in Skjoldenaesholm and Copenhagen

Mrs. Mette Fog

EB Meeting in Skjoldenaesholm and Copenhagen

Dr. Tomasz Zawila-Niedzwiecki

IUFRO Conference on „Remote Sensing and Forest Monitoring“, Rogow, Poland

Prof. Heronim Olenderek

IUFRO Conference on „Remote Sensing and Forest Monitoring“, Rogow, Poland

Mag. Dipl. Ing. Peter Herbst

„2nd Int. Symposium on Experience with New Forest and Environmental Laws in European Countries with Economies in Transition“, Ossiach, Austria

Federal Forestry Training Centre in Ossiach

„2nd Int. Symposium on Experience with New Forest and Environmental Laws in European Countries with Economies in Transition“, Ossiach, Austria

Erich Gomes Schaitza

6th Meeting of the Latin American and Caribbean Forest Information Systems Network RIFALC - IUFRO 6.03.04, Curitiba, Brazil

Empresa Brasileira de Pesquisas Agropecuária Centro Nacional de Pesquisa de Florestas, Colombo

6th Meeting of the Latin American and Caribbean Forest Information Systems Network RIFALC - IUFRO 6.03.04, Curitiba, Brazil

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