
Preface

Structure of the Union

The year 1996 saw the greatest change in IUFRO's structure since the XV IUFRO World Congress in 1971 at which organizational Sections were transformed into six scientific Divisions. At the XX Congress in 1995 approval was given for the reorganization of Divisions 1 and 2 into four Divisions (1, 2, 7 and 8); this increase was necessary because of the increasing size and activity, and consequently an increasing work load on the Coordinators and Deputy Coordinators. The new Coordinators, and indeed the Coordinators of all Divisions, expended great efforts to ensure the minimum duplication of research groups, the elimination of inactive units, and a wide distribution of leaders at all levels across geographic origins.

Another administrative change that has implications for the visibility and understanding of the Union was the simplification of research unit titles and leadership titles. The classifications "Subject Group" and "Project Group" were abolished and the single name "Research Group" is now in use; incidentally this unification facilitates the structure and operation of IUFRO's main database. The original concept of the Project Group was that it worked across Divisions whereas Subject Groups worked within Divisions; the current trends in world forestry require greater attention to inter-disciplinary collaboration and all research units are encouraged to collaborate in attacking common problems. Research Groups still maintain Working Parties and the collective name for Division, Research Group or Working Party is IUFRO Unit. The titles of Working Party Chair, Research Group Leader and Divisional Coordinator have also been standardized as "Coordinator" (with Deputy Coordinators for each).

Research Activities

The Union is traditionally less active in the first year after a Congress and the huge success of the XX Congress in Tampere, Finland, might have been expected to reduce the number of meetings that took place; nevertheless in 1996 there were 60 meetings of different IUFRO units in 33 countries, of which 23 were developing countries or countries with economies in transition. Altogether 87 IUFRO units were involved in the meetings. Many of these have already resulted in significant publications. The work of each Division is described in the subsequent sections of this report.

SPDC

The USDA Forest Service kindly agreed to continue its support for the Special Programme for Developing Countries. Dr Robert Szaro took over as Coordinator from Dr Brian Payne. The Canadian Government agreed

to provide a Deputy Coordinator (and Dr Wade Bowers will begin in early 1997). The Danish Government's agency DANIDA agreed to support an Assistant Coordinator from Africa and this post will be advertised in 1997. A full account of the SPDC's activities in 1996 is included in this report.

Internet

The Task Force on Internet Resources and the Secretariat made prodigious efforts during the year to establish and expand the IUFRO home page system. On the central facility all the details of the structure and activities of the Union are available while over 60 IUFRO units created their own home pages for information and communication. The IUFRO system is mirrored in six other countries to facilitate more rapid access and there is extensive cross-linking to the home pages of related organizations. The entire facility is impressive and it has enhanced the work and visibility of the Union significantly as increasing numbers of member institutions obtain access to the information super-highway.

Executive Board

Following the Tampere Congress a new Executive Board took over with expansions to cover the new Divisions; it met in Vienna, Austria, and Sopron, Hungary, during February and in Pretoria and Sabie, South Africa, in December. The Executive Board has concentrated, among other subjects, on the preparation of a strategic plan for IUFRO and a brochure describing the Union that will be useful for officers, scientists, directors of member institutions, and selected administrators and policy-makers. These two documents will be published in 1997 and distributed at the World Forestry Congress in Turkey during October.

The Executive Board maintained the idea and advantages of specialist Task Forces by establishing such groups to advise it and the Union on latest global issues, the state of knowledge on them, and appropriate IUFRO responses to them; these included Task Forces on Forests and Environmental Change; Forests and Mountain Development; International Relations; Internet Resources; and Sustainable Forest Management. They collaborated with the relevant research units of the Union and all research units are encouraged to prepare state-of-knowledge reports for the next Congress in 2000, preferably maintaining an up-to-date statement on the unit's Internet home page.

The Executive Board also devoted considerable thought and action to identifying mechanisms for communicating better with the International Council members and with the directors of IUFRO member institutions, to obtain

and offer mutual support in our common needs to address globally researchable topics and to secure adequate government political will and financial support.

IUFRO itself detects a significant fluctuation and change in membership; some of the departing or delinquent members are in developing countries and genuinely have difficulty in finding the membership fees. Others are in developed countries also and find that forestry related activities are also being covered by competing fee-demanding institutions. The Executive Board has established a number of Ad Hoc Committees to help in developing strategies to counter these trends and to make IUFRO more visible and beneficial to members.

The Executive Board has also sought to represent the Union at the major international and regional organizations, initiatives and processes, including UNCSD/IPF, WCFSD, ITTO, APAFRI and FAO. The Union was invited to prepare statements and reviews of particular topics. The President was invited to attend the meetings of the Boards of Trustees of CIFOR and ICRAF (and the Directors General of those CGIAR institutions are observers on the IUFRO Executive Board in return).

In my fifteen years as a member of the Executive Board I can say that the current Board members have shown an outstanding enthusiasm and commitment to the successful operation of our Union and I thank them sincerely for their support and initiative.

Policy and Planning Committee

The major committee of the Executive Board is the PPC which functions in the day-to-day decision-making of the Union. The PPC also prepares papers and policy arguments for the full Executive Board meetings. In 1996 it met immediately before the two Executive Board meetings but henceforward it expects to meet midway between Board meetings. The members of the PPC are in almost daily contact via e-mail and individually they are in contact with Board members, International Council members, directors of member institutions, and Coordinators of the research units. We are all very anxious to use the PPC and EB to support the work of the research units and the member institutions and their scientists.

Membership

During 1996 the number of member institutions increased as 20 new institutions from the Republic of Korea joined the Union, so that at the end of the year we had 724 members. (At the end of 1995 IUFRO had 717 member institutions.) The Executive Board is concerned about a general trend of declining membership due to the reorganization of forest research in many countries and due to financial constraints in many regions of the world

and we do encourage all scientists to seek new members; I or the Secretariat will be happy to write supporting and explanatory letters and provide information about the benefits of IUFRO membership. One approach is for the Coordinators of all research units to invite potential members to their scientific meetings (and to consider offering lower registration fees for scientists of member institutions).

Publications

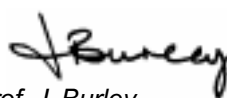
During 1996, in addition to the large number of conference proceedings and other publications arising from research units, IUFRO itself published two volumes in the IUFRO World Series, one Occasional Paper and four issues of IUFRO News. These provide a quick, inexpensive but high quality outlet for the work of the Union and its scientists. They receive wide distribution and some bring significant income through sales that help to keep membership fees low.

Headquarters

Within the Secretariat itself, in addition to the SPDC, IUFRO hosts financed project, Sylvavoc. An account of this is included in this report but I would like to compliment the Austrian Government for its continued provision of generous accommodation and staff support for IUFRO's Secretariat at the Austrian Federal Forest Research Centre in Vienna. Relations with the Government servants, Institute Director and scientific staff were excellent and, on behalf of IUFRO, I would like to thank them for this vital support and recognition of the international value of our Union.

Thanks are also due to the donor agencies and international agencies that have financed or collaborated with IUFRO activities including the SPDC; these include the Canadian, Japanese and United States governments, the USDA Forest Service, the Danish agency DANIDA, Japanese and Taiwanese IUFRO Associations, and CIFOR, FAO, ICRAF and ITTO.

Above all I thank the Secretary and staff at headquarters for their loyal and devoted service, far beyond the call of normal duty. Without them our Union would not function as the cohesive and productive organization that is now recognized worldwide as the leading player in research for the wise and sustainable management of our forests.



Prof. J. Burley
President of IUFRO

DIVISION 1 - SILVICULTURE

Introduction

Division 1 welcomes its new Deputy Coordinator, Dr Menachem Sachs of Israel. Dr Sachs brings with him expertise in arid zone silviculture, and represents a region not well represented on the Executive Board in recent times.

The Division currently consists of 9 Research Groups with 31 Working Parties, for a total of 40 units (Appendix A). Division 1 officers total about 95, with an additional 6 or so vacancies. These officers represent (reside in) 41 nations. Several groups have been given new names, new officers, or have been eliminated, while new ones have been formed, during the 1991 - 1995 period, and since then.

Division 1 has changed considerably with the establishment of Division 8, Forest Environment, effective 1 Jan. 1996. Note also, that the Executive Board met at Tampere and decided to remove the distinction between Project Groups and Subject Groups. We now have only Research Groups and Working Parties, as indicated in this Report.

The Division 1 portion of the IUFRO Web Site is slowly taking shape. Eventually we expect this to provide a large amount of information about Division 1 and all IUFRO Divisions, Research Groups and Working Parties. If you have access to the Internet and wish to scan the Division 1 Web Pages, the URL address is <http://iufro.boku.ac.at/iufro/d1/list.htm>. If your Research Group or Working Party has information to be added to the Web Site, send it to me via e-mail or otherwise, and it will be added.

Purpose and Goals

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.

Organizational Changes

1.00.00: Deputy Coordinator - M. SACHS, Israel

1.05.00: Coordinator - J. BRISSETTE, USA, to replace PENTTI RAESAENEN

1.05.05: Coordinator - K. JOHANN, Austria, to replace H. ERIKSSON

1.05.05: Deputy Coordinator - U. JOHANSSON, Sweden

1.07.09: Coordinator - R. SEITZ, Brazil, to replace R. ZANOTTI

1.07.13: Deputy Coordinator - BAI JIAYU, China

1.07.16: Deputy Coordinator - D. DONOVAN, USA

1.07.18: The Working Party is abolished.

1.17.00: Coordinator - J. PARROTTA, USA, to replace M. SACHS

1.17.02: Coordinator - J. STANTURF, USA, formerly Deputy Coordinator

Research Group and Working Party Activities

During the 1991-1995 period, Division 1 and its Subject Groups (SG), Project Groups (PG) and Working Parties (WP) sponsored 69 symposia, workshops, conferences and study tours, including the current Division 1 and the current Division 8, combined. For details on these accomplishments, refer to the expanded version of the Five-Year Report, dated 12 Dec. 1995.

Recent Events

4.01/1.05/1.06/1.07/1.10/4.11: Conference on *Modelling Regeneration Success and Early Growth of Forest Stands*, Copenhagen, Denmark. 10-13 June, 1996.

1.05.06: Newsletter, November 1996.

1.05.16: *Ecology and Silviculture of European Silver Fir (8th Symposium)*, Jundola, Bulgaria. 22-29 Sept., 1996.

1.07.00: International Conference on *Tropical Forestry in the 21st Century*, Bangkok, Thailand. 25-29 Nov., 1996. Co-sponsored by Kasetsart University and the International Society of Tropical Foresters.

1.07.00: Several fine newsletters!

1.07.00/4.02.03: Conference on *Growth Studies in Tropical Moist Forests of Africa*, Kumasi, Ghana. 12-14 Nov. 1996. Co-sponsored with FORIG.

1.07.14: Conference on *Forest Fallows Management*, Yaounde, Cameroon. 17-21 Nov., 1996. Co-sponsored by CORAF.

1.17.00: Symposium/Workshop on *Accelerating Native Forest Regeneration on Degraded Tropical Lands*, Washington, DC USA. 11-14 June 1996.

1.17.04: Seminar on *Afforestation and Silviculture in Arid Lands*, Santiago, Chile. 21-25 Oct., 1996. Sponsor, INFOR; Co-sponsor, 1.17.04.

Appendix A

Division 1 Structure

- 1.05.00 Stand Establishment, Treatment & Amelioration
 - 1.05.01 Peatland Forestry
 - 1.05.03 Treatment of Young Stands
 - 1.05.04 Characterization of Plant Material
 - 1.05.05 European Norway Spruce Thinning Experiment
 - 1.05.06 Multiple-use Silviculture
 - 1.05.08 Natural Stand Regeneration
 - 1.05.11 Intensification of Cedar Silviculture
 - 1.05.12 Northern Forest Silviculture & Management
 - 1.05.13 Shelterbelts
 - 1.05.14 Silvicultural Problems in Mountain Regions
 - 1.05.15 Silviculture & Management of Pines
 - 1.05.16 Ecology & Silviculture of European Silver Fir
- 1.06.00 Improvement & Silviculture of Oaks
- 1.07.00 Tropical Silviculture
 - 1.07.05 Natural Regeneration of Tropical Rainforests
 - 1.07.08 Ecology & Silviculture of Tropical Forested Wetlands

- 1.07.09 Silviculture in Latin America
- 1.07.13 Silviculture of Plantations in Asia & Pacific Region
- 1.07.14 Silviculture in Africa
- 1.07.15 Silviculture & Management in Arid & Semi-arid Regions
- 1.07.16 Managing for Tropical Non-timber Forest Products
- 1.07.17 Biology & Silviculture of Dipterocarps

- 1.09.00 Short Rotation Forestry for Biomass Production
 - 1.09.01 Int. Res. in Temperate Short-Rotation Energy Plantations
 - 1.09.02 Integrated Research in Tropical Bioenergy Systems
- 1.10.00 Improvement & Silviculture of Beech
- 1.13.00 Forest Vegetation Management
- 1.14.00 Unevenaged Silviculture
- 1.15.00 Agroforestry
 - 1.15.01 Temperate Agroforestry
 - 1.15.02 Agroforestry in the Tropics
 - 1.15.03 Fundamental Research and Modelling in Agroforestry
 - 1.15.04 Adaptive and Social Research in Agroforestry
- 1.17.00 Restoration of Degraded Sites
 - 1.17.01 Reclamation of Mining Lands
 - 1.17.02 Restoration Ecology
 - 1.17.03 Rehabilitation of Degraded and Secondary Tropical Forests
 - 1.17.04 Arid and Semi-arid Zones Rehabilitation

J. L. Whitmore

DIVISION 2 - PHYSIOLOGY AND GENETICS

Introduction

Division 2 is now in its new configuration, like three other divisions. It has been reduced to six Research Groups:

- 2.01.00 Physiology: 9 Working Parties (WPs)
- 2.02.00 Conifer breeding and genetic resources: 9 WPs
- 2.04.00 Genetics: 6 WPs

- 2.08.00 Hardwood improvement, culture and genetic resources: 5 WPs
- 2.09.00 Seed physiology and technology: no WP
- 2.10.00 Legislation on forest reproductive material: no WP

The total number of officers, including the Division Coordinator, Eric Teissier du Cros, France, and his two Deputies, Ladislav Paule, Slovakia and Bob Luxmoore, USA, is 86. For organisational purposes the Coordinator

and his deputies have decided the following responsibility distribution :

Research Groups

2.01.00 and 2.09.00: Bob Luxmoore
2.02.00 and 2.08.00: Ladislav Paule
2.04.00 and 2.10.00: Eric Teissier du Cros.

Two circular letters have been sent to all officers. Thanks to e-mail most of them have been reached and many of them have replied. Others have been contacted by fax or mail, but with limited response. The coordinator wishes to get hold of missing e-mail addresses as soon as possible. Division 2 web moderator for IUFRO Net is Howard Kriebel, our former Division Coordinator.

The most important decision made since the beginning of the year is to hold a Division 2 conference in the second half of 1998. Its provisional title is *Genetics contribution to the sustainability of forests : forest genetics and tree improvement on the threshold of their second century*. Its aims are:

- (1) review accomplishments and provide a state of the art on forest genetics,
- (2) concentrate on challenges and tasks of the next century,
- (3) indicate importance and potential of forest genetics and tree breeding, particularly for the developing world, having in mind that an increase of the yield of plantations may relieve pressure from natural forests,
- (4) focus intensive genetic improvement on a limited number of species,
- (5) strengthen the links with other disciplines: especially ecology and physiology,
- (6) show that for a sound ecosystem conservation strategy, genetic information is essential. Similarly forest genetics must not be disregarded in policy decisions re. silvicultural methods,
- (7) review the effects of silviculture and of recent and expected environmental changes on the genetic structure of (natural) forest populations.

Its chairman will be Csaba Matyas, Hungary, current coordinator of RG 2.02.00. He will be helped by two committees:

- a Scientific Committee representing all Research Units of the Division and of other involved Divisions;

- an Organising Committee involving representatives of the host country and of the Scientific Committee.

The host country will be China and the meeting will be held in Beijing. FAO has given its agreement for a scientific sponsorship of the Conference.

Changes in the Working Units

At the beginning of the year, some of the Working Parties had too few or even no officers. Action has been taken to improve the situation. For example, 2.01.14 "Cold and drought hardiness" had no Coordinator. Two scientists, Dr Andreas Doulis, Greece and Dr Heikki Hänninen, Finland will respectively represent the two aspects of this WP. Two Deputies of 2.02.11 were elected during the last IUFRO Congress. Janusz Sabor, Poland and Jouni Mikola, Finland. Their name is now or will soon be added to the files of IUFRO Secretariat. Deputy Coordinators are still needed for the following WPs:

- 2.01.11 Shoot growth physiology
- 2.01.12 Canopy processes
- 2.02.23 Breeding and genetic resources of Asian conifers

Report of activities

Meetings

2.01.10 held a conference titled *Ecological and Physiological Aspects of Xylogenesis in Conifers*. It took place at the V.N. Sukachev Institute of Forest, Krasnoyarsk, Russia. 6-9 Aug. 1996. Its report can be found in IUFRO Net under the number of the WP.

2.02.00: Conference on *Genetics and Breeding in Forest Service*, held in Voronezh, Russian Federation. 28-29 June 1996.

2.04.00: Meeting *Diversity and adaptation in forest ecosystems in a changing world*, Vancouver, B.C., Canada. 5-8 Aug. 1996

2.08.01: Conference *Tree improvement for sustainable tropical forestry*, Caloundra, Queensland, Australia. 27 Oct.-2 Nov., 1996

2.08.02: *Third International casuarina Workshop*, Da Nang, Vietnam. 4 -7 March, 1996

Publications

2.01.12 / 2.01.15: "Interactive Environmental Effects on Forest Stands". *Tree Physiology* 1996 16(1/2), 1-318. Whitehead, D. and F. M. Kelliher Eds. Contains 38 papers.

2.04.01: Publication in IUFRO News of a short report and on Internet of all papers of the meeting *Diversity and adaptation in forest ecosystems in a changing world*.

2.08.02: Proceedings of the Third International Casuarina Workshop

2.08.03: The 1996 issue of the W.U. Newsletter was distributed, featuring several articles on the state of the art in eucalyptus breeding in Colombia, Portugal, Brazil, South Africa, Chile and New Zealand and herbicide damage, drought tolerance and development of eucalyptus plantations in Indonesia.

2.08.04: Poplar Molecular Network (PMN) newsletter 4(1), October 1996 (in press).

Book : "Biology of Populus and its implications for management and conservation".

Edited by RF Stettler, HD Bradshaw, PE Heilman, TM Hinckley. Published by NRC/CNRC, Canada. (following the International Poplar Symposium meeting in Seattle, August 1995 organised by the former chair : RF. Stettler).

2.08.05: Newsletter

2.09.00: Proceedings International Symposium. *Innovations in tropical seed technology*, Arusha, Tanzania. September 1995 (In preparation). Proceedings *Latin-American Symposium in Forest Tree Seed*, Managua, Nicaragua. Oct. 1995. (In preparation).

2.02.07: A larch progeny seed collection has been started in Russia in cooperation between Russia, the Scandinavian countries and with support from USA and Canada.

2.02.13: In 1995 B. Fady (INRA, Avignon, France) distributed seed material from 12 *Pinus pinea* provenances. This material has been shown in several Mediterranean countries. First nursery measurements will be organised. To avoid duplication of research and coordination activities, the coordinator and his deputies will seek for contacts with other organisations and groups involved in Mediterranean forest tree genetics and improvement : FAO Sylva Mediterranea, French Forest GRAMs (Mediterranean Agronomic Research Groups).

2.02.15: The extent of research activity in the USA on breeding five needle pines is less than 10 years ago in both state and federal research institutions. Work continues in Canada. The extent of activity in southern and eastern Asia has to be assessed. Interest in five-needle pines in Europe is at a rather low level because of the blister rust, except in high elevation where *Pinus monticola* has shown adaptation and vigour. The potential of fast-growing five-needle pines cannot be achieved in some regions until pest-resistant genotypes (weevil, blister-rust) are incorporated into the genome. Cooperative research with molecular biologists is needed.

2.08.03: A major update of the mailing list for those interested in receiving the W.U. Newsletter is being carried out. For more information please contact Nuno Borralho : n.borralho@plant.utas.edu.au

Eric Teissier du Cros

DIVISION 3 - FOREST OPERATIONS AND TECHNIQUES

1. Introduction and Division-level Activities

Terms of Reference: The Division's work includes research on:

- operational methods for nursery operations, stand establishment, and stand treatment;
- operational planning and control, including work study, payment, and labour productivity;
- tropical forest operations;
- accessibility and harvesting of forests under mountainous conditions;
- forest engineering (design, layout, and construction of forest transportation systems, roads, bridges, and other structures);
- ergonomics;
- special considerations of operations in small-scale forestry;
- forest harvesting, in-woods processing, and transportation methods and machinery (including harvesting and utilization of tree foliage and wood for energy, as well as harvesting of industrial roundwood);

- effects of harvesting on product quality;
- the relationship between forest operations and environmental protection, especially on sensitive sites.

These activities are dispersed among 9 Research Groups and 20 Working Parties (see Annex 1). About 90 officers coordinate activities within the Division. Several vacancies currently exist among deputy coordinators, but all coordinator posts are filled.

About the working unit: The Division 3 Coordinating Unit is charged with responsibility for coordinating activities of the working units which comprise the division. This includes maintaining records of contact information for working unit officers, facilitating the organization of meetings and other activities of the working units, organizing divisional or inter-divisional meetings, and preparing the division's contributions to the IUFRO World Congress. The Division Coordinator and Deputy Coordinators are members of the IUFRO Extended Executive Board (EEB) and represent the interests of Division 3 at EEB meetings.

Rita Mustikasari, IUFRO Liaison Officer at CIFOR in Bogor, Indonesia has been appointed the Division 3 Web Moderator. She has been in frequent contact with the working units to encourage them to submit information for the IUFRO Net pages, but in spite of this the submissions have been few in number. Complete data have been entered for the Division 3 coordination unit and for several working units. Basic information on the officers of all working units has been placed on the Web pages by Ms. Mustikasari but further details for most research groups are awaiting submissions from the working units themselves. Information obtained from the working units on future meetings and other activities appears to be relatively complete. Ms. Mustikasari's contact information is c/o CIFOR, P.O. Box 6596 JKPWB, Jakarta 10065, Indonesia; fax +62 251 326433 or +62 251 622100, e-mail r.mustikasari@cgnnet.com.

Preparations are under way for two division-level meetings which are planned for 1997 and 1998. These are:

- 15-20 July 1997: Interdivisional meeting organized by Divisions 1 and 3. Chairing of the organizing committee is William Cordero, D3.00.00. The principal organizer from Division 1 is Bryan Finegan, C1.07.00. The title of the meeting is *Simposio Internacional sobre Posibilidades de Manejo Forestal Sostenible en America Tropical*. It will be held at Santa Cruz, Bolivia and will be co-sponsored by BOLFOR and CIFOR, with additional assistance from CATIE. The languages of the meeting will be Spanish and Portuguese. Inquiries should be directed to William Cordero, BOLFOR, Casilla No. 6204, Santa Cruz, Bolivia; fax +591-3-364319, e-mail: bolfor@mitai.nrs.bolnet.bo

- May 1998: Division 3 Mid-Term Meeting. The Forest Research Institute of Taiwan has offered to serve as host for the meeting. The language of the meeting will be English. Organizational responsibility has been assigned to Bryce Stokes, C3.05.00, and Elias, D3.05.00. Ann Merete Furuberg-Gjedtjernet, D3.00.00, will organize a session dealing with the intersection between forest operations and political issues. Each Research Group of IUFRO Division 3 will be invited to send at least one representative to present a paper dealing with that Research Group's disciplinary focus. In addition, a business meeting of Division 3 will be held to plan the Division's activities in connection with the IUFRO 2000 World Congress in Kuala Lumpur, Malaysia. The meeting was previously scheduled for May 1997 but has been postponed to permit better preparation. Inquiries should be directed to Bryce Stokes, USDA Forest Service, Southern Forest Experiment Station, DeVall Drive, Auburn University, Alabama 36849, USA; e-mail: stokes@so4702.usfs.auburn.edu, fax +1 334 821-0037.

2. Changes in Working Units during 1996

No changes were made in the titles or areas of focus for the working units during 1996, nor is it suggested that any of the working units be terminated. The following changes are proposed with respect to officers of the working units:

- 3.02.00 Operational Methods in the Establishment and Treatment of Stands:

Dag Fjeld of NISK (Norway) has been nominated to serve as a deputy coordinator. The coordinator is Mike Menzies (New Zealand) and the single deputy coordinator currently is Ken McNabb (USA).

- 3.10.00 Harvesting, Wood Delivery and Utilization:

Deputy coordinator John Gaskin (New Zealand) is no longer with an IUFRO member organization and is thus not eligible to continue serving as an officer. Loren Kellogg (USA), C3.10.00, is currently seeking nominations to fill the post.

Efforts to obtain complete contact information for all Division 3 officers have now brought the address database up to date for all officers.

3. Report of Activities by Research Groups

- The papers presented in the technical sessions of 3.02.01 "Stand Establishment Operations" and 3.02.02 "Stand Treatment Operations" at the 1995 World Congress in Tampere have been collected and are in press for publication by the Forest Research Institute of Sweden.

- A conference on *Nursery Establishment Operations for Difficult Sites* was organized at the Dr Y. S. Parmar University of Horticulture and Forestry, Nauni (Solan), Himachal Pradesh, India, 6-12 Oct. 1996. The conference was co-sponsored by 3.02.01 "Stand Establishment Operations" and 3.02.03 "Nursery Operations". Parvinder Kaushal, C3.02.01, had a major role in organizing the meeting which was attended by more than 100 delegates from Europe, Africa, the Middle East, and South Asia. The Proceedings are in preparation.
- 3.04.00 "Operational Planning and Control; Work Study" co-sponsored the 1996 annual meeting of the Council on Forest Engineering (COFE), which was held during July at Marquette, Michigan, USA. The Proceedings, entitled "Planning and Implementing Forest Operations to Achieve Sustainable Forests", are available for US\$25.00 from COFE at 620 SW 4th Street, Corvallis, Oregon 97333-4428, USA; fax +1 541 754-7559.
- About 30 members of 3.05.00 "Forest Operations in the Tropics" participated in criticizing the draft *FAO Model Code of Forest Harvesting Practice*, which was co-authored by two members of the group (Dennis Dykstra and Rudolf Heinrich). As a result of the working unit's input several parts of the draft were revised substantially prior to its publication by FAO in April 1996.
- The Proceedings of two meetings organized jointly by 3.05.00 and FAO are currently in press: the *Symposium on Codes of Forest Practice* which was held at Feldafing, Germany in December 1994 as part of a workshop organized to critique the draft *FAO Model Code of Forest Harvesting Practice*; and a satellite meeting on *Environmentally Sound Harvesting to Sustain Tropical Forests* which was held in connection with the 1995 World Congress at Tampere. Both *Proceedings* have been edited by 3.05.00 and are being published by FAO. Inquiries may be sent to Rudolf Heinrich, FAO (FOPH), Via delle Terme di Caracalla, 00100 Rome, Italy; fax +39 6 5225-5618 e-mail:rudolf.heinrich@fao.org.
- 3.05.00 co-sponsored the Seminar on *Harvesting and Wood Transport* which was held from 19-23 May at the University of Paraná in Curitiba, Brazil. The chief organizer of the meeting was Jorge Malinovski, formerly D3.05.00 and D3.00.00. The Proceedings have been published and are available from Prof Dr J. R. Malinovski, Curso de Engenharia Florestal, Universidade Federal do Paraná, Caixa Postal 2959, 80030 Curitiba - PR, Brazil; fax +55 41 253-2332.
- The papers presented in the technical sessions of 3.05.00 at the 1995 World Congress have been edited and the Proceedings are now in press. They will be available free of charge from CIFOR in early 1997 under the title, "Forest Operations for Sustainable Forestry in the Tropics". Requests may be sent to Rita Mustikasari at CIFOR, P.O. Box 6596 JKPWB, Jakarta 10065, Indonesia; fax +62 251 326433 or +62 251 622100, e-mail: r.mustikasari@cgnet.com.
- 3.06.00 "Forest Operations under Mountain Conditions" and its sub-units organized two meetings during 1996:
 - a) The *International Mountain Logging and Pacific Northwest Skyline Symposium*, at Campbell River, BC, Canada [organized in collaboration with FERIC, the Forest Research Institute of Canada, and the University of British Columbia]. The meeting was held in May 1996, with John Sessions D3.06.00 as the lead IUFRO organizer. Proceedings are in preparation.
 - b) A Seminar on *Environmentally Sound Forest Roads and Wood Transport*, at Sinaia, Romania, 17-22 June [organized together with the FAO/ECE/ILO Joint Committee on Forest Technology, Management and Training]. The Proceedings are in press.
- 3.06.00 has also published the Proceedings of its technical sessions at the 1995 World Congress in Tampere. Copies are available for US\$ 20.00 from John Sessions, Forest Engineering Department, Oregon State University, Corvallis, Oregon 97331-5706, USA. Inquiries can be sent by fax to +1 541 737-4316 or by e-mail to john@sessions.cof.orst.edu.
- 3.07.00 "Ergonomics" and its sub-units participated in two meetings during 1996:
 - a) *Mechanisation and Workforce Research Methods*, coordinated by John Garland D3.07.00 and Sten Gellerstedt 3.07.05 and held 18-23 Aug., 1996 at Garpenberg, Sweden. About 20 participants discussed the action plans of 3.07.00 regarding the checklist for forest machinery, the development of a "white paper" on the forest workforce, and the preparation of a research handbook for ergonomics.
 - b) *Safety and Health in Forestry*, organized by the FAO/ILO/ECE Joint Committee with cooperation from 3.07.00, 5-12 Oct. 1996, Hueningen, Switzerland. About 50 participants from 15 European and two non-European countries concluded that adequate safety and health are feasible in forestry provided that

(i) companies give a high priority to safety and health as an integral part of the quality production system;

(ii) high priority is also given to promotion campaigns and to providing education and training to all levels of workers; and

(iii) attention is given to careful inspection and supervision in the workplace and to the possibility of adopting systems such as bonus/malus and worker certification.

- The papers presented in the technical sessions of 3.07.00 "Ergonomics" at the 1995 World Congress in Tampere have been collected and are in press for publication by the Department of Forestry at the Wageningen Agricultural University. Summaries of the papers are available on the Department's IUFRO page at <http://www.spg.wau.nl/bosb/iufro>.
- The proceedings of the sessions organized by 3.08.00, "Small-Scale Forestry" at the 1995 World Congress have now been published under the title "Small-scale forestry: present problems and prospects for the future." The publication is available from Prof Dr Helmut Brandl, Forstliche Versuchs- und Forschungsanstalt Baden-Wuerttemberg, Wonnhaldestr.4, D-79100 Freiburg, Germany; fax: +49 761 4018 333.
- 3.10.00 "Harvesting, Wood Delivery and Utilization" co-organized with the Canadian Woodlands Forum of the Canadian Pulp and Paper Association a conference on *Certification: Environmental Implications for Forestry Operations* at Quebec City, Canada, 9-11 Sep., 1996. Altogether 331 delegates from 12 countries attended. Proceedings have been produced and are available through Daniel Y. Guimier, FERIC Eastern Division, 580 boul. Saint-Jean, Pointe Claire, Québec, Canada H9R 3J9; fax +1-514-6944351, e-mail: daniel-g@mtl.feric.ca.
- 3.10.00 also published the Proceedings from the technical sessions of what was then P3.07 (now 3.10.00) at the 1995 World Congress in Tampere. The title of the publication is "The Way Ahead with Harvesting and Transportation Technology", and it is available for US\$30.00 from Loren Kellogg, Forest Engineering Department, Oregon State University, Corvallis, Oregon 97331-5706, USA; fax +1 541 737-4316, e-mail: KelloggL@ccmail.orst.edu.
- A membership directory for 3.10.00 and its sub-units has also been published and is available from Loren Kellogg C3.10.00, at Oregon State University. The

directory provides detailed information on the 211 scientists from 34 countries who are involved in the activities of 3.10.00.

Annex 1. 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 tree foliage

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 forestry operations

3.11.02 Forest operations on sensitive sites

3.11.03 Methods and techniques for site protection and improvement

Annex 1 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 tree foliage
	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 forestry operations
	3.11.02 Forest operations on sensitive sites
	3.11.03 Methods and techniques for site protection and improvement

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

1. Introduction

The web moderators have been active and we hope to be able to complete our contribution to IUFRO-NET next year. Compiling the *about-page* for IUFRO-NET proved to be a good opportunity to reflect once again on the scope and profile of Division 4, which during the past two and a half decades since its inception, has undergone significant transitions. The profile has become more distinct and our main focus is *forest modelling* and

resource assessment with an emphasis on *quantitative methods*. There are productive ties with several other Divisions. One of the established links with Division VI is *forest planning*, the subject of our research group 4.04.00.

The 6 research groups and 19 working parties in Division 4 were directly involved in organising 18 meetings during 1996, thus contributing a fair share of the total number of IUFRO meetings. This is a very good

achievement and I trust that we can maintain the excellent initiatives of all the research groups and working parties during 1997.

2. Changes in Leadership and Organization

Dr Thelma Krug from Brazil is the new chairperson for 4.02.01 "Resource Data in the Tropics".

Division 4 presently includes 6 research groups and 21 working parties, after approval of the following two additional working parties during the Executive Board meeting in December:

4.02.07 Large Scale Forest Inventory and Scenario Modelling

The new unit will develop modelling tools for creating scenario's of forest dynamics in response to forest management. We expect good support for this important work from Division 6. The first big meeting of the new working party has been scheduled to take place in Wageningen from 26 June to 3 July, 1997.

4.04.07 SylvaPlan - Forest Management Terminology

The new working party will assist SylvaVoc, specialising in forest planning terminology. They already met twice during 1996.

The new Division 4 structure, including 28 *IUFRO units*, is as follows:

4.00.00 Inventory, growth, yield, quantitative and management Sciences

- C Klaus GADOW, kgadow@gwdg.de
- D Harold E. BURKHART, burkhart@vt.edu
- D Victor K. TEPLYAKOV, tepl@forest.msk.su

4.01.00 Mensuration, growth and yield

- C J.P. SKOVSGAARD, fax: +45-45763233
- D Todd H. MOWRER, fswa/s=t.mowrer/ou1=S28A@mhs.attmail.com

4.01.03 Design, performance and evaluation of experiments

- C Andreas ZINGG, andreas.zingg@wsl.ch
- D Valerie LEMAY, fax: +1-604-8229106

4.01.04 Growth models for tree and stand simulation

- C Ivo KUPKA, Ivo.kupka@efi.joensuu.fi
- D Margarida TOMÉ, magatome@isa.utl.pt

4.01.06 Instruments and methods in forest mensuration

- C David A. MAC LEAN, dmaclea@fcmr.forestry.ca
- D Ralph L. AMATEIS, ralph@vtm1.cc.vt.edu

4.01.08 Effects of environmental changes on forest growth

- C Kari MIELIKÄINEN, fax: +358-0-85705361
- 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, fax: +358-0-1917605
- D Joe LANDSBERG, Australia

4.02.00 Forest resources inventory and monitoring

- C Risto PÄIVINEN, efipai@joyl.joensuu.fi
- D H. Gyde LUND, fax: +1-202-2051087
- D Ashbindu SINGH, grid@grid1.cr.usgs.gov
- D August Basil TEMU, atemu@cgnet.com
- D Jerry VANCLAY, j.vanclay@cgnet.com

4.02.01 Resource data in the tropics

- C Thelma KRUG, thelma@ltd.inpe.br
- D M. ATUL, fax: +91-1894-30530
- D Robert DAVIS, robert.davis@fao.org
- D Mohammed ELLATIFI, fax: +967-1-208852

4.02.02 Multipurpose inventories

- C Giovanni PRETO, issfi@ats.it
- D Yoshihiro NOBORI, ynobori@tdsl.tr.yamagat-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 Ed FRAYER, fax: +1-906-4872915
- D Timothy G. GREGOIRE, tgg@vtvm1.cc.vt.edu

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, efibs@joyl.joensuu.fi

4.02.05 Remote sensing and world forest monitoring

- C Tomasz ZAWILA-NIEDZWIECKI, fax: +48-22-270328
- D David EVANS, die@sfr.msstate.edu
- D Sten FOLVING, sten.folving@jrc.it
- D Jusof KAMARUZAMAN, kamar@upmvmesa.ccrisc.upm.my

4.02.06 Resource data in the boreal regions

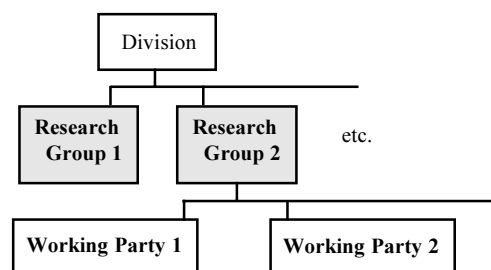
- C Anatoly X. SHVIDENKO, shvidenk@iiasa.ac.at
- D Vernon J. LABAU, 72114.447@compuserve.com
- D Steen MAGNUSSEN, smagnussen@a1.pfc.forestry.ca

- 4.02.07 Large Scale Forest Inventory and Scenario Modelling
 C: Tuula Nutinen, Tuula.Nuutinen@metla.fi
 D: Howard Hoganson, hogan001@maroon.tc.umn.edu
 D: Bruce Manley, manleyb@fri.cri.nz
- 4.04.00 Forest management planning and managerial economics
 C Janos GAL, jgal@efe.hu
 D Walter SEKOT, h440t8@edv1.boku.ac.at
- 4.04.01 Inventory of stands
 C Otto ECKMÜLLNER, ottoeckm@edv1.boku.ac.at
 D Jerzy SMYKALA, fax: 48-22-224935
- 4.04.02 Managerial economics
 C Maurizio MERLO, merlo@ipdunidx.unipd.it
 D Andrzej KLOCEK, fax: +48-22-491375
- 4.04.03 Forest management planning methods
 C Romualdas DELTUVAS, fax: +370-7-296531
 D Marian IANCULESCU, fax: +40-1-3120403
- 4.04.04 Economic planning systems for forest management
 C David W. KLEMPERER, david.klemperer@vt.edu
 D Masahiro AMANO, masahiro@ss.ffpri.affrc.go.jp
- 4.04.06 Planning and economics of fast-growing plantation forests
 C Oscar GARCÍA, Oscar.Garcia@flec.kvl.dk
 D Peter BLANDON, United Kingdom
- 4.04.07 SylvaPlan - Forest Management Terminology
 C Othmar GRIESS, fax: +43-316-8050510
 D Pierre SCHRAM, Luxembourg
 D Marten NIEUWENHUIS, Ireland
- 4.11.00 Statistical methods, mathematics and computers
 C Michael KÖHL, koehl@wsl.ch
 D Christoph KLEINN, kleinn@forst.uni-freiburg.de
- 4.11.01 Statistical methods
 C George GERTNER, gertner@uxh.cso.uiuc.edu
 D Zichun CHENG, China
- 4.11.02 Mathematics
 C Keith RENNOLLS, k.rennolls@greenwich.ac.uk
 D Celia Gaillard DE BENITEZ, benitez@unsere.edu

- 4.11.03 Expert systems and knowledge management
 C Daniel L. SCHMOLDT, schmoldt@vt.edu
 D Hannu SAARENMAA, hannu.saarenmaa@eea.dk
- 4.12.00 Remote sensing technology and Geographic Information Systems (GIS)
 C Barbara KOCH, ferninfo@sun2.ruf.uni-freiburg.de
 D Yousif HUSSIN, Netherlands
 D Matthias SCHARDT, schardt@poboxjoanneum.ac.at
- 4.13.00 Managerial, social and environmental accounting
 C Hans JÖBSTL, jöbstl@mail.boku.ac.at
 D Markku PENTTINEN, ffri@metla.fi

Naming convention

At the last Executive Board meeting in December it was agreed that, in order to avoid confusion, the use of the name *Working Unit* should be discontinued. If a generic term is needed to include all units across the hierarchy (Divisions, Task Forces, Research Groups and Working Parties), then the label *IUFRO Unit* should be used. The following diagram shows that the naming convention is really very simple and straightforward:



There are 6 *Research Groups* and 21 *Working Parties* in Division 4, thus 28 *IUFRO Units*, including the root node.

3. Activities in 1996

Congress activity was very productive during 1996. The following list presents available details about the events with Division 4 involvement:

4.02.00/ICRAF: *Domestication and Commercialisation of Non-Timber Forest Products in Agroforestry*, Nairobi, Kenya. 19-23 Feb. 1996.
 Organized by: Drs Roger B B Leakey/A Temu;
 attendance: 90 scientists from 30 countries.
 Proceedings: in the process of being published by FAO.

- 4.02.00/FAO/ECE/UNEP: *Remote Sensing Support for the Global Forest Resource Assessment (FRA 2000)*, Washington, D.C., USA. 12-14 March, 1996.
Organized by: Dr Gyde Lund; attendance: 33 scientists (9 countries)
Proceedings: 119 pages, available from USDA Forest Service, P.O.Box 96090, Washington DC, 20090-6090, USA.
- 4.04.07: *First Coordinating Meeting concerning Revision of IUFRO World Series Vol 1 - Vocabulary of Forest Management*. Vienna, Austria, 17-19 April, 1996 Organized by: Othmar Griess;
- 4.01.00/4.02.00/4.12.00/USDA Forest Service: *Spatial Accuracy Assessment in Natural Resources and Environmental Sciences*, Fort Collins, USA. 21-23 May, 1996.
Organized by: Dr Todd Mowrer; attendance: 260 scientists from 20 countries.
Proceedings: 728 pages, available from Publications Distribution USDA Forest Service, 240 W. Prospect Rd., Fort Collins, CO 80526-2098, USA (no charge).
- 4.01.00/4.11.00/1.06.00/1.07.00/1.10.00: *Modelling Regeneration Success and Early Growth of Forest Stands*, Copenhagen, Denmark. 10-13 June, 1996.
Organized by: Dr J P Skovsgaard; attendance: 80 scientists from 40 countries.
Proceedings: 606 pages, available from Danish Forest & Landscape Research Institute, Hírsholm Kongevej 11, DK-2970 Hírsholm, Denmark (350 DKK + postage).
- 4.04.02/4.13.00/UK Forestry Commission: *Non-Market Benefits of Forests*, Edinburgh, U.K. 23-29 June, 1996
Organized by: David Grundy; heavily supported by A. Roeder, M Merlo and H Jöbstl; attendance: about 200 scientists.
Proceedings: in preparation, editor is Henderson Howat of the Forestry Commission.
- 4.12.00: *Contribution of Remote Sensing to Assess Biodiversity of Forests*, Vienna, Austria. 10 July, 1996.
Organized by: Dr Barbara Koch. 4.12.00/4.11.00/
- 4.02.00: *Applications of Remote Sensing in Forestry*, Vienna, Austria. 10 July, 1996
Organized by: Dr S Zihlavnik; attendance: 32 scientists from 7 countries.
Proceedings: 170 pages, available from the Faculty of Forestry, Technical University in 960 01 Zvolen, Slovakia.
- 4.01.00: *Effects of Environmental Factors on Tree and Stand Growth*, Dresden, Germany. 23-27 Sept., 1996
Organized by: Dr G Wenk; attendance: 55 scientists from 21 countries.
Proceedings: 350 pages, available from Institut für Waldwachstum und Forstliche Informatik, Technische Universität Dresden, Wilsdruffer Str. 18, 01737 Tharandt, Germany (30.-DM + postage).
- 4.00.00/6.00.00: *Planning and Decision-Making in a Market Economy*, Pushkino, Russia. 23-28 Sept. 1996
Organized by: Drs N Moiseev/Krott/Gadow; attendance: 50 scientists from 8 countries.
Proceedings: in preparation (Krott/Gadow).
- 4.02.01/DNAES: *Resource Inventory Techniques to support Agroforestry & Environment Activities*, Chandigarh, India. 1-3 Oct. 1996
Organized by: Dr R K Kohli; attendance: 150 scientists.
Proceedings: HKT Publications, P.O. Box 123, Chandigarh 160 017 India (45.-US\$).
- 4.11.00/4.02.00/6.12.01: *Assessment of Biodiversity for Improved Forest Planning*, Monte Verità, Switzerland. 7-11 Oct., 1996
Organized by: Drs Michael Köhl, Peter Bachmann
- 4.02.00/4.02.05/4.11.00/4.12.00/EFI: *Application of Remote Sensing in European Forest Monitoring*, Vienna, Austria. 14-16 Oct., 1996
Organized by: Dr Pam Kennedy
- 4.02.00/World Forest Institute: *World Forest Monitoring Workshop*, Portland, Oregon, USA. 21-24 Oct., 1996
Organized by: Dr E Landis; attendance: 20 scientists
Proceedings available from Eric Landis, World Forest Institute, 4033 SW Canyon Rd, Portland, OR 97221 (wfi@igc.apc.org)
- 4.04.07: *Second Coordinating Meeting concerning Work Definition for a Terminology of Forest Management*, Luxembourg, Luxembourg. 28-31 Oct., 1996
Organized by: Pierre Schram;
- 4.11.00/4.02.00: *Assessment and Monitoring of Tropical Dry Regions, special Reference to Gallery Forests*, Brasilia, Brazil. November 1996
Organized by: Dr J Imana Encinas/C Kleinn; attendance: 50 scientists from 7 countries.
Proceedings in preparation.
- 4.02.00/1.07.00/CIFOR: *Growth Studies in Tropical Moist Forests of Africa*, Kumasi, Ghana. 12-14 Nov., 1996
Organized by: Dr J Vanclay;
- 4.02.00/4.02.02/1.07.00/5.08.00/ISTF: *Tropical Forestry in the 21st Century*, Bangkok, Thailand. 25-29 Nov., 1996.
Organized by: Faculty of Forestry Kasetsart University Bangkok

Klaus von Gadow

DIVISION 5 - FOREST PRODUCTS

Division 5 1996 activity has been focused on the organization of the next Div 5 conference, to be held in Pullman in 1997.

However, several research groups have organized specific workshops, asserting the strong activity of these unofficial networks, managed under IUFRO responsibility.

On the other hand, Div. 5 structure has been finalized over the last months; new leaders have taken their positions and are preparing the new term period to the 2000 World Congress, with next Div. 5 conference as the first short-term objective.

I. All-Division 5 Conference - 7/12 July 1997 - Pullman - Washington (USA)

The conference theme is *Forest Products for Sustainable Forestry*. A keynote speaker for the plenary session has been arranged and three sub-plenary speakers, representing industrial and government concerns, have been secured. A total of 6 planning meetings have been held to date. We anticipate that these meetings will become more frequent as we move into calendar year 1997. A total of six interdisciplinary sessions are being planned:

- Efficient Processing of Low Quality Wood
- Improved Utilization of Non-wood Forest Products
- Economic and Market Potential of Underutilized Tropical Wood Species
- Role of Recycling in Sustainability of Forests
- Advances in Building Construction for Effective Use of the Forest Resource
- Environmentally Friendly Wood Protection

In addition to the above-noted sessions, each working party will have an opportunity to hold at least one session. Poster presentations are being solicited and it is anticipated that adequate space for these presentations will be available.

The total budget for this conference is approximately 250 000 \$ US.

A total of 12 000 brochures have been mailed out to potential attendants.

As of 1 November, 1996, a total of 267 offerings to present papers have been received as follows:

<i>Subject Group</i>	<i>Number of Papers</i>
5.01	42
5.02	28
5.03	24
5.04	44
5.05	36
5.06	24
5.07	11
5.08	11
5.09	7
5.10	8
5.11	32
Total	267

Pre-conference, In-Conference and Post-Conference tours:

Plans are nearing completion for all these three activities. These tours will incorporate a good balance of industrial/forestry interests in the United States Pacific Northwest and sight seeing activities, and should be of interest to a great many of the attendants.

II. Research Groups and Regional Workshops

5.01.04 - Biological Improvement of Wood Properties: *Connection between silviculture and wood quality through modelling approaches and simulation software*. Kruger National Park, South Africa. 24 Aug.-1 Sept., 1996.

5.04.06 - Wood Drying: *Quality Wood Drying through Process Modelling and Novel Technologies*. Quebec City, Canada. 13-17 Aug., 1996

5.01.00 - Wood Quality: *Afro-European Regional Wood Anatomy Meeting*, organized jointly with IAWA and LINNEAN Society, London, United Kingdom. 2-4 Oct., 1996.

5.11.00 - Non Wood Forest Products: *International Workshop on Prospects of Medicinal Plants : Role of Medicinal Plants in Providing Health Care by 2000 AD and beyond*, Nauni, India. 4-6 Nov., 1996.

5.06.00 - Properties and Utilization of Tropical Woods: *Meeting of Asian Network*, Malaysia. December 1996

Furthermore, Division 5 officers attended the following meetings:

- *CIFAC '96 - Computers in Furniture and Cabinet Manufacturing*, High Point, CA, USA. 6-8 May, 1996.
- *Wood Sciences and Timber Industry*, Nancy, France. 6-8 May, 1996.
- *Conservation, Management and Utilization of Plant Gums, Resins and Oils*, Nairobi, Kenya. 4-8 Nov., 1996.
- *Tropical Forestry in the 21st Century*, Bangkok, Thailand. 25-29 Nov., 1996.

III. Division 5 Structure

The previous year was marked by the reorganization of Division 5, definitively set up during the XX World Congress in Tampere. It was translated into some important modifications in the IUFRO structure and office holders.

The most significant changes concern the development of the Research Group on Composites and the launching of a Research Group on Coatings and Finishing. In response to a strong dissatisfaction of wood users and professionals of the wood chain in this field. Research conducted over several decades in this field managed to attend to some specific fields of application, but the diversity of species used over the world and very diversified climate conditions still show very large research fields to explore.

Different changes of officers have been suggested during the year 1996. They result sometimes from working party meetings or decision of past leaders reducing their contribution to IUFRO, because of a lack of time or their

retirement from their relevant organization. Changes occurred for 5.04.00: "Wood processing" and 5.03.00: "Wood Protection" (see updated list of officers enclosed).

The position of Deputy Coordinator of 05.03.04 vacant up to now is now provided by Dr. Shiao Hong Lin from China - Taipei.

IV. Partnership with Other International Research Organizations

Division 5 is working closely together with IAWS (International Academy of Wood Science) and IAWA (International Academy of Wood Anatomist), organizing joint meetings with them, using the opportunity of Division 5 meetings (all-conference or research groups).

Looking at the area of Wood Preservation, IUFRO has tried to clarify its activity and policy in order to act complementarily with other existing structures, as IRG (International Research Groups for wood Preservation).

The 5.03 sessions are organized to address two primary objectives. The first objective is to present topics of general interest to the international forestry community on wood preservation and fire protection issues. The second objective is to provide presentations and a forum to discuss the research conducted by international scientists.

These changes to 5.03 should provide a more flexible and streamlined subject group that can provide a forum for discussing the critical issues facing wood preservation and fire protection in the world today.

Christian Sales

DIVISION 6 - SOCIAL, ECONOMIC, INFORMATION AND POLICY SCIENCES

1. Introduction

In the past year several activities have been arranged by the Research Groups of Division 6. Furthermore, a contribution from Division 6 to the IUFRO-World Wide Web-pages has been under preparation. During 1996 the Coordinators of Division 6 have been frequently participating in the EB meetings.

There are several challenges to IUFRO Division 6 for the period 1996-2000:

- 1) Social, economic, information and policy sciences from Division 6 should be involved and integrated

with the natural and technological sciences' activities in the other Divisions of IUFRO.

- 2) Criteria and indicators of socio-economic sustainability should be of major focus in our work in accordance with the different international resolutions on forestry.
- 3) Countries in transition should be better integrated in Division 6 membership and programming.
- 4) Developing countries should be better integrated in Division 6, and we should help them obtain

- funding so that they can participate more fully in the work of IUFRO.
- 5) The new information technologies (e-mail, WWW, etc.) will be used to improve information exchange, and Division VI will play a leading role in that adventure, being responsible for information sciences (research group 6.03).
- 6) Division VI, also being responsible for nature conservation (research group 6.01), will work to emphasize nature conservation so that IUFRO plays an important role in the scientific work forming the basis for nature conservation.
- 7) Division VI will work toward "Cultural Sciences for Cultural Diversity" being a theme in the next IUFRO Conference.

- 6.01.04 Chairman Frank S. Jensen, Danish Forest and Landscape Research Institute, Hoersholm Kongevej 11, DK-2970 Hoersholm, Denmark. Has replaced Bev. Driver, USA. Co-chairman Seong-II Kim, Forestry Research Institute, 207 Chongnyangni-Dong, Toengdaemun-DU, Seoul 130-012, South Korea. Has replaced Tuija Sievänen, Finland.
- 6.01.05 Frank S. Jensen, Denmark, and Bill McLaughlin, USA, are no longer co-chairmen, but have not been replaced yet.
- 6.01.06 Chairman Ulrike Probstl, Lehrstuhl für Landnutzung und Naturschutz, Winzererstrasse 45, DW-8000 München 40, Germany. Has replaced K. Chilman, USA. New co-chairman is Taiichi Ito, Institute of Agricultural and Forest Engineering, Tsukuba, Ibaraki 305, Japan.

2. Changes in Leadership and Organization

As compared to the information in the Annual Report 1995.

Changes in Leadership

- 6.00.00 Coordinator:
Niels Elers Koch
Danish Forest and Landscape, Research Institute, Hoersholm Kongevej 11, DK-2970 Hoersholm, Denmark. Has replaced Harold F. Kaiser.
Deputy Coordinators:
Max Krott
Institut für Forstpolitik und Naturschutz, Universität Göttingen, Buesgenweg 5, D-37877 Göttingen, Germany, and Perry Brown
School of Forestry, University of Montana, Missoula, MT 59812 USA. Have replaced Egon Gundermann, Germany, Niels Elers Koch, Denmark, and George Stankey, USA.
- 6.03.00 Deputy Leaders
Deborah Sommer, US Forest Service, Infosouth, Science Library, University of Georgia, Athens GA 30602, USA, and Michael Ibach, CIFOR, P.O. Box 6596 JKPWB, Jakarta 10065, Indonesia. Has replaced Virginia Brown, USA.
- 6.06.00 Deputy Leaders
Jan Fryk, The Forestry Research Institute of Sweden (SkogForsk), Glunten, S-751 83 Uppsala, Sweden, and Rudolphe Schlaepfer, Swiss Federal Institute for Forest, Snow and Landscape Research, Zürcherstrasse 111, CH-8903 Birmensdorf, Switzerland. Have replaced Miguel Caballero Deloya, Mexico, and A. Dave Kiil, Canada.
- 6.06.02 Chairman Cynthia Miner, PNW Research Station, USDA Forest Service, P.O. Box 3890, Portland OR 97208, USA. Has replaced Kenneth Brown, USA. New co-chairman is O. P. Sharma, Joint Director (Training), University of Horticulture and Forestry, Solan Himachal Pradesh 173 230, India.
- 6.06.04 Chairman Pieter Schmidt, Agricultural University, Department of Forestry, Landbouw Universiteit, Vakgroep Bosbouw, P.O. Box 342, NL-6700 AH Wageningen, Netherlands. Has replaced Dr. A.C. Oliveira. Cemil Ata, Turkey, and Ines Gonzalez-Doncel, Spain, are no longer co-chairmen, but have not been replaced yet.
- 6.01.00 Leader Tuija Sievänen, The Finnish Research Institute, Unioninkatu 40 A, SF-00170 Helsinki, Finland. Has replaced Perry J. Brown. Deputy leader Bill McLaughlin, Dept. of Ressource Recreation & Tourism, College of Forestry, Wildlife and Range Sciences, University of Idaho, Moscow, Idaho 93944-1139, USA. Has replaced Hans Heytze, Netherlands.
- 6.01.02 Co-chairman Christina Axelsson-Lindgren, SUAS, Dept. of Landscape Planning, P.O. Box 58, S-23 053 Alnarp, Sweden. Has replaced Alan Ewert, USA.

- 6.07.00 Leader Elisabeth Johann, Arbeitsgruppe Forstgeschichte, Österreichischer Forstverein, Wlassakstrasse 56, A-Wien, Austria. Has replaced Harold K. Steen, USA. Deputy Leader Paul Arnould, Laboratoire de Biogéographie, Ecologie CNRS, Ecole Normale Supérieure de Fontenay/Saint-Cloud, Grille d'Honneur - Le Parc, 92211 Saint-Cloud Cédex, France, and Deputy Leader Egon Gundermann, Lehrbereich für Raumordnung, und Umweltrecht, Hohenbachernstrasse 22, 85354 Freising, Germany. Have replaced Andree Corvol-Dessert, France, Elisabeth Johann, Austria, and Heinrich Rubner, Germany.
- 6.07.01 Chairman Ajay S. Rawat, 2B Sleepy Hollow, Naini Tal (U.P.), India 263001. Has replaced John Dargavel, Australia. Co-chairman Richard Grove, The Australian National University, The Research School of Social Sciences, Canberra, ACT 0200, Australia. Has replaced A. Ingerson, USA.
- 6.07.04 Chairman Alessandra Zanzi Sulli, Istituto di Selvicoltura, Università di Firenze, Via San Bonaventura 13, I - 50145 Firenze, ITALY. Has replaced Pietro Piussi, Italy.
- 6.11.00 Leader Fred Kaiser, USDA Forest Service, Fierr, 201 14th Street, S.W., Washington, D.C. 20250, USA. Has replaced Markku Simula, Finland. Deputy Leader Markku Simula, Indufor OY, Kulmakatu 5 B7, FIN-00170 Helsinki, Finland. Has replaced Fred Cabbage, USA.
- 6.11.01 Co-chairman B.S. Hansra, Assistant Director General, Indian Council of Agricultural Research, Krishi Anusandhan Bhavan, Pusa, New Delhi-110012, India. Has replaced Klaus Seeland, Switzerland, and M. Shannon, USA.
- 6.11.02 J.H. Smyth, Industry, Economics and Programs Branch, Canadian Forest Service, Natural Resources Canada, 580 Booth Street, 7th Floor, Ottawa, Ontario, K1A OE4, Canada. Has replaced Bengt Ager, Sweden. Co-chairmen Rafaele Spinelli, CNR, Istituto per la Ricerca sul Legno, via A. Barazzuoli 23, I-50136 Firenze, Italy, and Ikuo Ota, Faculty of Agriculture and Forestry Economics, Kyoto University Kitashirakawa, Sakyo, Kyoto, Japan 606-01. Have replaced J.H. Smyth, Canada.
- 6.11.04 Co-chairman Greg Arthand, School of Forest Resources, University of Georgia, Georgia 30602-2152, USA. Has replaced Zdenek Bludovsky, Czech Republic.
- 6.12.00 New Deputy Leader is Christopher Risbrudt, USDA Forest Service, EM, 201 14th Street, SW, Washington D.C. 20250, USA.
- 6.12.01 Hanna Cortner, USA, is no longer co-chairman.
- 6.12.02 Chairman Hanna Cortner, Water Resources Research Center, University of Arizona, 350 N. Campbell, Tucson, AZ 85719, USA. Has replaced Paul V. Ellefson, USA. Co-chairman Praticce Harou, EDI, World Bank, M 5049, 1818 H. Street N.W., Washington D.C. 20433, USA. Has replaced Hans F.K. Essmann, Germany, and Khubchand Tejwani, India.
- 6.13.00 Deputy Leader Peter Herbst, Wulfenstrasse 15, A-9500 Villach, Austria. Has replaced E. Gallardo, Chile.
- 6.14.00 Leader Kjell Nilsson, Danish Forest and Landscape Research Institute. Hoersholm Kongevej 11, DK-2970 Hoersholm, Denmark. Has replaced John F. Dwyer Jr., USA. New Deputy Leader is John Dwyer, US Forest Service, 845 Chicago Avenue, suite 225, Evanston, Illinois 60202-2357, USA.

Changes in Organization

- 6.03.01 New Working Party "Libraries and Information Services". Chairman Virginia Brown, USA Forest Service, Public Affairs Office, 1720 Peachtree Rd. NW, Atlanta, GA 30367, USA. Co-chairman Annikki Karjalainen, Library of Forestry, University of Helsinki, Finland.
- 6.03.02 New Working Party "Trends in Forest Terminology". Chairman Michele Kaennel, Swiss Federal Institute for Forest, Snow and Landscape Research, Zürcherstrasse 111, CH-8903 Birmensdorf, Switzerland. Co-chairman Brian Haddon, Canadian Forest Service, Natural Resources Canada, 351 St. Joseph Blvd., Hull, Quebec K1A 1G0, Canada.

- 6.03.03 New Working Party "Forest Decimal Classification".
Chairman Matthias Ruetze, Bundesforschungsanstalt für Forst und Holzwirtschaft, 21027 Hamburg, Germany.
Co-chairman Cvetka-Teja Koler, Biotechnical Faculty, Dept. for Forestry, Forestry Library and Indoc Service, Vecna Pot 83, SI 61000 Ljubljana, Slovenia.
- 6.03.04 New Working Party "Latin American and Caribbean Information Systems Network".
Chairman Maria Teresa Motta Tello, Presidenta CONIF, Carrera 50 No. 27-70 Bloque C, Modulo 1, Of. 503, Santafé de Bogotá, Columbia.
Co-chairman Erich Gomes Schaitza, Brazilian Agricultural Research Corporation National Center of Forestry Research, Empresa Brasileira de Pesquisas Agropecuária, Centro Nacional de Pesquisa de Florestas, P. O. Box 319, 83.411-000 Colombo Parana, Brazil.
Co-chairman Luis Ugalde, CATIE, 7170 Turrialba Cartago, Costa Rica.
- 6.07.02 New Working Party "Historical Timber Trade and Timber Industry".
Chairman Mauro Agnoletti, Università degli studi di Firenze, Istituto di Assestamento, e Tecnologia Forestale, Via San Bonaventura 13, I-50145 Firenze, Italy.
- 6.07.03 The Working Party is abolished.
- 6.07.05 New Working Party "History of Hunting".
Chairman Sigrid Schwenk, Research Institute of Hunting, Culture, Grüner Markt, 96047 Bamberg, Germany.
- 6.11.06 New Working Party "Economic and Social Aspects of Forestry in Countries in Transition".
Chairman Anatoly Petrov, Education and Training Center for Forest Specialists, Institutskaya Str. 17, 141200 Pushkino, Moscow District, Russian Federation.
Co-chairman Dennis le Master, Dept. of Forestry and Natural Resources, Purdue University, 1159 Forestry Bldg., West Lafayette in 47907-1159, USA.
- 6.15.00 New Research Group "Improving Education and Further Education in Forestry".
Leader Siegfried Lewark, Institute for Forest Utilization and Ergonomics, University of Freiburg, Warderring 6, D-79085 Freiburg, Germany.
- 6.16.00 New Research Group "Forest Sector Analysis" (former P6.11.00).
Leader Richard Haynes, USDA, PNW Forest and Range Experiment Station, P.O. Box 3890, Portland, Oregon 97208, USA.
Deputy Leader Kiyoshi Yukutake, Department of Agriculture and Forest Science, Miyazaki University, Gakuen Kibanadai-Nishi 1-1, Miyazaki 889-21, Japan.
Deputy Leader Anders Baudin, SIMS-Statistical Institute, University of Umeå, S-901 87 Umeå, Sweden.
- 6.17.00 New Research Group "Ecological Economics in Forestry".
Leader Per Olov Nilsson, Swedish University of Agricultural Sciences, Department of Operational Efficiency, S-776 98 Garpenberg, Sweden.
Deputy Leader David Bengston, North Central Experiment Station, 1992 Folwell Avenue, St. Paul MN 55108, USA.

3. Activities in 1996

Based on information from IUFRO's www-server and information from the different Research Groups and Working Parties.

Divisions 4 and 6/SPDC: *Planning and Decision-Making for Sustainable Forest Uses*, Pushkino, Moscow, Russia. 23-29 Sept., 1996.

For further information contact Dr Max Krott, Universität Göttingen. Institut für Forstpolitik und Naturschutz, Büsgenweg 5, D-37077 Göttingen, Germany.

6.01.00: *Student excursion with focus on the issues of land use and nature protection in the Alps*, Germany, Switzerland, Italy and Austria. August 1996

Main issue: Problems caused by increasing tourism and its impacts on land use, forestry, landscape management and nature protection. Topics: Skiing and hiking areas in the Alps, different kinds of farming and landscape management, sustainable forestry considering nature protection and landscape management as essential parts of forest management, land use and landscape planning in rural areas and villages, traditional examples of nature conservation issues.

For further information contact Prof. Dr Ulrich Ammer, Landnutzungsplanung und Naturschutz, Hohenbachernstrasse 22, 85354 Freising, Germany.

6.03.00: "Forestry Information and Knowledge Exchange", Proceedings of group sessions held at the IUFRO World Congress in Tampere, Finland. The proceedings comprise a collection of invited and voluntary papers which reflect the activities of Research Unit 6.03.00 at the World Congress in Tampere.

Published by the Swiss Federal Institute for Forest, Snow and Landscape Research (WSL), Zürcherstrasse 111, CH-8903, Birmensdorf. Tel: +41-1-7392432, fax: +41-1-7392215, e-mail: alois.kempf@wsl.ch.

6.03.04: *3rd Latin American and Caribbean Information Systems Network Meeting*, Cartagena, Colombia. 18-20 March, 1996. Inauguration meeting of the new Working Party 6.03.04 (Latin American Information Systems Network).

For further information contact Chairman Maria Teresa Motta Tello, Presidenta CONIF, Carrera 50 No. 27-70, Bloque C, Modulo 1, Of. 503, Santafé de Bogotá, Colombia.

Fischer, Paulo L. (1996): "The Forest Legal System: Proposal of a Dynamic Legislation". Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie der ETH Zürich, Vol. 16.

Cubbage, Frederick W.; Adrignetto-Filho, Jose Milton; Sills, Erin O.; Ymada Müller, Vitoria; Motta, Maude (1996): "Protection of the Atlantic Coastal Forests in the Northern Uttoral Region of the State of Paraná, Brazil: Legal and Administrative Framework". Forstwissenschaftliche Beiträge der Professur Forstpolitik und Forstökonomie der ETH Zürich, Vol. 16.

6.06.03 "Approaches to Extension in Forestry Experiences and Future Developments" Freising, Germany. 30 Sept.-4 Oct. 1996.

The objective of the symposium is to gain an overview of the currently applied approaches and methods in extension in forestry, to discuss the experiences, to learn about the state-of-art of extension in forestry under various ecological, economical, sociological and cultural backgrounds, and to start an international scientific information exchange in the field of extension.

For further information contact Roland Beck, Chair of Forest Policy and Forest History, Hohenbachernstr. 22, 85354 Freising, Germany.

6.06.04: *Meeting of Silviculture Professors*, Portugal, Spain. 4-9 Sept., 1996.

For further information contact Prof. Dr. A.C. Oliveira,

Dept. Eng. Florestal, Inst. Superior Agronom., Universidade Tecnica Lisboa, Tapada da Ajuda, P-1399 Lisboa Cedex, Portugal.

6.07.00: "Stages and Trends in the Interaction between Economic Development, Forestry and Environmental Protection from the Past to Present Times".

Proceedings of the sessions of 6.07.00 at the Tampere World Congress. Edited by the IUFRO Research Group 6.07 "Forest History" and the Working Party "Forest History" of the Austrian Forest Association. Dr Elisabeth Johann, Wlassakstrasse 56, 1130 Wien, Tel: +43-1-8497155, Fax: +43-1-4226216.

Multiple Use Forestry from the Past to Present Times, Gmunden, Austria. 2-4 May, 1996

For further information contact Dr Elisabeth Johann, Wlassakstrasse 56, 1130 Wien, Tel: +43-1-8497155, Fax: +43-1-4226216.

Third National Conference on Australia's Forest History, Jervis Bay, Australia

For further information contact John Dargavel, Urban Research Programme, Research School of Social Sciences, The Australian National University of Canberra (former leader of 6.07.01).

6.12.00: *Forestry in the Context of Rural Development: Future Research Needs*, Vienna, Austria. 15-17 April 1996.

For further information contact Prof. Dr Peter Glück, Institut für Betriebswirtschaft und Forstwirtschaftspolitik, Universität für Bodenkultur, Gregor-Mendel-Str- 33, 1180 Vienna, Austria.

6.12.01/4.02.00/4.11.00: *Assessment of and the Planning for Biodiversity*, Monte Verità, Switzerland. 7-11 Oct., 1996.

For further information contact Michael Koehl, WSL, Zürcherstr. 111, CH-8903 Birmensdorf, Switzerland.

6.13.00:

Work reports - International Series

No.95/5: "Bibliography of Member Contributions 1984-1996", 1995

No.96/2: "Bibliography on Forest Legislation, Forest Tenures and Joint Utilization Systems on Public Lands" (Systematic Classification), January 1996

No.96/3: "Bibliography on Forest Legislation, Forest Tenures and Joint Utilization Systems on Public Lands" (Classification by Regions and Countries), January 1996

"Forest Law and Environmental Legislation, Contributions of the IUFRO Research Group, Report VI".
By F. Schmithüsen and M. Spinnler published by ETH Zürich, Forest Policy and Forest Economy, Department of Forest and Wood Research.

Compiled by Lars Lönnstedt, Richard Haynes and Judith Mikowski. For copies please contact the College of Forest Resources, University of Washington, Box 352100, Seattle, WA 98195-2100, USA.

6.16.00 (former P6.11-00): Proceedings of FORESEA Meetings at the 20th IUFRO World Congress, Tampere.

Niels Elers Koch

DIVISION 7 - FOREST HEALTH

Introduction

Division 7 began its first year as Forest Health in 1996 with David Karnosky as the Division's first Coordinator. The Division consists of 7.01.00 "Physiology and genetics of tree/phytophage interactions", 7.02.00 "Pathology", 7.03.00 "Entomology", and 7.04.00 "Impacts of air pollution on forest ecosystems". The Division's list of Coordinators and Deputy Coordinators was assembled and all Division 7 officers received the mailing list with addresses, phone numbers, fax numbers, and e-mail addresses. The Division Coordinator is working on getting a WWW Moderator to set up the Division's home page. Our main divisional goal for the next five years is to increase the diversity of our division by including more scientists from developing countries and to include more women into our leadership ranks.

Changes

The following people are changes in the leadership of Division 7 which occurred in this past year.

7.00.00 Deputy Coordinator: Dr. Manfred Tesche,
Technische Universität
Dresden, Germany

7.01.00 Deputy Coordinator: Dr. Pekka Niemela
University of Joensuu,
Finland

7.01.02 Coordinator: Dr. Francois Lieutier
INRA, Orléans,
France

7.01.02 Deputy Coordinator: Dr. Mike Wagner
Northern Arizona
University, Flagstaff,
Arizona, USA

7.03.02 Deputy Coordinators: Dr. Gyorgy Csoka,
Matrafured, Hungary
and
Dr. S. K. Sharma
University of Horti-
culture and Forestry
Solán, India

7.03.04 Deputy Coordinator: Prof. V. K. Gupta
University of Horti-
culture and Forestry
Solán, India

7.04.00 Coordinator: Dr. Kevin Percy
Canadian Forest
Service, Fredericton,
New Brunswick,
Canada

7.04.01 Coordinator: Dr. John Skelly
Pennsylvania State
University State Col-
lege, Pennsylvania

7.04.02 Deputy Coordinator: Elena Paoletti
Istituto per la
Patologia degli Alberi
Forestali, Firenze,
Italy

Research Group Activities

The following meetings of Division 7 research groups occurred in 1996:

7.03.00: *Forest Insect Management Course*, Sault Ste. Marie, Ontario, Canada. 5-7 Feb., 1996.

7.03.04: *Diseases and Insects in Forest Nurseries*, Gainesville, FL., USA. 19-24 May, 1996.

7.04.01/7.04.04: *Diversity and adaptation in forest ecosystems in a changing world*, Vancouver, B.C., Canada. 5-8 Aug., 1996.

7.03.06/7.03.07: *Population dynamics, impacts, and integrated management of forest defoliating insects*, Banska, Slovak Republic. 18-23 Aug., 1996.

7.03.03/7.03.05: *Integrating cultural tactics into the management of black beetle and reforestation pests*, Vallombrosa, Italy. 1-4 Sept., 1996.

7.03.01: *Cone and seed insects*, Bondone, Italy. 2-7 Sept., 1996.

7.04.00: *17th Meeting for specialists in air pollution effects on forest ecosystems*, Florence, Italy. 14-19 Sept., 1996.

Publications

Cox Roger, Kevin Percy, Keith Jensen, and Caroline Simpson. 1996. *Air Pollution and Multiple Stresses*. Proceedings of the 16th International Meeting for

Specialists in Air Pollution Effects on Forest Ecosystems. Fredericton, New Brunswick. Canadian Forest Service. 402 pp.

Mattson, W.J., Pekka Niemela and Matti Rousi. 1996. *Dynamics of Forest Herbivory: Quest for Pattern and Principle*. USDA Forest Service North Central Forest Experiment Station General Technical Report NC-183. 286 pp. From: Joint meeting of 7.01.02 and 7.01.03.

Percy, Kevin (Ed.) 1996. *Air Pollution and Multiple Stresses*. Special issue of the Canadian Journal of Forest Research 26(4):628-709.

David F. Kamosky

DIVISION 8 - FOREST ENVIRONMENT

1. Introduction

At the IUFRO World Congress in Tampere the establishment of the new Division 8 "Forest Environment" was approved. The new Division began on 1 January 1996 and encompasses over half of the Working Units of the previous Division 1 "Forest Environment and Silviculture". A common concept and image to be shared by all members, has to be created for the Division. At the beginning stage of the new Division the establishment of an international communication network is of vital importance. Therefore, in 1996 Division 8 created its own home page, an e-mail address for officers at various levels and an e-mail address facilitating an automatic e-mail to fax transfer for officers who have only a fax connection. The Division is to establish a divisional Task Force for Information, Communication and Electronic Publication - "ICEP Task Force" - in short (proceedings, members' list and others) for the promotion of further divisional activities.

2. Changes during the year in Working Units

- 1) New Task Force (ICEP Task Force);
Coordinator: Kiyoshi Honda (Thailand);
Deputy Coordinator: Hiroshi Fukuoka (Japan)
- 2) 8.01 New Coordinator: Emil Klimo (Czech Republic)

- 3) 8.03 Barry Gardiner (UK) to replace Alexander Robertson (Canada) who retired.

3. Report of Activities

8.00.00:

- 1) Division 8 has set up its own home page and e-mail network as mentioned above.
- 2) A divisional meeting entitled *The Forest Environment in a Changing World* was planned for Yogyakarta, Indonesia, 11-15 Aug., 1997. Preliminary information was distributed to all officers of Division 8 on 16 September 1996 and displayed in the IUFRO 8 home page. However, the meeting had to be postponed and is now scheduled to be held 19-23 Oct., 1998, in Kyoto, Japan. The provisional title is *Environmental Forest Science*.
Bulletin No.1 was published in December 1996. Units 8.01.04, 8.01.06, 8.03.02, 8.04.00, 8.04.0, 8.04.03, 8.04.05, 8.07 were preparing the technical sessions for the divisional meeting.
- 3) The UN-IDNDR and QUIPUNET Internet Conference on *Solutions for Cities at Risk* was held during 26 August - 25 October. This Internet conference, part of the 1996 public awareness campaign *Cities at Risk*, was organized by the United Nations Secretariat for the International Decade for Natural Disaster Reduc-

tion, and implemented jointly with many organizations around the world, including IUFRO Division 8. Active discussion through Internet was conducted.

- 4) A meeting on *Assessment of Biodiversity for Improved Forest Planning* was held 7-11 Oct., 1996 in Monte Verità, Switzerland. Co-sponsored.
- 5) An international symposium on *Forests and Environment* was held 4-6 Nov., 1996, in Nanjing, China. Co-sponsored.

8.01.02:
Meeting on *Applications of Landscape Ecology in Forestry*, organized 2-4 Oct., 1996. Corvallis, Oregon, USA.

8.02.02:
Polglase, P J and Tunningley, W M (Eds), 1996, proceedings "Land Application of Wastes in Australia and New Zealand: Research and Practice" of the *14th Land Treatment Collective Meeting*, Canberra, Australia. 20 Sept. to 1 Oct. 1996.

8.04.00:
1) *Management of Mountain Watershed*, including the FAO/ IUFRO symposium on *Prevention of Natural Disasters* was organized 1-5 July, 1996, in Lillehammer, Norway.

2) *Symposium on Avalanche and Torrent Disaster Prediction* was organized 14-15 Nov., in Munich, Germany.

8.04.02:
International Symposium on *Snow as a Physical, Ecological and Economical Factor*, 20-22/23 Nov., 1996 in Davos, Switzerland.

8.05.00:
The international conference on *Transboundary Pollution and the Sustainability of Tropical Forests: Towards Wise Forest Management* was held 2-4 Dec. 1996 in Kuala Lumpur, Malaysia.

8.07.00:
Workshop on *Biodiversity Information* was held 15-16 July, 1996, in London, U.K. Co-sponsored by IUFRO, CABI, IUBS, UNEP, IUCN.

4 Others

Division 8 information network:

IUFRO 8 Home Page:

<http://landslide.dpri.kyoto-u.ac.jp/IUFRO8.html>

Contents: 1) Structure 2) Working Units 3) Officers List 4) e-mail Mailing Lists 5) Calendar of Meetings 6) Bulletins of Meetings 7) Other Information 8) Links to Related Sites: IUFRO headquarters in Vienna; IUFRO headquarters Division 8; IUFRO XX World Congress (Post-Congress Reports)

IUFRO 8 E-mail Network:

iufro8-eb@bio.mie-u.ac.jp:
for Coordinator, Deputy Coordinators and IUFRO 8 Secretariat;

iufro8-eeb@bio.mie-u.ac.jp:
for iufro8-eb + coordinators of research groups of Division 8 with e-mail address;

iufro8-eeb-fax@bio.mie-u.ac.jp:
for iufro8-eb + coordinators of research groups of Division 8 with fax;

iufro8-officers@bio.mie-u.ac.jp:
for all officers of Division 8 with e-mail address;

iufro8-officers-fax@bio.mie-u.ac.jp:
for all officers of Division 8 with fax;

iufro8@bio.mie-u.ac.jp:
for open discussion and information exchange among all members of Division 8 and other IUFRO members who are interested in Division 8 activities.

Everybody will be automatically registered and added to the list following contact by e-mail to the above address.

Kyoji Sassa

REPORT FROM THE REGION NORTHERN EUROPE

Some issues have been rather common for most of the countries in the region, like: Forest and wood certification matters related to operationalizing the concept of sustainable forest management (testing various criteria and indicators and analysing their research basis); decreased public funding for research initiating debates and actions for more private research funding; increased de-

mand for research to identify the environmental and economic impacts of alternative forest management regimes.

Behind this is the general feeling that there is enough timber in the region to satisfy the demand (harvest is much less than growth - confirmed by studies like ETTS V), a general deficit in Government budgets, and

an increasing demand on environmental services from forestry due to increased income and welfare in general.

Some more country-specific issues are: In **Denmark**, the state forest has decided to introduce «green accounting» in addition to its traditional economic accounting, to make clearer the non-market benefits of forestry. Also, a new forest law was introduced. In **Finland**, two new forest laws and a new conservation law were discussed and are likely to be approved during the first half of 1997. The ninth whole-country forest inventory was started (the first was started in 1921), with high emphasize on collecting ecological data in addition to forest growth and standing volumes. In **Ireland**, a new strategic plan for the development of the forestry sector was published. One of the strategic decisions made is to increase forest cover from 8% today to 17% (or 1.2 million ha) by the year 2030, giving a corresponding increase in annual timber production from current 2.2 million m³ to 10 million m³ over the same period. In **Norway**, it has been decided to give the Norwegian Forest Research Institute (NISK) a more independent status, but still operating under the Ministry of Agriculture, whereas the Faculty of Forestry of the Agricultural University of Norway has been transferred from this ministry to Ministry of Education and Science. In **Sweden** the implementation of the forest law from 1994 where environmental considerations and

agement regimes on various types of land. In the **UK**, it has been a growing demand for research directed at improving the quality of plantation grown timber to increase penetration into higher value markets. The concern is continuing about import of insect pests and fungal pathogens as a result of removals of barriers to trade. High prices on agriculture land imply that former mining and other disturbed land is seen as the most possible way of achieving an expansion of forestry in the UK.

The European Forest Institute (EFI) situated in Joensuu, Finland, increased its research activities for 1996 to about 20 research person-years (from about 5 research person-years for 1994). Of the most important studies finalized in 1996 were "Growth trends of European forests", "European forest information and communication system (EFICS) - phase I" (a study for EU DG VI), "Long-term trends and prospects in global demand and supply of wood and implications for sustainable forest management" (a study for the International Panel of Forests), and "Options for strengthening the international legal regimes for forests" (a study for EU DGXI). Reports of these studies can be obtained from EFI.

Birger Solberg

REPORT FROM THE REGION NORTH AMERICA

The reorganization of many of Canada's forestry research programs has continued during the past year as a result of program reviews and funding reductions implemented by the Federal Government and most provinces. At the same time, the focus of these programs has continued to shift to better address national and international demands for sustainable forest management as well as the increasing needs of forest managers for support in developing and implementing more holistic, ecosystem-based landscape level approaches to forest management.

To deliver its science and technology program, the Canadian Forest Service (CFS) has adopted a national approach. Ten research networks have been established to address national and international forest issues while delivering programs through regional centres. Formed around strategic policy issues and research priorities, the networks are ideally suited to create partnerships and alliances between the CFS and outside agencies when undertaking projects. They will also focus on the transfer of technology to resource managers and other clients, on linking corporate and sector policies and on international agreements and commitments. The networks are now functioning, and have developed their first series of business plans. They will address high priority research and

policy issues within the following areas: climate change; forest health monitoring; biodiversity; effects of forest practices; forest ecosystem processes; landscape management; pest management methods; fire management; and socio-economics.

Enhanced collaboration between governments, industries, universities, and other organizations and individuals with an interest in Canada's forests and forest sector is a key feature of this new approach to forest research. The new research networks have been designed to attract additional partners, at regional, national and international levels, and it is expected that the scope of their work will grow over the next few years to reflect a more complete array of needs and opportunities across the sector. In addition, the Canadian Council of Forest Ministers (CCFM) is beginning to play a stronger national coordination role in policy and research matters; as one element of this, the CCFM will sponsor a National Forum on Forest Science and Technology in mid 1997 to examine forestry research programs and priorities from a national, multi-stakeholder perspective. A new National Advisor Board on Forest Research (NABFOR) is also expected to hold its inaugural meeting at about that same time. The Board's mandate is to advise the federal Min-

ister of Natural Resources on the status, needs, opportunities and strategic priorities of forest research and related S & T issues in Canada or of interest to Canada internationally.

On a somewhat wider front, research has continued to play an important part in a number of important national and international initiatives in which Canada is in the forefront. Canada's National Forest Strategy is now nearing the end of its initial 5-year period. It is currently undergoing a full evaluation by an independent panel prior to its termination, and it is then expected to be revised and extended for a further period.

In terms of criteria and indicators for sustainable development of forest, Canada continues to play an active role internationally through the Montreal Process and the Intergovernmental Panel of Forests (IPF). Nationally, the CCFM has led the development of a framework containing 6 criteria and 83 indicators applicable to sustainable forest management in the Canadian context; efforts are now being focused on compiling information and data on the indicators and developing approaches to fill identified gaps. Canada has also continued to promote the development of an International Forest Convention at meetings of the IPF, with the support of many other countries; results of the Panel's deliberations were presented to a meeting of the U.N. Commission on Sustainable Development in April 1997.

The past year has also seen much progress on forest certification issues in Canada. A new Canadian standard on Sustainable Forest Management practices and policies has been issued by the Canadian Standards Association. The new standard is compatible with the ISO 14000 Environmental Management series. Certification of managed forest areas across the country is expected to begin soon.

Strong linkages are being maintained between Canada's forest research programs and the Canadian and International Model Forests Programs. The latter now contains 16 operational model forests in Canada, Mexico and Russia. The United States are expected to join in 1997, and more than 25 countries have expressed interest in the program.

The USDA Forest Service has had a number of changes in key leadership positions, beginning with the retirement of Chief Jack Ward Thomas on 1 December, 1996. The new Chief is Dr. Michael Dombeck, formerly Acting Director for USDI, Bureau of Land Management. Chief Dombeck took charge on 6 January, and cited as a first priority the goal of building working relationship with local communities to restore and maintain productive, healthy and diverse ecological systems.

Mr. Gray Reynolds, Deputy Chief for USDA Forest Service National Forest Systems, retired in March.

Assuming this position is Mr Robert Joslin, Regional Forester for the Southern U.S.

Dr Jerry SESCO has been appointed Special Assistant to Chief Dombeck for strategic policy issues effective 13 April. Dr. Robert Lewis will be assuming his position as Deputy Chief for Research on 27 April. Dr Lewis has worked within Forest Service Research for over 20 years, most recently as the Director of the USDA Forest Service, Northeastern Forest Experiment Station. Because of commitments related to his new assignment, Dr SESCO has resigned from his position as Vice President, Administration for the IUFRO Executive Board.

Other appointments on the horizon due to senior level retirements in the Forest Service - a new Director for Programs and Legislation and Deputy Chief for Administration.

The Secretary of Agriculture's five year strategy, in response to the U.S. Resources Planning Act, is close to release. Extensive public comments were received, and include analyses for nine issues in particular: program costs, increased production on private lands; recreation program; international forestry; organizational effectiveness; sustainability; forest health; and transportation systems.

The integration of science and policy continues to be the focus of a team, established by the Chief in 1994. Guidelines have been developed for managing scientific involvement in natural resource decision-making.

The USDA Forest Service, in partnership with other Federal agencies, private foundations, industry associations and environmental groups, is developing a scientific and social framework for ecologically based stewardship of Federal lands and waters. A key goal in the effort is to advance access of scientific information, which historically has taken 10 to 15 years to bring into routine use in routine land management.

The USDA Forest Service has provided technical advisement to U.S. Department of State delegations to the United Nations Commission on Sustainable Development (CSD), Intergovernmental Panel on Forests. U.S. interests focus on the implementation of agreed criteria and indicators for sustainable forest management, improving global resource assessment programs, and better coordination of donor and domestic resources in program activities at the National level.

The U.S. Forest Service has engaged in a national effort to technically evaluate the 67 indicators in the Santiago Agreement. A draft report has been completed that assesses availability and quality of indicator data for the

U.S. Further, Forest Service Research hopes to conduct a study of methods for assessing sustainability at the stand level as early as Fall 1997.

The U.S. Forest Service hosted the Food and Agriculture Organization of the United Nations (UN FAO), North American Forest Commission, biannual meeting in Asheville, North Carolina, 18-22 November, 1996. This meeting featured study group reports on research and technical exchanges related to fire management, forest insect and diseases, forest genetics, atmospheric changes and forests, silviculture, and forest products. Additionally, technical papers were presented on NAFTA impacts, sustainable forestry criteria and indicators, and the integration of forestry science and policy. The meeting was attended by the Chiefs of the Forest Service for U.S., Mexico and Canada, and the Assistant Director General for Forestry for the UN FAO.

The U.S. Forest Service organized two, key IUFRO workshops for technical exchanges on resource monitoring and on rehabilitation of forest ecosystems. The first, coordinated by Mr Gyde Lund, USDA Forest Service (retired April 1997), was held 12-14 March '96 in Washington, D.C., under IUFRO S 4.02 sponsorship on *Remote Sensing Support for the Global Forest Resource Assessment*. The second, organized by Dr. John Parrotta, USDA Forest Service, was held 11-14 June in Washington, DC on *Accelerating Native Forest Regeneration on Degraded Tropical Lands*.

Dr. Robert Szaro, USDA Forest Service, is serving as the Coordinator of the Special Programme for Developing Countries.

Fred Pollett

REPORT FROM THE WESTERN PACIFIC REGION

International Council Members

Australia, Fiji, Malaysia, New Zealand and the Philippines have nominated their respective Council members for the period 1996-2000. Contact is being made with Brunei, Indonesia, Solomon Islands, Papua New Guinea and Vanuatu seeking their nominations for the Council.

Research Highlights and Important Forestry Developments in the Region

(i) Australia

Research into sustainability indicators for native forests was expanded in 1995/96. The research is being coordinated by a national research committee, and is being jointly funded by the State forest agencies, the Commonwealth Government and the Forest and Wood Products R+D Corporation.

The research program covers a contrasting range of forest types across the country, with a focus on both process-based ecological studies, and the developing and testing of a core set of indicators at forest management unit level.

Strategic research has also been intensified into the culture and processing of fast-grown eucalypt plantations. This follows an upsurge in the establishment of mainly *E. globulus* and *E. nitens* plantations in several parts of the continent.

As an ongoing evaluation, an estimate was made of expenditure on forest research in Australia in 1994/95 and was compared with the comparable expenditure in 1985/86 and 1989/90. When inflation was taken into account, there was a reduction in real expenditure during the period from 1985/86 to 1994/95 from \$31.89 m to \$21.04 m in 1985/86 dollars for production-oriented forest research and from \$15.12 m to \$9.29 m for forest products research (in 1985/86 dollars). The fragmentation of effort in organisations undertaking research together with the diversity of topics being addressed, raises concerns about the effectiveness of expenditure, especially when considered in relation to some other forest-growing countries. It was concluded that potential effects initially will be loss of expertise in some areas and reduced recruitment of young scientists.

(ii) New Zealand

For New Zealand events in 1995/96 continued to reflect the active role of research in the drive to sustain export growth, protect the plantation resource, and enhance the quality of forest products in an environment of declining commodity prices, increasing attention to sustainability issues, and an expanding plantation estate. Despite pressure on the world prices, the New Zealand forestry sector continues to expand - both in terms of new processing capacity (MDF and in drying) and in resource expansions with a net increase of 70,000 hectares to 1.55 million ha total and producing approximately 17 million m³ per annum. Two major events for the sector were:

(a) the proposal by Government to sell the State-owned Forestry Corporation of New Zealand (FCNZ), including the cutting rights to 188,000 hectares of forest. FCNZ was sold to Fletcher Challenge Ltd for NZ\$ 2.26 billion. The hand-over date was 27 September 1996;

(b) the identification of, and strategy for controlling, the white spotted tussock moth (*Orgyia thyellina*) in the Auckland area. Plans are being developed to control the spring hatch of the tussock moth larvae.

Research highlights in 1995/96 include:

- development of a genetic transformation protocol for radiata pine;
- diversification of research efforts into alternatives to radiata pine - especially in Eucalyptus and Cupressus spp.;
- the application of log optimising software into Haglof callipers;
- the establishment of a large industry-funded value recovery programme to improve radiata pine product values for high-priced markets;
- development of a chemical finger-printing technique (SMART) to predict properties and performance of wood.

(iii) Fiji

In March 1995, the Silvicultural Research Division of the Department of Forestry, Fiji, published its final report on the "Natural Forest Management Pilot Project". The purpose of the report is to provide recommendations to the Forestry Department to further improve its policy on the management of indigenous forests, with special emphasis on silvicultural issues. The report recommends the introduction of a new management scheme for routine logging operations. Given that Fiji is now a member of ITTO, and therefore supports the ITTO target 2000 initiative, the adoption of the proposed management scheme would be a major step towards meeting the target.

A detailed study was completed on termite damage in forest trees in Fiji. Results of the study have been pub-

lished in the Fiji Agricultural Journal by Kamath et al. (1995). Until this study, very little was known of their prevalence, infestation, relative damage and distribution in natural forests where selective felling is practised. The researchers found that 23 indigenous species were termite positive out of a total of 48 species encountered on the study area. Some of these species were particularly susceptible to severe termite damage. On the other hand, two species that were well distributed over the study area were free of attack. The study provides important background information for follow-up ecological studies on the relationship between termite attack and forest management practices.

(iv) Vanuatu

Over the past few years, many steps have been taken to ensure that forestry in Vanuatu complies with the principles of sustainable development. The Government is currently receiving substantial assistance from AusAID in the natural resources sector. Two projects recently commenced: the Vanuatu Sustainable Forest Utilisation Project and the Vanuatu Land Use Planning Project. Both projects have a range of activities that focus on achieving sustainable management of Vanuatu's natural resources.

The Research Unit of the Department of Forests presently operates under financial constraints. Research priorities have been established, and it is anticipated that, with some new donor assistance and with input from regional research projects, the Vanuatu research effort will become increasingly effective. The current research program includes plantation forestry (collection of growth data using permanent plots), and natural forest regeneration (monitoring permanent sample plots pre and post logging). Future research priorities include:

- silviculture of local species grown under plantation conditions;
- regeneration studies following logging;
- investigation how forests serve the needs and possibly enhance the earning capacity of the rural population.

David Flinn

For the reader's information: Reports from Regions are prepared voluntarily and are due only once in the intercongress period of five years.

SylvaVoc - Intensive Activities and Positive Results

The second year of its existence was a decisive one for IUFRO's terminology project SylvaVoc. The financial contribution of the Japanese government ensured its continuity, the positive progress and development of the programmed terminological activities hereunder. The project in general gained wide acceptance, which was noticed also outside the Union when I participated in TKE'96 (Terminology and Knowledge Engineering Congress) in Vienna in August 1996.

Intensive activities took place to fulfil the commitments. On one hand, a major part of work has been channelled into the work for a comparative study on some forestry terms related to the Forest Resources Assessment 2000. For the final report of the comparative study, we have chosen the approach to map the given core-terms in their conceptual environment, which allows us first, to show the relationship and the diversity of terms and definitions, and second, to represent the elements of the FAO 1990 definitions with regard to and in comparison with the components of definition of a limited literature survey and of the replies from the participating countries.

On the other hand, comprehensive work has been done to work on definitions for some 3,000 German entries into the Eurodicautom database of the European Commission. The year before, SylvaVoc had received from the European Commission a number of German forestry entries for revision and up-dating which were based on the initial translation work of the Ford-Robertson Terminology done by Dr Schrader, former leader of S6.03.00. The contract with the European Commission was fulfilled in October 1996 and the work handed over in Luxembourg.

The idea to encourage terminology work within the IUFRO Structure and the participation of experts in the field according to the principle 'expert foresters work on their own technical language' is beginning to bear fruits:

The group of colleagues under the scientific leadership of O. Griess who started work on a Terminology of Forest Management in English, French, German, Italian, Spanish was established as a IUFRO Structure-based

Working Party 4.04.07 SylvaPlan: Forest Management Terminology. Two coordination meetings took place in Vienna (April 1996) and Luxembourg (November 1996) to compare and progress with the definition work for the Terminology of Forest Management. At the end of the year, the German definitions were given priority and in this special case considered to be the liaison between the other languages. The structure of the Terminology is conceived in such a way that other language versions can be added without any problem, especially Japanese and Russian. Therefore, each language will correspond to a section in the terminology and will be linked to the other languages through the index and the equivalents given in the other languages. The publication is intended to be available in 1998 within the IUFRO World Series.

Other interesting activities were started in close cooperation with SylvaVoc. The IUFRO Working Party 6.03.02 Trends in Forest Terminology (chaired by M. Kaennel, WSL, Switzerland) aims at creating a directory of forest experts willing to give information on technical terms in their specific field. These activities are an ideal complement to the efforts in the Secretariat. I would thus like to invite you to join the list of experts or one of the terminological discussion groups. The results will be entered into the terminological database of the IUFRO Secretariat. During the 3rd Latin American and Caribbean Information Systems Network Meeting in Cartagena, Colombia (March 1996), the SylvaVoc project was promoted in the region, its support was recommended and participation of 6.03.04 in terminological activities considered.

Thanks to the contribution of Japan, FAO and the participation of the IUFRO Structure and its expert network, SylvaVoc will be able to continue its programmed activities in 1997 with special emphasis on the implementation of a multilingual terminological database, the encouragement of terminological activities within the research groups of the IUFRO Structure and the cooperation in multilingual terminology with Japan.

R. Pruessler

IUFRO'S SPECIAL PROGRAMME FOR DEVELOPING COUNTRIES

The Special Programme for Developing Countries (SPDC) is now at a critical juncture of its existence. Much of the previous work by previous coordinators has been completed and the programme is getting ready to increase its impact by planning for the 21st century. SPDC will continue to emphasize scientist assistance, the informa-

tion bulletin and training. However, SPDC now has the opportunity to reflect on its past success to build for the future. Possible changes ahead include the scope and direction of the information bulletin as a direct result of changes in technology, increases in assistance programs and increases in staff.

Personnel Changes

At its February meeting, the Executive Board accepted the generous offer of the U.S.D.A. Forest Service to continue its support of SPDC by naming Robert Szaro as the replacement for the outgoing SPDC Coordinator. Both Coordinators were on the job for the entire month of September which allowed for a very smooth transition. No other personnel changes occurred during 1996.

Assistant Coordinator Sought

IUFRO and SPDC have received a grant from the Royal Danish Ministry of Foreign Affairs that allows us to employ an Assistant Coordinator of the Special Programme for Developing Countries. Anticipating favorable action on the proposal, we invited qualified candidates to apply in the Fall Issue of the Bulletin and in IUFRO News. The position will be located at IUFRO headquarters in Vienna, Austria, for a period of not less than 15 months, beginning in spring, 1997, or as soon thereafter as possible. The successful candidate must be an African National from south of the Sahara. He or she should also be an employee of a IUFRO-member institute which must agree to furnish the candidate on secondment. That is, the Assistant Coordinator (AC) will remain an employee of his or her home institution, with the actual cost of salary and benefits reimbursed to the institute by IUFRO. The home institution must guarantee to accept the AC back into regular employment with no loss of status, pay, or other credit, at the close of the assignment. Relocation travel, subsistence, and other costs appropriate to Vienna will be reimbursed directly to the candidate.

The AC will serve as a principal assistant to the Coordinator, to help advance the strategic plan of the SPDC, in particular to strengthen forestry research networks in Africa or Latin America.

Qualifications sought include the following: 1) An advanced degree in forestry; 2) Experience in research in one or more developing countries; 3) Fluency in English, and either French or Spanish; 4) Some facility with computers and software; 5) Ability to administer programs, projects, and funds; 6) Ability to work well with a variety of people at all levels; 7) Ability to locate in Vienna without undue personal or family stress. The terms of reference are still under development but all applications are due 1 February, 1997.

Programme Accomplishments and Activities

BIO-REFOR Workshop: The SPDC Coordinator welcomed participants to the fifth annual BIO-REFOR Workshop organized with the support of the Japanese Foreign Ministry. This year's workshop was organized in co-

ordination with the internal conference *Fortrop'96: Tropical Forestry in the 21st Century* during 25-29 November 1996 at Kasetsart University in Bangkok, Thailand. The workshop focused on biotechnology and reforestation with emphasis on nursery techniques for seedlings and plantation forestry in the tropics. The sixth Annual workshop will be held at the University of Queensland, Brisbane Australia in late 1997.

Travel Grants: This year's announcement of competitive grants from the IUFRO Development Fund resulted in 143 requests for a total of US\$ 315,000 to attend 34 separate meetings. These were the requests that arrived by our May 1 deadline; another two dozen came too late for consideration. Last year, we had only 15 requests, and we made seven awards. This year, we managed to make 13. About 30 applicants met all of the announced criteria. Surprisingly, at least 50 applicants failed to meet the basic criterion of IUFRO membership, even though many of them participated in one or more of IUFRO's working units.

Award winners used their grants to travel to IUFRO-sponsored meetings in Australia, Canada, Denmark, Germany, Italy, Norway, Slovakia, the United Kingdom, and the United States. All of IUFRO's eight subject matter divisions were represented by grant winners.

The smallest award was \$300; the largest was \$2,100; the total was \$15,200. This total is about twice the earnings of the Development Fund in 1995, so the balance was made up from SPDC core funds. We managed to make 13 grants only by asking several applicants to accept less than their original request. Cost-sharing by applicants or their employers will cover an additional several thousand dollars of expenses.

Four conclusions are obvious. (1) There are many outstanding researchers in developing countries who are unable to attend international scientific meetings because they lack funds for travel. (2) Substantial additional contributions are needed to the Development Fund so that it can earn sufficient interest to support more and larger travel grants. (3) Too few of IUFRO's meetings are organized in developing and disadvantaged countries. (4) Many of those active in IUFRO need to convince their employers to become dues-paying members so they can qualify for travel grants..

Information Dissemination: Four Issues of the Information Bulletin for Developing Countries were produced in 1996. These contained news of research projects, publications, training courses, funding sources, and the SPDC itself. All issues also included selected references to forestry literature from the AGRIS database, coordinated by FAO. The Bulletin continued to be distributed free to some 1250 individuals who have requested it,

mostly in tropical developing countries, whether or not they are employees of IUFRO member institutions.

Training: The English-language version of FORSTAT has been completely distributed and no more copies are available. The Spanish version of the 6-module, 1100 page self-learning course in basic statistics for forestry researchers is still available. Due to the high costs of printing and the limited distribution of the course in hard copy format SPDC is reconsidering its methods of distribution. The French version is nearing completion and will be available next year (in electronic form only). Electronic versions in all 3 languages will be available next year for downloading from IUFRONET. Provisions will be made to distribute the course on disk for those without access to INTERNET.

Travel: Current Coordinator, Bob Szaro, participated in the EEB meeting in South Africa, 5-13 December and the APAFRI Executive Council Meeting and the 5th Annual BIO-REFOR Workshop in Bangkok, 22-27 November. Former Coordinator, Brian Payne, met with colleagues in UNESCO/MAB at UNESCO headquarters, Paris, 25-26 July; visited Washington D.C. to prepare for his trip home and to meet with Bob Szaro, John Parrotta and a colleague at the World Bank to discuss the possibility of SPDC collaboration with the Bank on training of forestry research personnel in developing countries, perhaps using our research management self-learning course, April 28 - May 7; attended the FORSPA Advisory Committee Meeting in Bangkok, April 7-15; accompanied IUFRO President Jeff Burley and others from the U.K. on a one-day visit to EU Headquarters, Brussels in March 27; and both the Former and Current Coordinators participated in the Executive Board meeting in Sopron, Hungary in February and the Policy and Planning Committee meeting in Durnstein, Austria in September.

Finance

The balance on hand at the end of the year was US\$ 834,616. This was down from US\$ 864,858 at the beginning of the year, based on receipts of \$327,478 and expenditures of US\$ 357,720. The Government of Japan was again the primary source of receipts with their sixth grant for the series of BIO-REFOR workshops and core support to SPDC. SPDC is indebted to the Japanese Foreign Ministry for their long-term support of SPDC. Without their assistance SPDC would be unable to continue many of its programs.

Administration

SPDC remains co-located with the Secretariat in Vienna, sharing facilities, services, and staff, per mutual agreement and within the framework of the Statutes, Internal

Regulations, and the provisions of Austrian law and regulations to which IUFRO is subject. It continues to use the services of the Treasurer's Office for receiving and depositing payments, investing and managing funds, making disbursements, keeping track of transactions and fund balances, suggesting changes in accounting system and financial practices, etc.

The SPDC Coordinator continues to report to the Executive Board via the Programme Committee (Int. Regs. V.8.); in practice, he reports to the Vice President (Programme) for program activities, the Vice President (Admin.) for financial and administrative matters, and the President on any matter he requests. He participates as a non-voting member of the Policy and Planning Committee, with the Policy and Planning Committee replacing the former SPDC advisory committee.

Future Program Direction and Focus

At the last meeting of the Policy and Planning Committee, in Durnstein, Austria, 9-11 September, outgoing Coordinator Payne made the following recommendations for the future program for the SPDC:

1. Continue to integrate SPDC within the regular program and structure of IUFRO.
2. Seek ways to strengthen developing country membership in IUFRO (e.g. dues payments).
3. Continue support of IUFRO meetings through scientist assistance and Development Fund allocations.
4. Continue quarterly distribution of Information Bulletin, emphasizing IUFRO links.
5. Continue to cooperate with organizations such as CABI, CIFOR, EFRN, FAO, FORSPA, ICRAF, and UNESCO, as opportunities, time, and funds allow.
6. In concert with Executive Board members, seek new funding in order to:
 - a) Better assist IUFRO's regular program;
 - b) Respond to needs and requests from IUFRO member institutions;
 - c) Facilitate greater twinning and networking possibilities;
 - d) Undertake new training and information initiatives;
 - e) Undertake small-research-grant program; and
 - f) Increase scientist assistance.
7. In consultation with the Executive Board, formulate the role of SPDC at the 21st World Congress, 2000.

These recommendations were accepted by the Policy and Planning Committee in its new role as Advisory Committee for SPDC. The new Coordinator will follow through on these recommendations but will also seek to move SPDC more into the electronic age.

The methods of information dissemination need to keep up with the times to both save costs and allow for more timely distribution.

Robert C. Szaro

1996 SPDC Budget, Expanded New Format (All amounts in US\$)

INCOME / SPDC		
Sale of publications		1,500
Interest earnings		38,000
Grants and Agreements		
Japan 1997 (Yen 30,960,000)		285,999
USFS (Moscow) 20,000		
Transfer from SPDC Endowment		<u>46,731</u>
Total Income		392,230
EXPENSES / SPDC		
Salaries		
Administrative Assistant		44,000
Other personnel costs		
Coordinator maintenance		52,000
Travel		
Coordinator		14,500
Printing		
Information Bulletin	18,700	
Postage		
Information Bulletin	7,300	
Other	<u>1,500</u>	
		8,800
Telecommunications		5,700
Bank charges		4,200
Office supplies		4,000
Station charges		2,200
New equipment and write-offs		—
Legal expenses and auditing		2,000
Other		2,500
Sponsorship and awards		
BIO-REFOR Workshop	192,130	
Scientist Assistance	27,500	
Moscow Meeting	<u>14,000</u>	
		<u>233,630</u>
Total Expenses		392,230
Balance on January 1, 1996		864,858
Balance on January 1, 1997		826,639

IUFRO Publications 1996

In addition to four issues of IUFRO News and the Annual Report 1995, the Secretariat published the following brochure:

Occasional Paper No. 5 by Sten Nilsson:
Do We Have Enough Forests?

Distinguished Service Award Winners 1996

Maciej Giertych, Poland
Garth Nikles, Australia
Ryszard Siwecki, Poland

FINANCES

Profit and Loss Account Details

The profit and loss account for 1996 shows an **excess of income over expenditure of SFr. 30 196**.

INCOME

In 1996, the net income from **membership dues** continued to increase; the increase amounted to SFr 44 335.

	1996	1995	1994
Membership dues (SFr.)	324 665	292 220	303 005
Membership dues written off (SFr.)	<u>14 861</u>	<u>26 751</u>	<u>57 571</u>
Total (SFr.)	309 804	265 469	245 434

This higher income can be attributed first and foremost to the fact that membership fees were raised as of 1 January, 1996. Decision of the International Council at the XX IUFRO World Congress in August 1995. About 80% of membership dues have been received.

Employment costs for the **Internet project** in Vienna, amounting to SFr. 27 406 in the period of January to August 1996, were met by the Ministry of Research and Information Technology, Forest and Nature Agency and the Danish Forest and Landscape Research Institute, Denmark. As of September 1996, the project was financed from the fund of the new terminology project sponsored by Japan.

In 1996, DEM time deposits were reduced and converted increasingly into US dollar deposits. Because of the favourable interest rates for the US dollar, the **income from interest** increased in 1996 compared to 1995.

There was a marked decrease of 67.4 % in the **sale of publications**, from SFr. 10 587 in the previous year to SFr. 3 451 in 1996. This reduction can be explained by the lack of new volumes of the World Series.

The conversion of current assets from foreign currencies into Swiss Franks was carried out at the rate valid at the end of the year. The decline of the Swiss Frank during the last quarter of 1996 resulted in unrealized **exchange gains** of SFr. 132 268 and realized exchange gains of SFr 9 584. These amounts were reduced by SFr. 141 555 to form reserves for future exchange rate losses. SFr.122 000 of this sum were reserved for general investments, while SFr. 19 555 were earmarked for specific projects (Terminology).

EXPENSES

For the newly created **terminology project** IUFRO received the amount of **SFr. 213 744** (USD 185 703), which can be broken up into:

EURODICAUTOM (EU, Lux)	SFr. 16 437
FAO, Rome	SFr. 5 959
Japan	<u>SFr. 191 348</u>
Total:	SFr. 213 744

The monies received for terminology are project-related monies and managed through a fund. They are used to finance the following:

- salaries for persons participating in special projects of the forest management terminology and the
- creation of an information source (terminology data base) including bibliographical data (forest management dictionary)

In the period under review activities were financed amounting to a total of SFr.213 744.

The newly created fund was additionally increased by SFr. 19 555 stemming from unrealized exchange gains to the amount of SFr. 132 000 (USD 97 780).

The increase of SFr. 14 458 in **office expenses** to a total of SFr. 42 747 compared to the previous year can be explained mainly by a new office rent, which is, however, included in the income section as a refund from the Austrian Government.

In 1996 **Congress costs** amounted to SFr. 4 656. For future Congresses the reserve fund was increased by SFr. 11 390. Thus there was a total expenditure of SFr. 16 046.

The **expenses for postage and telephone** amounted to SFr. 65 259 and were 29.8% higher than those of the previous year, but the budget was not exceeded. This increase in expenditures can be explained by the intensified activities of the Secretariat. Part of it is also due to higher postage and telephone charges.

In spite of favourable exchange rates some transactions produced **exchange losses** of a total of SFr. 7 641.

The **outstanding debts** were adjusted by SFr. 30 000 at the expense of the income side, as it is expected that not all outstanding membership fees will be paid.

The increase in **expenditures for legal advice and consulting** are on the one hand due to an increase in auditing costs in Vienna (the SPDC) and on the other hand to a subsequent charge on the auditing costs for the total accounting of the years 1994 and 1995.

Balance Details

Assets

The marked increase in the **current assets** in comparison to the previous year can (as already explained in the profit and loss account) be attributed to the higher value of foreign currency time deposits and to the monies received for the terminology project.

The payment due from the SPDC for sharing IUFRO's infrastructure and services rendered during the period under review amounting to SFr. 57 552 is included under **prepaid expenses**.

Liabilities

The USDA Forest Service made another donation to IUFRO through the **USDA Grant Award**, the sum re-

ceived amounting to SFr. 17 265. From **China Tapei**, IUFRO again received a donation of SFr. 5 568. With these funds, outstanding membership fees and the supply of IUFRO News to financially weak member organizations were financed.

Compared to the previous year, the **total Union capital** increased from SFr. 894 498 to **SFr. 924 694**.

Annex to the Annual Account

1. Membership

New members: 28 ordinary/ 18 associated members
Withdrawals: 15 ordinary/ 5 associated members

Members as of Dec. 31, 1996:

ordinary members	539
associated members	<u>204</u>
total	743

181 sub-members and sub-sub-members are charged via the ordinary members: thus IUFRO has 717 member institutions.

2. Secretariat

An amount of SFr. 400 000 had been budgeted for the expenditures of the Secretariat. The actual expenditure remained below this amount by SFr 26 486.

3. SPDC „Developing Countries“ Account

The Statement of Account prepared by the Alpentreuhand Trust Office, Vienna, was approved as per auditing report of Feb. 28, 1996.

Balance as of Dec. 31, 1995	USD	864 858.12
Income during 1996	USD	521 000.88
Expenditure during 1996	USD	559 219.68
Balance as of Dec. 31, 1996	USD	826 639.32

The major part of this sum is earmarked for project-related activities in 1997. The balance was invested with Crédit Suisse on a short term basis.

CH-Birmensdorf, May 20, 1997

**Profit and Loss Account as of December 31, 1996
in Swiss Franks**

INCOME		
	Account 1996	Account 1995
Membership Dues	324,665	292,220
Contrib. of Austrian Government	93,761	94,595
Terminology	213,744	—
Refund Internet Project	27,406	41,266
Refund SPDC	191,042	153,596
Interest	52,255	47,724
Sale of Publication	3,451	10,587
Exchange Gains	297,000	—
Other Returns	<u>446,000</u>	<u>502,000</u>
Total Income	<u>907,067</u>	<u>640,490</u>
Loss	—	<u>36,683</u>
	<u>907,067</u>	<u>677,173</u>
EXPENSES		
	Account 1996	Account 1995
Terminology	213,298	—
President's office	1,151	16,504
Office expenses	42,747	28,289
Fees (Internet Project)	27,983	42,872
Salaries	171,846	158,399
Travel Expenses	27,797	33,551
IUFRO Congress	16,046	12,000
Print. Costs for News, World Series	24,624	29,163
Post and Telephone	65,259	50,271
Computer Expenses	6,958	15,966
Bank Charges	6,414	5,160
Interest Development Account	8,500	8,500
Adjustment of Currency and Securities	7,641	54,145
Adjustment of Debts	30,000	—
Debts Written Off	14,861	26,751
Auditing Expenses	8,866	2,482
Other Expenses	11,835	39,523
Expenses SPDC	<u>191,042</u>	<u>153,596</u>
Total Expenses	<u>876,870</u>	<u>677,173</u>
Profit	<u>30,196</u>	—
	<u>907,067</u>	<u>677,173</u>

Membership

Admissions 1996

041.01.00 (Sub-member)

CSIRO Forestry and Forest Products
Forest Products Laboratory
Rosebank MDC
Private Bag 10
Clayton 3168
Australia

041.02.00 (Sub-member)

CSIRO Forestry and Forest Products
Plantation Forest Research Centre
PO Box 946
Mount Gambier, South Australia 5290
Australia

041.03.00 (Sub-member)

CSIRO Forestry and Forest Products
Tasmanian Research Centre
GPO Box 252-12
Hobart, Tasmania 7001
Australia

041.04.00 (Sub-member)

CSIRO Forestry and Forest Products
W.A. Forest Research Group
Private Bag, Post Office
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