METLA

ROVANIEMI RESEARCH STATION

The emphasis of the research carried out at Rovaniemi Research Station is in the research looking into the special characteristics of boreal forest ecosystems and their susceptibility to disturbance, modelling of the processes related to forest development, and research addressing the reconciling of the different forests uses. A subject of special importance is promoting the utilisation of GPS data. Staff at the research station make efficient use of locally developed information system services and laboratory service.

Erkki Oksanen

The state of health of the forests, the impact of climate on forest growth and variation of the timberline are being studied in four EU-funded projects. Research also focuses on fungal damage to forests and on the cold-hardiness of trees. The emphasis in modelling is on describing what happens when forest regeneration takes place, on the growth models produced by the MELA growth simulator, and on modelling the growth peatland forests following drainage.

The various forms of forest use in Lapland are studied by addressing especially the issue of reconciling the conflicts between tourism, conservation, reindeer husbandry, and wood production.

The national parks of Pallas-Ounastunturi and Pyhätunturi are administered by Rovaniemi Research Station. Both of these national parks offer excellent opportunities for education, hiking and practising of natural livelihoods. Pallas-Ounastunturi National Park has dozens of joint-research undertakings with the participation of universities and other research institutions.

Station Director
Martti Varmola
P.O.Box 16, Eteläranta 55
FIN-96301 Rovaniemi
Tel. +358 16 336 411
Fax +358 16 336 4640
http://www.metla.fi/ro/

SUONENJOKI RESEARCH STATION

The basic task of Suonenjoki Research Station is to conduct research in forest tree nursery production and forest regeneration and to transfer research knowledge to practical forestry. The fact that the country's only research nursery is part of the research station provides the necessary circumstances for research and development to be conducted on a practical scale.

Erkki Oksanen

Plant production methods resulting in planting stock of good quality at less cost and less environmental inoffensiveness are developed at the nursery. The improvement of the water retention properties of the peat used as the plant substratum and research on speeding up the hardening of the plants with short-day treatments and plant hormones are essential aspects of research.

The goal in forest regeneration research is to develop a system whereby regional forestry authorities can monitor the quality of forest renewal cost-effectively. The mechanisation of seeding and planting and the development of summertime planting methods to eliminate labour peaks in the spring are further aspects of this research.

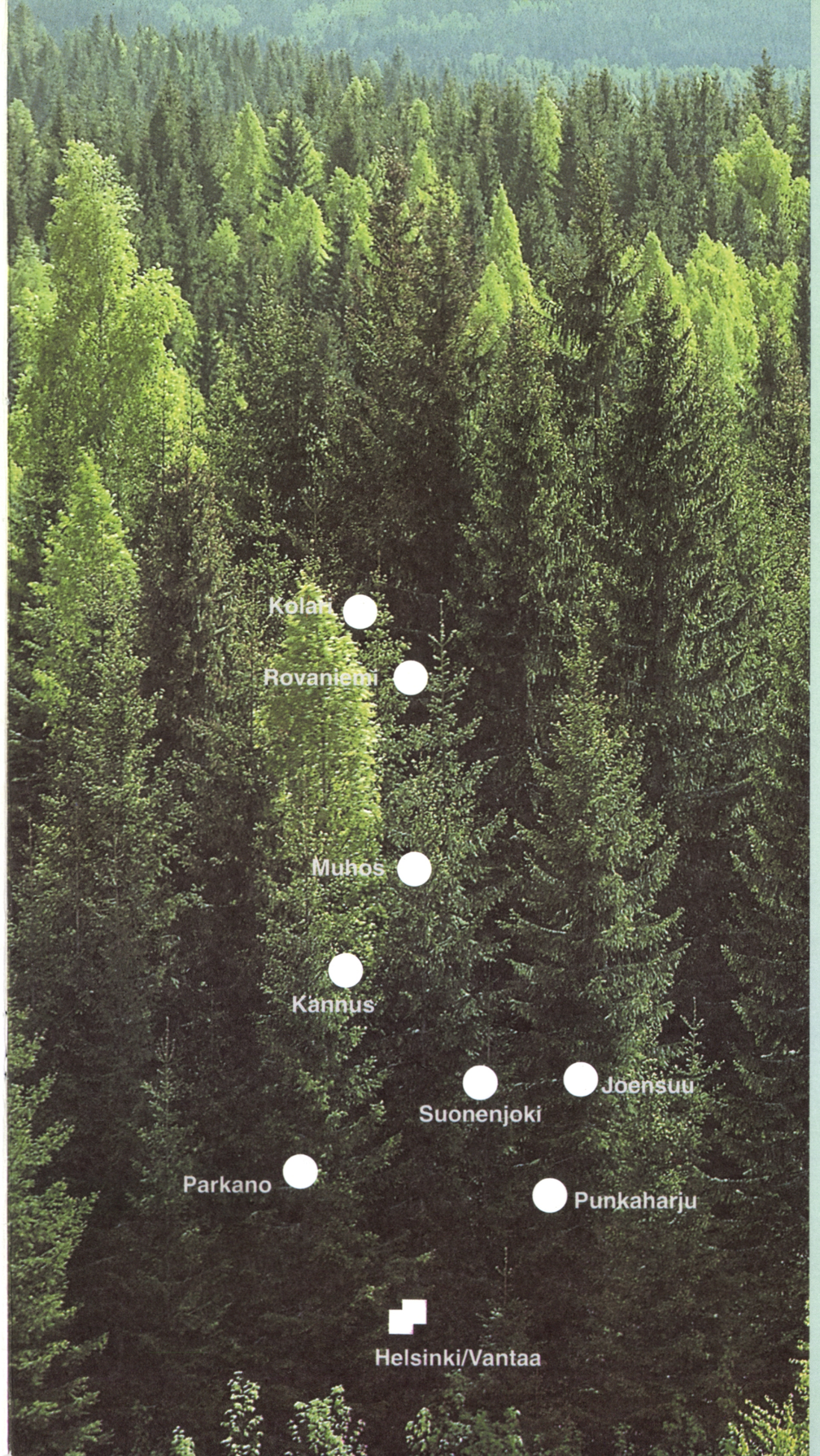
Eco-physiological research produces knowledge about the vital functions of trees and research methods, which can be adapted in nursery research and forest-renewal research.

Forest-health researchers produce new knowledge about the infection ability of pine shoot disease (Gremmeniella abietina), the resilience of pine provenances, and the identification of environmental damage.

Station Director
Heikki Smolander
Juntintie 40
FIN-77600 Suonenjoki
Tel. +358 17 513 811
Fax +358 17 513 068
http://www.metla.fi/su/

ES/2106/RVoi/9.1999

Kirjapaino Oma Oy, Jyväskylä



FINNISH FOREST RESEARCH INSTITUTE

METLA

FINNISH FOREST

• solves forest-related problems

METLA

Founded in 1917, the Finnish Forest Research Institute (acronym METLA) is Finland's leading forest research organisation. Metla is an impartial state research institute which, in accordance with its remit, solves forest-related problems through scientific research.

Research work at Metla is carried out at ten units: at the Helsinki and Vantaa research centres and at eight regional research stations. Metla's area of activity covers research, research forests, customer-funded research and support services.

Metla has a staff of 800 people, over 200 of these being researchers. About half of the staff are based at the two centres within the capital metropolitan area and the other half at the regional research stations.

Most of the funding for Metla's activities is provided through the national budget. Additional funding is obtained from various ministries, the forest industries, and research foundations.

Director General
Eljas Pohtila
Unioninkatu 40 A
FIN-00170 Helsinki
Tel. +358 9 857 051
Fax +358 9 8570 5478

RESEARCH

Research work at Metla has been organised into120 problem-centred projects. A number of projects have been combined to form multi-disciplinary research programmes to address specific contemporary problems:

- National forest inventory (1998-2004)
- Biodiversity of forest ecosystems (1995-1999)
- Reconciling different forest uses (1995-1999)
- Environmental impact of forestry (1996-2000)
- Competition and public subsidies in forestry (1998-2002)
- Regeneration of forests in southern finland (1998-2002)
- Ecologically and economically sustainable forestry on peatlands (1999-2003)
- Forestry modelling and analyses (1999-2005)

Research activities also include laboratory services, field trials, library and information services, publication activities, information systems serving research, and international activities.

Head of Research
Matti Kärkkäinen
Unioninkatu 40 A
FIN-00170 Helsinki
Tel. +358 9 857 051
Fax +358 9 8570 5478

RESEARCH FORESTS

Metla's own research forests enable a versatile, long-term execution of field trials. There are altogether 150 000 hectares of such forests, of which 69 000 hectares are conservation areas. 5000 hectares are used by forestry schools for instruction.

Currently, Metla has stewardship over three national parks: Koli, Pallas-Ounas and Pyhätunturi as well as five strict nature reserves. These and numerous smaller conservation areas, e.g. herb-rich forests, old-growth forests, peatland reserves, serve the needs of conservation, research and public recreation.

Head of Research Forests
Risto Savolainen
Jokiniemenkuja 1
FIN-01300 Vantaa
Tel. +358 9 857 051
Fax +358 9 8570 5569

ES/2106/RVoi/9.1999

PUNKAHARJU RESEARCH STATION

Punkaharju Research Station specialises in forest genetics studies such as biotechnology, resistance breeding, seed production, wood quality properties, and research focusing on the environmental adaptation of trees. Matters related to the growing of exotic tree species and special trees are also studied at the station.

Juhani Häggman

The goal in biotechnology research is to retain the genetic diversity of trees and to find out more about their genetic regulation and structure, and the possibilities of transferring useful genes.

Resistance breeding is carried out to develop birches capable of resisting various damaging agents such as mammals, insects and fungi. Seed-orchard research is aimed at producing high-quality seed for use throughout the country. Adaptation research looks into how trees would manage in different environments, e.g. under climate change due to the greenhouse effect.

Punkaharju is home to an arboretum about a five hectares in size and a park-like forest area containing more than 40 conifer species and 20 species of deciduous trees. Finland's first gene-reserve forest is also located within the research area; its purpose is to help retain the genetic variation of Finland's natural forests.

METLA

Station Director
Juhani Häggman
Finlandiantie 18
FIN-58450 Punkaharju
Tel. +358 15 730 220
Fax +358 15 644 333
http://www.metla.fi/pu/

PARKANO RESEARCH STATION

Metla's first regional research station was established in Parkano in 1961, dedicated to peatland-forestry research. Today, the station's fields of emphasis are the nutrient status of wetland and upland forest ecosystems, and the impact of environmental factors on forest health.

Erkki Oksanen

Staff at Parkano Research Station conducts research focusing on the bases and action models of sustainable peatland forestry, the nutrient status of drained mires and the effect of changes in it on tree stands. Furthermore, research work at the station also covers the nutrient-balance problem related to the afforestation of the former peat-cut-away areas.

As an official EU assignment, Parkano Research Station is conducting research into the causal relationships between forest-ecosystem changes and the factors bearing on these changes, especially air pollution. This research is part of an extensive, pan-European programme of intensive monitoring of forest ecosystems.

Seed-production studies concerning forest trees have focused on the quality of seed crops produced at seed orchards of pine and spruce, and on improving quality. Forest regeneration methods are studied on both upland forest soils as well as peatland sites as part of a nation-wide research program.

Parkano Research Station and Radiation and Nuclear Safety Authority are carrying out joint-research into the impacts of fertilisation on the radio-caesium balance in forest stands and on the cycling of radio-caesium in upland forest ecosystems and in mire ecosystems.

Parkano Research Stations is entrusted with the co-ordination of a research programme:
- Ecologically and economically sustainable forestry on peatlands (1999-2003)

Station Director
Hannu Raitio
Kaironiementie 54
FIN-39700 Parkano
Tel. +358 3 44 351
Fax +358 3 443 5200
http://www.metla.fi/pa/

METLA

KOLARI RESEARCH STATION

Kolari Research Station's research schedule covers multiple-use forestry, forest biodiversity and the study of timberline forest issues.

Erkki Oksanen

The station is conducting research looking into the impacts of climate change to determine how well our indigenous tree species have adapted to their environment and whether they can withstand environmental changes. Adaptation is being studied by monitoring the annual rhythm and flowering times of trees.

The sphere of responsibility of Kolari Research Station covers the research areas of Kilpisjärvi, Kolari and Laanila. Malla Strict Nature Reserve, Saana Conservation Area and Saariselkä Holiday Centre are located within the station's jurisdiction.

Kolari Research Station
Ylläsjokisuu 7
FIN-95900 Kolari
Tel. +358 16 561 401
Fax +358 16 561 904
http://www.metla.fi/ko/

MUHOS RESEARCH STATION

Muhos Research Station's research activities focus on forest regeneration and its environmental impacts, the utilisation of first-thinning wood, nutrient status of peatland forests, and forest growth and yield.
Examples of areas of emphasis in research are changes taking place in the state of the forest environment, heavy-metal deposition, and establishing of a nation-wide phenological observation network and the monitoring associated with it.

Reijo Seppänen

Paljakka Sample Bank

Forest-regeneration research places special emphasis on highland areas and to coastal areas subject to post-glacial isostatic uplifting. The utilisation of wood ash as a fertiliser is being evaluated from new points of view and by also looking into its environmental impacts. Heavy-metal deposition is being studied in the context of international co-operation.

The research station concentrates especially on long-term field-trial activity. An example of this is the Leppiniemi ash-fertilisation trial established in 1947, which still is a target of research and excursions.

The research station is entrusted with the administration of Muhos and Paljakka research areas, Liimanninkoski herb-rich forest conservation area, and various demonstration forests. Tahvola estate and its arboretum constitutes a valuable cultural and historic entity and a significant visitor target. The environmental sample bank established in the Paljakka area is a storehouse of a wide range of long-term samples collected in the course of various research projects conducted at Metla.

Station Director
Eero Kubin
Kirkkosaarentie 7
FIN-91500 Muhos
Tel +358 8 531 2200
Fax +358 8 531 2211
http://www.metla.fi/mu/

ES/2106/RVoi/9.1999

RESEARCH INSTITUTE

through scientific research •

CUSTOMER FUNDED ACTIVITIES

Metla's customer-funded services (ART) were created for the purpose of addressing special problems in the field of forestry. The staff at ART are engaged in marketing Metla's expertise at home and abroad in the form of:

- commissioned studies
- forestry statistics services (METINFO)
- statements by experts, training, consultancy
- forest damage assessment, laboratory service
- guide and extension services within Metla's conservation areas
- library information services, research publications

Communications and publication activities

Communications unit conveys popularized information on Metla's research projects and their results, Metla's publications, the work in the Research Institute and the research forests supervised by Metla including nature conservation areas open to public, mostly in the form of press releases and brochures. Communications unit also publishes a customer magazine.

Together with the Finnish Society of Forest Science, Metla publishes three peer-reviewed series:

Silva Fennica is a forestry journal aimed at the international audience. Its research articles, reviews and current affairs articles are published in English.

Acta Forestalia Fennica is a monograph series published in English, accommodating research articles and comprehensive review articles.

Metsätieteen aikakauskirja is a series comprising research articles and reviews in Finnish and Swedish. The series also addresses issues of current interest.

Metla also publishes in the series **Metsäntutkimuslaitoksen tiedonantoja** results of research of current interest and proceedings of scientific meetings. The language of the series is generally Finnish.

Official tasks

Metla's official remit demands that it:

- conducts the national forest inventories
- monitors forest health
- inspects plant protection products
- provides an information service for forest taxation
- clarifies the bases of forest taxation
- fulfils duties connected to the timber measurement act
- maintains forest genetic register

Metla on the Internet

Metla also offers its services in electronic form for customers using the Internet. Metla's WWW-pages contain everything presented in this brochure plus information in English and Finnish on current research results, events, publications and directories. All this can be readily located using the Internet's retrieval service.

Communications unit
Unioninkatu 40 A
FIN-00170 Helsinki
Tel. +358 9 857 051
Fax +358 9 8570 5677

Subscriptions

Metla's Library
Jokiniemenkuja 3 B
FIN-01300 Vantaa
Tel. +358 9 8570 5580
Fax +358 9 8570 5582

Library of the Finnish Society of Forest Science
Unioninkatu 40 A
FIN-00170 Helsinki
Tel. +358 9 857 051
Fax + 358 9 8570 5677

http://www.metla.fi/

METLA

HELSINKI RESEARCH CENTRE

Among the fields of emphasis at Metla's Helsinki Research Centre are research in forestry economics and environmental economics, National forest inventory (NFI), and forestry statistics. The Centre's customer services include business cycle predictions for the forest sector (acronym MESU), estimates provided concerning the usage potential of the forests (MELA), and electronic information services (METINFO).

Erkki Oksanen

National forest inventory produces information on Finland's forest and timber resources and about the forests as ecosystems. Multi-source inventories yield data on both national scale and on smaller scales — municipality level and even down to the level of individual woodlots.

Using the data provided by the MELA system and national forest inventories, it is possible to produce reports on the Finland's wood production potential. MELA is widely used in forest management planning at enterprise and farm level.

METINFO is the forest sector's electronic information service on the Internet. It contains real-time information on forestry statistics, forestry and environment-related regulations, and on services available in the field of forestry.

MESU Project is entrusted with the task of drawing up the annual review of current affairs involving the forest sector and with developing prediction models and analysis tools for the forest sector.

Research programmes co-ordinated at Helsinki Research Centre:
- National forest inventory (1998-2004)
- Competition and public subsidies in forestry (1998-2002)

Director of the Research Centre
Aarne Reunala
Unioninkatu 40 A
FIN-00170 Helsinki
Tel. +358 9 857 051
Fax +358 9 625 308
http://www.metla.fi/metla/he/

VANTAA RESEARCH CENTRE

Research carried out at the Centre ranges from plant cells and microbes to forest ecosystem study, and from biotechnology to the technology of wood harvesting and transportation. Vantaa Research Centre offers its skills e.g. by investigating local forest damages. It is also responsible for the testing of breeding material, for means of measuring timber and the control of the use of pesticides and insectisides.

Erkki Oksanen

Vantaa Research Centre's projects focus on the biological bases of silviculture, on the environmental impacts of forestry and the impacts of changes in the environment on the state of health of the forests. Furthermore, forest growth,wood harvesting, the properties of wood raw material, and forest tree breeding are studied.

Staff at Metla's new central laboratory annually analyse over 75 000 water, plant, and soil samples resulting in about half a million individual analyses.

The Centre's research experts have numerous international assignments, e.g. scientific steering of research projects concerning the growth and variation in growth of the forests in Europe, and the development of Tanzania's Forest Research Institute.

Research programmes co-ordinated by Vantaa Research Centre:
- Biodiversity of forest ecosystems (1995-1999)
- Regeneration of forests in southern Finland (1998-2002)

Vantaa Research Centre
Jokiniemenkuja 1
FIN-01300 Vantaa
Tel. +358 9 857 051
Fax +358 9 8570 5569
http://www.metla.fi/metla/va/

METLA

JOENSUU RESEARCH STATION

Joensuu Research Station is Metla's leading scientific expert organisation in eastern Finland serving the needs of practical forestry and attending to regional forest research in eastern Finland. Some of the areas of emphasis in eastern Finland are research focusing on wood quality, comparison of silvicultural alternatives, environmental impacts of forestry and forest management planning.

Erkki Oksanen

Staff at Joensuu Research Station conduct research dealing with forest berry and mushroom crops, direct and indirect impacts of the forest sector on the national economy. The station also provides forest-damage consultation services.

Joensuu Research Station is engaged in keen co-operation with other research organisations, for example the European Forest Institute (EFI) and the forestry education unit at the University of Joensuu.

The research station is entrusted with the care of Koli National Park. The park was established in 1991 and it provides facilities for research focusing on heritage landscapes.

Joensuu Research Station is entrusted with the co-ordination of the research programmes:
- Environmental impact of forestry (1996-2000)
- Forestry modelling and analyses (1999-2005).

Station Director
Jari Parviainen
P.O.Box 68
Yliopistokatu 7
FIN-80101 Joensuu
Tel. +358 13 251 4000
Fax +358 13 251 4111
http:/www.metla.fi/jo/

KANNUS RESEARCH STATION

Staff at Kannus Research Station is especially concerned with the forests of Pohjanmaa, including their silviculture and use. These forests are characterised by their large proportion of small-diameter trees, the abundance of peatland forests, the pre- dominance of non-industrial, private woodlots, and relatively young age of the land of the coastal region of the Gulf of Bothnia.

Erkki Oksanen

The areas of research emphasis are the sustainability of forestry along the coast of the Gulf of Bothnia, forest planning, energy use of wood, peatland forestry, basic improvement and use of peatland forests, and afforestation of former agricultural land.

Other subjects of study addressed at Kannus Research Station include the properties of bio-oils and mineral oils, forest inventory, Geographic Positioning System development and applications, predicting growing stock development, and economic use of wood ash.

Research and development of forestry machinery is closely related especially to studies dealing with the energy use of wood, economic use of wood ash, and basic improvement of peatland forests.

Kannus Research Stations is entrusted with the co-ordination of a research programme:
- Reconciling different forest uses (1995-1999)

Station Director
Jyrki Kangas

Acting Director
Jyrki Hytönen
(until 31.12.1999)
P.O.Box 44
FIN-69101 Kannus
Tel. +358 6 8743 200
Fax +358 6 8743 201
http://www.metla.fi:80/metla/ka/