



Forest research in the North

Forest Research organizations in the Nordic and Baltic countries 2010

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Nordic Forest Research Cooperation Committee

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Forest research in the north

Forestry is a major business sector in the Nordic countries. Forests have a key role in the terrestrial ecosystems, and they are used by many people for recreation, hunting or earning their living.

The central role of the forest is also reflected in the active forest research and development. The Nordic countries are taking a leading position in many fields of forest science. News & Views has continuously reported about progress and development in the forest research sector in the Nordic and adjacent countries. This brochure shows a condensed summary of the main organizations performing research and development.

About SNS and News & Views

SNS (the Nordic Forest Research Co-operation Committee) is an organization under the Nordic Council of Ministers with the aim to promote research in sustainable forestry. A specific goal is to create Nordic synergy by supporting networks, research meetings, projects and joint utilisation of unique research facilities.

SNS encourage research cooperation with the Baltic countries and north-western Russia. Two specific areas have observer status in the SNS – Faroe Islands and Åland.

The headquarter rotates among the Nordic countries, and is currently (2010–2013) located in Denmark.

News & Views is the official newsletter of SNS, presenting updates of relevance for Nordic and international forest research. It is published bimonthly in Scandinavian Journal of Forest Research, as well as electronically on the Internet. The newsletter can be downloaded from the website of SNS.

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Data about the Nordic forests

The statistics are derived from EU's official statistics Eurostat (ec.europa.eu/eurostat). Data refer to 2005, except roundwood production, which is valid 2008.

	Forest land 1 000 ha	Other wooded land 1 000 ha	Forests available for wood supply 1 000 ha	Growing stock on forest land 1 000 m ³	Net annual increment 1 000 m ³	Roundwood production 1 000 m ³
Denmark	500	136	385	76 456	5 176	2 786
Finland	22 130	1 181	20 004	2 163 442	92 860	50 670
Iceland	43	106	41	2 739	Na	Na
Norway	9 387	2 613	6 499	861 725	Na	10 324
Sweden	27 871	3 059	21 235	3 104 632	91 355	70 800
Estonia	2 264	94	2 090	454 461	11 015	4 860
Latvia	3 035	115	2 844	568 896	16 500	8 805
Lithuania	2 121	77	1 835	40 114	9 888	5 594

Notes

A forest is defined as land with a tree canopy cover of more than 10% and an area of more than 0,5 ha. The trees shall be able to reach a minimum height of 5 m at maturity.

Other wooded land is land of more than 0,5 ha not classified as forest. It has a canopy cover of

5–10%, or a cover of more than 10% with trees lower than 5 m.

Volumes are calculated over bark, except roundwood production which is calculated under bark.

Net annual increment refer to forests available for wood supply

Roundwood production is all quantities of wood removed from the forest.



Denmark

In terms of forest production, Denmark is the "little brother" among the Scandinavian countries. Contrary to its Nordic neighbors, all of Denmark is located within the central European temperate forest zone. Still, Norway spruce is the most common individual species (all planted), but the main forests are made up of a diversity of natural broadleaved trees and pine.

The economic importance of the industrial forest use is low and declining. Wood-processing industry is characterized by small units. The multi-purpose use of the forests is important, and is reflected in the research topics. Research fields such as outdoor recreation, Christmas tree production, landscape and park planning play more important roles than in its neighboring Nordic countries.

Forest & Landscape

"Skov & Landskab" (Forest & Landscape) is a national centre at the Faculty of Life Sciences at the University of Copenhagen. The centre undertakes research, education, extension and consultancy services within forest, landscape and planning. The centre was established in 2004 through a merger of the Danish Forest and Landscape Research Institute, the Danish Forestry College, the Danida Forest Seed Centre and parts of the Department of Economics and Natural Resources of the former KVL - the

Royal Veterinary and Agricultural University of Denmark.

The centre has some 300 employees and an annual turnover of 20 million Euro. The research and development is carried out in three main areas: Forest and forest products; Park and Landscape; Spatial planning and outdoor recreation.

Skov & Landskab has its main unit in Fredriksberg, Copenhagen, but has also research centres and activities at two other places in Denmark.

Read more: www.sl.life.ku.dk

EFINORD

EFI (the European Forest Institute) has established a network of regional offices in Europe. EFINORD was started in 2010, with its headquarter in the premises of Forest & Landscape, Copenhagen, Denmark. The regional offices addresses forest research and networking at a regional level.

EFINORD supports network collaboration within the Nordic and adjacent countries.

Read more: www.efi.int, News & Views





Finland

Finland is Europe's most forest country, with 3/4 of its land area under forest cover. It is also one of the most northern countries in the world, with a quarter of its land north of the Arctic circle. Finland relies more heavily on its forest than any other country in the world. Thus, it is not surprising that forest research is strong. The largest research organisation is Metla, but several other actors are also involved in forest research.



Metla – The Finnish Forest Research Institute

The Finnish Forest Research Institute (Metla), which has 800 employees, is the key player in forest research in Finland. Metla was established in 1917. Its regional units and research forests cover the whole country, from Vantaa in the mild, southern region to Kolari at the timberline. From the beginning of 2010 there are four regional units in Metla. They all have a central research unit, local research stations and research forests. Metla's general management is located in Vantaa outside the capital Helsinki.

In recent years, the overall budget has been 53 million €, of which about 70% has been direct government

funding. The country-wide network of research forests consists currently of approximately 30,000 hectares.

Metla conducts research and generates research information about the forest nature and environment, the different uses of forests, and about forestry and the forest cluster.

Communication is highly valued at Metla. An international journal, *Silva Fennica*, is published in collaboration with the Finnish Society of Forest Science. *Metla Bulletin* is a newsletter for the international audience. Metla is also responsible for forest statistics.

Read more: www.metla.fi

Joensuu – evolving centre in the east

Joensuu in the eastern region Karelia, has become a vital centre for forest research.

The Faculty of Forest Sciences at the University of Joensuu was established in 1982. The faculty is an internationally renowned research and education centre with 80 project researchers and PhD students. Each autumn about 35 new forestry students, "forstis", begin their studies, while roughly 500 MSc degrees and 120 DSc degrees have already been completed in the Faculty.

The Joensuu Research Unit of Metla has a staff of 130 persons, of whom 80 are researchers.

The European Forest Institute (EFI) is an international association established by European States. With its nearly 130 Associate and Affiliate Members, seven Project Centres and five Regional Offices, it offers collaboration at the European level. The headquarter is located in Joensuu.

Read more: www.joensuu.fi, www.efi.int,

Helsinki University

The University of Helsinki has a strong forest research presence, based in the Faculty of Agriculture and Forestry at the Viikki campus. The faculty was reorganised in 2010, and forest research is now found in the Department of Forest Science. Disciplines of the department are forest ecology, forest resource science and technology, forest economics, forest products marketing and biotechnology.

Read more: www.helsinki.fi

Metsäteho

Metsäteho was founded as a limited company in 1996, owned by Finnish forest industry firms, Metsähallitus (State Forest Enterprise) and certain forestry organisations. Its roots can be traced back to 1945 when the central association of the Finnish wood processing industries set up a special department to study forest work. The company is involved in research and development related to wood procurement and wood production.

Read more: www.metsateho.fi



Iceland

At the time when the first settlements took place on Iceland, in the 9th century, 25-40 % of Iceland's land area was covered by forest and woodland. The forest was soon more or less wiped out as a result of sheep grazing and a cooling climate, to make Iceland the treeless land it is renowned for.

But the forest is returning as a result of ambitious planting, and is now even becoming a source for forestry, industrial use and energy. The first plantations have reached the size of first thinning, and the harvesting has begun to create a market for local contractors in areas which have suffered from unemployment.

Iceland Forest Research

The main part of the applied forestry research in Iceland is performed by Iceland Forest Research, a part of Iceland Forest Service. The headquarter is located in Mogilsa near Reykjavik, but there are branches also in Akureyri. The institute has currently a staff of 15 persons.

Species and provenance trials has traditionally been the main focus

of the research, but in recent years research has expanded to cover topics such as carbon and nutrient cycles, establishment problems, pests and pathogens and ecological implications of afforestation.

Read more: www.skogur.is

Agricultural University of Iceland

Related research is also performed at the Agricultural University of Iceland, with its main location near Borganes on western Iceland. In 2004, the university started up a forestry degree programme for the first time. It is now possible to obtain both Bachelor, Master's and PhD degrees in forestry in Iceland. Formerly, foresters had to be trained abroad.

Read more: www.lbhi.is





Norway

Norway is a rural, hilly country, with a long coastline, where fishery and the oil industry may be the commercial sectors that first come to the outsider's mind. However, Norway is also a forested country, with a forest land area of 9 million hectares.

Many people live on the countryside and often come into contact with small-scale forestry and farming enterprises.

It is not surprising that forest research plays a relatively large role in the country. The forest research is mainly concentrated at the Norwegian University of Life Sciences and, for more applied parts, to the Norwegian Forest and Landscape Institute.



Norwegian University of Life Sciences

The Department of Ecology and Natural Resource Management (INA) of the Norwegian University of Life Sciences (UMB) is responsible for research, education and communication in forest science, besides its other focus areas fundamental biology, ecology and natural resource management.

The university is located in Ås, south of the capital Oslo. The employees comprise almost 100 persons, including professors, other scientists, PhD students and technical staff.

The department has a broad and varied field of research. Scientific disciplines include, inter alia, Biodiversity, evolutionary genetics and conservation biology; Sustainable forest, game and fish management; Consequences of land use and habitat changes; Market and resource economy and planning; Resource mapping; Wood technology. INA offers Bachelor and Master's degree programmes in fundamental biology and ecology, natural resource management and forest science.

Read more: www.umb.no

The Norwegian Forest and Landscape Institute

The institute was established in 2006 after a merger between Norwegian Forest Research Institute (Skogforsk) and Norwegian Institute of Land Inventory (NIJOS). It is now a leading national institute with a focus on use of forest resources, forest ecology and the environment. The institute has 220 employees with its main office in Ås south of Oslo. There are also regional offices in Northern Norway, Mid-Norway and Western Norway. Forest related topics are found all over the institute, but the traditional

forest science is found in the Department of forest resources and Department of Forest Biology and Environment. The Norwegian Genetic Resource Center, which is part of the institute, coordinates conservation and utilisation of national genetic resources, among them forest trees.

The predecessors to the present institute has a long history. Skogforsk was established already in 1917.

Read more: www.skogoglandskap.no

The Norwegian Institute of Wood Technology (NTI)

NTI is an independent research institute established in 1949. It serves 150 member companies representing the Norwegian sawmill and timber industries. As well as undertaking research, the NTI performs various quality control and laboratory tests.

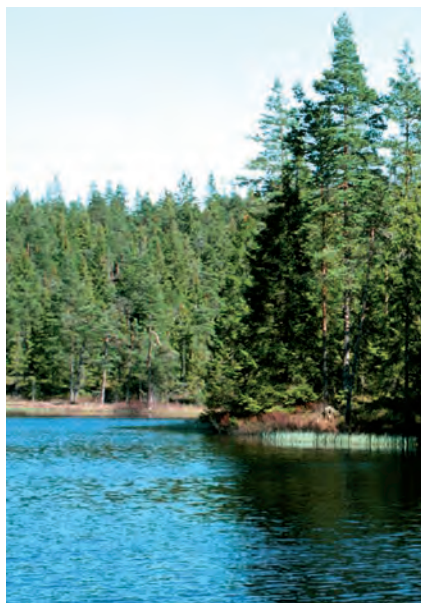


Sweden

Forests and forestry play a more important role in Sweden than in any other European country except Finland. The forest industry account for 12% of Sweden's total exports, and its share of the industry employment is significant. In forested regions, 20% or more of the industry employees are found in the forest industry. The main players in forest science are SLU and Skogforsk, but several other universities or other institutes are involved in forestry-related topics.

As much as 68% of the land area is covered by forest, at least as defined by the new FAO forest standard.

The alpine zone in the hilly north and the nemoral zone in the southernmost part make a frame for the main boreal part of the country.



Faculty of Forestry at SLU

The Swedish University of Agricultural Sciences (SLU) is the main actor in research and education in forestry. The Faculty of Forestry is one of the major institutions of its kind in Europe. The main units for research and education are found in Umeå (head unit), Uppsala, Skinnskatteberg and Alnarp. Eight research parks provide sites for field experiments.

The Faculty of Forestry offers the only higher education for foresters at a bachelor and master's degree.

The faculty of today (2010):

- 582 employees
- 62 professors

- 158 graduates and 25-30 PhDs per year.

- Annual turnover 555 MSEK, of which 271 are external grants and missions.

Research ranges from cell biology to wood utilization, and is organized in 11 departments.

Multidisciplinary research programs are gaining in importance. So called Theme research programs are financed in collaboration with independent companies, organizations and authorities with the aim to concentrate research resources to be able to make significant breakthroughs.

Read more: www.slu.se

Skogforsk

The Forestry Research Institute of Sweden (Skogforsk) is the research institute of the Swedish forestry sector. Skogforsk carries out applied research in a variety of different fields: wood utilization, technology, logistics, forest bioenergy, tree breeding, silviculture and environment.

The institute has a staff of about 100 persons, of whom 60 are researchers. The central unit is located

in Uppsala, with units also in Sävar in northern Sweden and Ekebo in the southernmost part.

The total turnover comes to about 130 MSEK, half of which supports the framework program. The other half is made of various external grants and research commissions from the forest sector.

Read more: www.skogforsk.se

Linnaeus University

Forestry and wood utilization has become an important research field at the newly established Linnaeus University in Växjö and Kalmar, in southern Sweden.

The Forest and Wood Technology group in Växjö offers, besides research, several education opportunities. One important target group is non-industrial forest owners, who can take distance courses in forestry at an academic level.

Read more: www.lnu.se

Mid Sweden University

Fibre Science and Communication network (FSCN) is a research centre at Mid-Sweden University. It was established 1999 in the Sundsvall campus as a research program jointly financed by the Swedish forest industry and public funds. The centre explores the future of natural fibre-based materials, and the research is conducted in close cooperation with the paper industry.

Read more: www.miun.se



Estonia

Estonia is one of Europe's smallest countries. Forestry is an important branch of the nation's economy, and in terms of forest coverage, Estonia holds the 4th place in Europe, dropping only behind Finland, Sweden and Slovenia.

About 30% of the forests are placed under protection. This figure is far ahead of its neighbouring countries.

Privatisation of land started soon after the independence from Soviet occupation in 1991.

Estonian University of Life Sciences

The old Estonian Agricultural University was renamed in 2005 to Estonian University of Life Sciences. The history dates back to the opening of the Tartu University already in 1632. The university has undergone several mergers and reorganizations since the early 1990s. Since 2005, teaching and research is carried out in five institutes, where the Institute of Forestry and Rural Engineering focuses on forest science. The institute is the result of a merger of

the Faculty of Forestry, the Faculty of Land Engineering and the Forest Research Institute.

The Institute of Forestry and Rural Engineering consists of eight departments: Ecophysiology; Geomatics; Rural Building; Forest biology; Silviculture; Forest management; Forest industry; Water management.

The institute publishes a peer-reviewed journal (Forestry studies), where articles are free to download.

Read more: <http://mi.emu.ee/en/>



Latvia

Since independence in 1991, the forest sector has grown to become one of the main contributors to the national economy of Latvia. The export of timber comprises 47% of the total export volume.

The country has a long tradition of forestry, which is one of the most important resources for the development of the countryside. The forest cover has doubled over the last 70 years, to be now above 50% of the land.

Scientific research in the forest and its related sectors is largely centred in three research facilities: the Latvian state forestry institute (Silava), the Forestry Faculty of the Latvian Agricultural University, and the Latvian State Institute for Timber Chemistry.

SILAVA

The Latvian State Forestry Research Institute "Silava" is the leading forestry research centre in Latvia. It was founded in 1946, and has a total scientific staff of 85 people, of which 24 have a doctoral degree. The headquarter is located in Salaspils, outside Riga.

The research is engaged in a wide range of topics, including forest genetics, regeneration, wildlife, pathology and forest products.

The institute publishes Mezzinātne together with the Forest Faculty. It presents articles from the institutes proceedings.

Read more: www.silava.lv

Forest Faculty of the Latvian University of Agriculture

The Forest Faculty is the only higher education institution in Latvia which offers education in forestry. Study programs are given in forestry science, forest exploitation and wood processing. The research is prioritizing sustainability and new products and technologies. The faculty is located in Jelgava outside Riga.

Read more: eng.llu.lv



Lithuania

After the declaration of independence in Lithuania in 1990 there were a number of important developments in the country's forestry: the formation of a free timber market; increasing timber export levels; new modes of ownership (private forests) and enterprise (private logging companies); and the privatisation of the industry. Private owners control 38% of the forest, and another 12% is reserved for restitution.

Lithuania is mostly an agricultural country, but forest covers a third of the land area. The growing stock has been rising over time, and is dominated by conifers. However, a respectable proportion of the forest is broadleaved.

Institute of forestry Lithuanian research centre for agriculture and forestry

The institute, with its headquarter in Girionys, Kaunas, west of the capital Vilnius, is the main forest research organisation in Lithuania. It was established in 1950, and has the following main goals:

- Fundamental and applied forests research to obtain new knowledge with the purpose of social, ecological and economical country development
- The dissemination of scientific and technical information about forest and environment

- Education of PhD students in forest and environmental sciences

The institute publishes the peer-reviewed journal *Baltic forestry* in collaboration with universities and institutes in the three Baltic countries. The journal is listed in the Journal Citation Report. The journal *Miskininkyste (Forestry)* is published in cooperation with the Lithuanian Agricultural University. Articles are published in Lithuanian with summaries in English and Russian.

Read more: www.mi.lt

Lithuanian Agricultural University

The Faculty of Forestry and Ecology at the Lithuanian Agricultural University provides undergraduate and post-graduate studies in forestry and applied ecology. There are 7 professors, 24 associate professors, 16 lecturers and assistants working at the Faculty. The research is organized in three departments: Ecology, Forest management and Silviculture.

Read more: www.lzuu.lt



Nordic Forest Research Cooperation Committee

Scandinavian Journal of Forest Research is an international scientific periodical magazine with a referee system. The magazine is published by the Nordic Forest Research Cooperation Committee in co-operation with Taylor & Francis. In addition to scientific articles, the magazine contains a section with short and popularized articles covering Nordic forest research and forestry.

The overall purpose of the Nordic Forest Research Cooperation Committee is to promote research into the diverse functions of the forests in sustainable forestry, as well as to advise the Nordic Council of Ministers on questions concerning forests and forestry research.

Through foresighted activities in research co-operation, communication of knowledge, etc., the Nordic Forest Research Cooperation Committee wishes to contribute to the socially, economically and ecologically responsible management and utilisation of forests and timber resources in the Nordic region. The areas of responsibility encompasses forestry, forests and other wooded areas (wooded landscapes, parks, urban trees and marginal land), the utilisation of wood and other forest products, as well as the non-commercial value of the forests.

Specific goals

- to create Nordic synergy within forestry research by granting support to networks, research meetings, projects, joint utilisation of unique research facilities, etc.
- to promote the development of new research areas through initiating networks and task forces
- to promote research co-operation with the Adjacent areas (mainly the Baltic countries and Northwest Russia)
- to strengthen the role of Nordic forestry research in European collaboration and encourage Nordic forest researchers to take part in international projects
- to work to ensure that research results are communicated to the relevant parties within the Nordic cooperation framework

Please visit our website for further information: www.nordicforestresearch.org