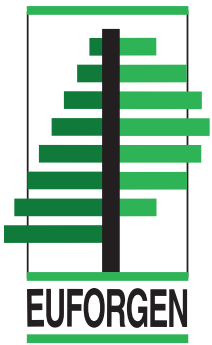




# Forest Management Network

## Summary of the Third meeting

Rovaniemi, Finland, 27-29 November 2007



European Forest Genetic Resources Programme (EUFORGEN)



## Opening of the meeting

J. Hubert, Chair of the Network opened the meeting and welcomed the participants to Rovaniemi. On behalf of the Ministry of Agriculture and Forestry, M. Peltonen also welcomed all participants to Finland and thanked the Finnish Forest Research Institute (Metla) and the State Forest Service (Metsähallitus) for their support in organizing the meeting in Rovaniemi. M. Rusanen, EUFORGEN National Coordinator of Finland then provided a short introduction to Metla and highlighted Metla's activities on gene conservation of forest trees. J. Koskela, EUFORGEN Coordinator welcomed the participants on behalf of the EUFORGEN Secretariat and introduced the meeting agenda, which was then adopted without changes. L. Ackzell and M. Olaru were selected as rapporteurs for the first and second day, respectively.

## EUFORGEN update

J. Koskela provided an update to EUFORGEN and other relevant activities. He first informed the participants on the outcomes of the EUFORGEN Steering Committee meeting, held in Novo mesto, Slovenia in 22-24 May 2007. The Steering Committee reviewed the progress made during the first half of Phase III and discussed on the Network activities and the objectives of Phase III. The Steering Committee concluded that the Network activities are in line with the objectives and that Inter-Network coordination should be increased in harmonising minimum requirements for gene conservation of forest trees, for example. The Steering Committee also recommended that the Networks should not develop too ambitious work plans and that they need to show tangible results at the end of Phase III. The Steering Committee appreciated activities initiated by the Forest Management Network and recommended the Network to continue promoting appropriate use of forest reproductive material (FRM) as well as analyzing the genetic consequences of forest management practices. The Steering Committee also recommended that the Forest Management Network should take a leading role in developing new activities on climate change while all other Networks should also discuss how to address climate change in their work. Finally the Steering Committee noted that the Forest Management Network could invite more managers to participate in its meetings, especially from the host country.

J. Koskela also highlighted main conclusions of two Inter-Network meetings, held in Novo mesto, Slovenia on 25 May 2007 and in Birkerød, Denmark on 22 October 2007. The meetings discussed the progress in developing common action plans by the species-Networks (Conifers, Scattered Broadleaves and Stand-forming Broadleaves) and how these plans could be published once they have been finalized. It was concluded that each species-Network should develop a publication based their plans focusing on selected target species and that the Forest Management Network should then develop an overview publication to policy-makers and forest managers. Regarding future efforts on climate change, it was agreed that the Forest Management Network should focus on the management implications of climate change and the species-Networks on the consequences of climate change for gene conservation of forest trees in Europe.

He then briefed the participants on the outcomes of the fifth Ministerial Conference on the Protection of Forests in Europe (MCPFE), held in Warsaw, Poland on 5-7 November 2007. Among other issues, Warsaw Declaration commits European countries to maintain and enhance the biological diversity of forests, including their genetic resources, through sustainable forest management. The declaration also highlights the role of forests and their sustainable management in combating the negative effects of climate change. He also mentioned other commitments of Warsaw Resolution 1 (Forests, Wood and Energy) and Warsaw Resolution 2 (Forests and Water) which may have some implication for conservation and use of forest genetic resources. He further informed that the week of 20-24 October 2008 was declared to be the Pan-European Forest Week 2008. During this week, one-day event is tentatively planned to be held at the European Commission (EC) in Brussels, followed by other events and meetings at FAO in Rome (e.g.

European Forestry Commission, UNECE Timber Commission and MCPFE). During the conference in Warsaw, two reports were also released; 'State of Europe's Forests 2007' and 'Implementation of MCPFE Commitments'. The first report provides information on the implementation of sustainable forest management based on the pan-European criteria and indicators and the second one on national and pan-European activities to implement various MCPFE Resolutions between 2003 and 2007. EUFORGEN provided inputs to both reports which can be downloaded from the MCPFE Website ([www.mcpfe.org](http://www.mcpfe.org)).

J. Koskela continued by providing an update on the FAO work on forest genetic resources. The 14<sup>th</sup> Session of the FAO Panel of Experts on FGR was held in Rome between 31 January and 2 February 2007. The Panel recommended FAO to take stronger action to support the work on forest genetic resources and to increase its knowledge base on the current status of forest genetic resources by developing a State of World's FGR report with linkages to the Forest Resources Assessment. The Panel recommendations were further discussed at the 11th Session of Commission on Genetic Resources for Food and Agriculture on 11-15 June 2007. The Commission decided to include the development of State of World's FGR into its Multi-Year Programme of Work. The Commission further recommended that the FAO Forestry Department and the Regional Forestry Commissions should be fully involved in preparing this report, in collaboration with relevant regional and global programmes. L. Ackzell, who is also a member of the FAO Panel, noted that the decision and recommendations of the Commission will strengthen FAO's work on FGR at the global level.

Finally, J. Koskela provided information on a review on the economics of biodiversity loss which was proposed by Germany at the meeting of the G8+5 Environmental Ministers, held in Potsdam in March 2007. The EC is now supporting Germany by carrying out the review. It will include issues on science (scientific knowledge on biodiversity and gaps in science), economics (techniques for valuation of biodiversity and forecasting economic impacts of biodiversity loss) and policy (the role of incentives, institutional arrangements etc.). In November 2007, the EC invited any national or international organization to submit 'evidence' (i.e. review papers, case studies, best practice, guidelines etc.) by 31 December 2007 to help in carrying out the review which will be presented to COP-9 of the Convention on Biological Diversity in Bonn on 19-30 May 2008. Further details on this initiative can be found at [http://ec.europa.eu/environment/nature/call\\_evidence.htm](http://ec.europa.eu/environment/nature/call_evidence.htm).

## Wrap-up of the previous activities

### *Survey on policy tools to promote the use of high quality forest reproductive material*

B. Ditlevsen presented conclusions and discussion points for the future activities based on the results of the survey. He pointed out that the first requirement for the use of high quality FRM is the availability of such material. Secondly, tree planters have to have adequate knowledge on different provenances and seed sources; otherwise they cannot choose the right material for a given purpose and site. Thirdly, tree planters need to make a decision to use the best material available.

He emphasized that the availability of high quality FRM is rarely a problem. Regarding information on the high quality material, researchers and professionals are well aware of the benefits of selecting such material but this information is not always easily accessible for the tree planters. He stressed that the "use part" is the most critical part as market forces often work against quality by favouring cheap material which is of low quality in most cases. For this reason, many countries are actively promoting the use of high quality planting material through various grant schemes, for example.

B. Ditlevsen then highlighted the roles and interests of the key players (forest owners, advisers, contractors, nurseries, seed dealers, seed producers and society) in the decision making process for

selecting the material to be used for tree planting. He concluded that lack of professional knowledge in forest administration and among tree planters remains a challenge. This could be tackled by increasing awareness on the benefits of using high quality FRM and making relevant information easily available. Furthermore, economic incentives should be developed so that they reward the use of high quality FRM.

The participants then discussed the findings of the survey and conclusions presented by B. Ditlevsen. It was pointed out that seed price is only a minor component of the overall production costs of seedlings and that if markets are functioning well, high quality seeds and seedlings should be an advantage in competition. The comments also brought up that high quality seed and seedlings are usually understood as physiological quality while genetic quality of the material is commonly neglected. Subsequently, there is a need to increase demand for genetically high quality material. It was also noted that there is a lack of demonstration plots targeted for forest owners and managers to promote the benefits of using high quality FRM.

The comments made by many participants supported the development of incentives and recommendations to encourage the use of high quality forest reproductive material. It was questioned whether the EC might consider strong incentives or recommendations in this regard as subsidies or obstacles for free trade. The incentives and recommendations should not create any problems if the use of seed sources outside a given country are also rewarded or recommended.

#### *Inappropriate use of forest reproductive material*

A. Valadon summarized the findings of the working group which collected examples of inappropriate use of FRM. The working group did not receive additional inputs from the Network members after the previous meeting in Bucharest so the results presented there remained the same. He also reminded the participants what is considered as appropriate use of FRM. The genetic quality of the material should have been documented from seed harvest to nursery production. Physiologically the material should also be of high quality. Tree species and provenances (or clones) used should finally meet site and climate requirements.

He concluded that the examples show clearly that it will often take a long period of time before problems caused by inappropriate use of FRM become visible. The problems include low frost or drought resistance, susceptibility to pests and diseases and poor adaptation to site-specific conditions, for example. He noted that the use of inappropriate FRM does not only affect those stands established with such material but also autochthonous or well-adapted stands nearby via gene flow. He also stressed that the use of FRM should be documented well and that better information on FRM should be made available for nurseries and forest owners. Furthermore, he mentioned that there is a need to better inform managers on the benefits of FRM based on a breeding programme. Now many managers often consider that bred material has low genetic diversity and this misperception should be corrected.

After his presentation, it was discussed that the findings based on the examples should be disseminated carefully to avoid an impression that any use of FRM leads to poor results. It was concluded that while it is difficult to make specific recommendation, it may be easier to communicate what to avoid or what should not be done.

#### *Final survey results on relevant policies and practices*

T. Eysteinnsson presented the final results of a survey on relevant policies and practices related to gene conservation and forest management. The survey asked questions on forests in general, silvicultural systems, forest policy, recent trends in forest management and dissemination of

information to forest owners. The final results are based on feedback from a total of 22 countries. A few additional countries provided their inputs after the previous meeting in Bucharest so the final results are somewhat different than the tentative ones discussed in Bucharest.

He reported that continuous cover forestry is promoted in 17 countries and 12 countries discourage or ban clearcutting. Despite this, artificial regeneration by planting is more common than natural regeneration as a regeneration method; the area of artificial regeneration is about 35 % larger than the area of natural regeneration. Most countries promote the use of native species and local provenances.

A national forest programme is in place in 16 countries and forest genetic resources are addressed in 13 of the national forest programmes but mainly in a rather general way. Furthermore, 14 countries have a national adaptation strategy to climate change. During the past decades, the objectives of forest management have changed towards nature conservation and socio-economic goals in nearly all countries. State agencies and forest owners associations have a predominant role in providing forest owners with advice for their forest management decisions. There are advisory publications, such as good practices guidelines on sustainable forest management, in 18 countries and in 15 countries these publications also provide information on the use of forest genetic resources.

T. Eysteinson concluded that a diversity of forest management practices is applied in Europe and that most countries still promote increasing their forest cover. Thus, there seems to be little cause for concern that current forest management practices are affecting forest genetic resources more negatively than in the past. He also noted that, in general, countries do not have comprehensive, science-based policies dealing with forest genetic resources as part of national forest programmes or climate change strategies.

#### Updates on the ongoing activities

##### *French review on genetic impacts of silvicultural practices*

A. Valadon presented a review on the impacts of silvicultural practices to forest genetic diversity that is going to be published by the end of 2007 (in French). The impacts of forest management on biodiversity have been discussed and reviewed earlier at inter-specific and ecosystem levels in France so the purpose of this review was to fill the gap and summarize the current understanding to forest managers. The review focused on temperate tree species and covered a number of aspects from seed harvesting to nursery production of seedlings before discussing the impacts of different silvicultural practices. The review includes over 400 references and A. Valadon summarized its main conclusions chapter by chapter (Chapter 1: Genetic diversity of forest trees; Chapter 2: Stand reproduction dynamics; Chapter 3: Seeds, seedlings and saplings; Chapter 4: Silvicultural systems and species composition; and Chapter 5: Silvicultural practices).

The participants expressed their gratitude to A. Valadon for his efforts in preparing the review. It was suggested that the EUFORGEN Secretariat should consider having the review translated into English. It was also noted that the review offers a good basis for providing further information and guidelines on the impact of silvicultural practices on forest genetic diversity to forest managers.

##### *Economic aspects of forest genetic resources: progress of the Danish project*

B. Ditlevsen provided an update to the Danish project on economic valuation of forest genetic diversity, lead by Bo Jellesmark Thorsen at Forest and Landscape of the Royal Veterinary and Agricultural University. The project is now carrying out a pilot study on relevant methodologies,

taking into consideration climate change implications. He pointed out that we have limited knowledge on socio-economic value of forest genetic resources (apart from simple tree breeding and production models) and that better economic tools are needed to value forest genetic diversity, including risk considerations.

The first phase of the project started in summer 2007 and it will end in April 2008. This phase will develop an economic model using Norway spruce breeding programme as a case study with concrete examples of genetic gains. The second phase of the project is already planned to use the economic model to assess the value of long-term availability of genetic diversity and use of best reproductive material, for example. B. Ditlevsen agreed to keep the Network members informed on the outputs of the project.

### *Use of forest reproductive material in the context of biomass/energy plantations*

During the previous meeting in Bucharest, the Network discussed the use of FRM for energy plantations and other non-forestry purposes, such as hedges or other amenity purposes, and decided to carry out the survey on this. As these efforts are not considered as forestry activities, the FRM used for such purposes do not have to meet the requirement of the Council Directive (EC No.105/1999). Subsequently poorly documented and low quality seedlings of forest trees may end up being planted for forestry purposes if mistakes are made at nurseries or while distributing the seedlings.

I. Bach reported the results of the pilot survey for which feedback was provided by Austria, Belgium, France, Hungary and Ireland. The annual area established for energy wood plantations is highest in Hungary (between 1,000 and 10,000 ha) while in other countries the area is considerably lower. Poplars and willows are the most common tree species used for energy wood production. There is a national programme or strategy (or it is planned) for promoting the establishment of energy wood plantations in all the countries which provided the feedback, except in Belgium. In addition, all countries except Austria have a national grant programme supporting the establishment of energy wood plantations.

Several participants recommended that the use of the term 'energy wood plantations' should be avoided. It was pointed out that the use of FRM for non-forestry purposes is much larger issue than just tree plantations established for producing woody biomass. The discussion also highlighted that the overall use of FRM is poorly documented in most countries. Furthermore, there is no accurate information available on the scale of FRM movement among European countries.

### **Discussion on new activities**

The participants then discussed new activities of the Network and the discussion also continued during the second meeting day. The follow-up activities and deadlines are summarized later on in this summary report.

### **Climate change and forest management in Europe**

#### *Policy brief on climate change and forest genetic resources in the UK*

J. Hubert provided a short history of forestry in the UK and highlighted how forest policy in the country had changed during the past 15 years. He stressed that researchers should be able to simplify very complex issues and come up with options for policy makers to make decisions. The Information Note on climate change and forest genetic resources in the UK was developed based

on this approach. It provides a summary of the principles of forest genetics and options for managers in the face of climate change. The options include 1) maintaining genetic variation and promote natural regeneration, 2) adopting a portfolio approach and plant a mix of provenances alongside the current population, and 3) using assisted migration by planting different provenances or species. The Information Note is available from the Website of the Forestry Commission at [www.forestry.gov.uk](http://www.forestry.gov.uk) (click Library, then Publications).

#### *Policy note on FGR and climate change in France*

A. Valadon informed the participants on the recent discussions in France between researchers and managers on how to adapt forest management and the use of forest genetic resources to climate change in public forests. Of the different actions proposed (identification of risky scenarios, protection of biodiversity and soils, modification of silvicultural practices, monitoring of sanitary evolution of forest stands, communication and dissemination), he focused on active management of genetic resources which is considered as one of the strategic issues in this regard. It includes evaluation of seed sources, seed harvesting methods, seed treatments, nursery techniques and the financial evaluation of future technical changes in the current practices. The rules for transfer of forest reproductive material are also being reviewed, including the impacts of mixed seed lots within a seed zone. He also pointed out that efforts should be done to improve documentation on how, where and what FRM is used, including spatial data using GIS. Furthermore, he mentioned that development of a policy note for forest owners and managers is underway, to be published by the end of 2007.

#### **Finland's National Strategy for Adaptation to Climate Change**

M. Rusanen gave a presentation on Finland's National Strategy for Adaptation to Climate Change. The strategy was finalized in 2005 and prepared by an inter-ministerial task force in collaboration with the Finnish Meteorological Institute and the Finnish Environment Institute. The task force also collaborated with different experts, research community and major stakeholders while general public also had a chance to provide comments to a proposal. The strategy covers all key sectors, e.g. natural resources, biological diversity, industry, energy, transportation and communication, land use and construction, health, tourism and insurance.

The strategy assessed and identified actions and measures for each sector (including forestry) and also considered changes occurring outside Finland (transboundary effects). Furthermore, the strategy pays special emphasis on cross-cutting adaptation, such as the public sectors' capabilities (e.g. risk assessments, environmental impact assessment and management systems), observation and warning systems, research and development, communication and information sharing. Potential effects of climate change on forests in Finland have been identified in the strategy and classified as negative, neutral and positive. The strategy highlights the role of the National Forest Programme as a planning and implementation tool for the adoption of specific adaptation measures for the forest sector. Also, the strategy addresses the need to conserve gene pools of forest trees. Regarding forest management, the strategy proposes actions such as revision of silvicultural guidelines, rapid harvesting of forests destroyed by storms, control of pests and diseases and better maintenance of forest roads.

M. Rusanen summarized that the strategy is a comprehensive one which is based on research results and expert assessments as well as a broad participation of various stakeholders. Climate change remains high in the political agenda of the present government, which is presently supporting Climate Change Adaptation Research Programme (2006-2010). Further information on the Finnish climate change strategy and the research programme can be found at <http://www.mmm.fi/en/index/frontpage/environment/ilmastopolitiikka/ilmastomuutos.html>



### *Discussion on climate change in the Netherlands*

R. Knol briefly reported the feedback he received after asking forest managers in The Netherlands about management measures which can help forests adapt to climate change. He pointed out that many managers recognize that the knowledge on which forest management has been based is changing. There is also a concern about soil and its capacity to support healthy forest ecosystem. Natural forest regeneration is considered important as well as use of provenances and tree species which can tolerate a given site conditions. The forest managers are also concerned about the impact of extreme weather events on forests. He concluded that climate change will bring along additional stress for forests and subsequently forest management should try to alleviate this stress.

Following the presentations, the meeting discussed various issues related to climate change. It was noted that extreme weather events, such as storms, will cause more damage to forests than slowly increasing average temperature. This will subsequently have implications for selecting what forest reproductive material or which tree species should be used in the areas prone to storms. The participants also raised several questions on the use of local material and how the existing stands will cope with climate change. Some participants mentioned that the use of local material is encouraged in their countries. However, there are also concerns whether the existing material is adapted enough to climate change and what can be done to increase the adaptability of local material. Others pointed out that using local material or promoting natural regeneration may not solve the problems because the existing material can be poorly adapted not only to the present climate but also to the future one in a given site. The discussion concluded that both the use of genetic and species diversity help reduce the negative impacts of climate change on forests and that this message should be better communicated to forest managers.

### Updates on relevant projects and other initiatives

#### *EVOLTREE Network of Excellence*

B. Vinceti presented an update to the EVOLTREE project (EVOLution of TREES as drivers of terrestrial biodiversity) which is a consortium of 25 partner institutes from 15 European countries. It is coordinated by A. Kremer (INRA, France) and funded by the EC under the 6<sup>th</sup> framework programme for research. She also explained that Networks of Excellence (NoEs), such as EVOLTREE, are instruments to overcome the fragmentation of European research and to strengthen European excellence in a given area of science. The main purpose of NoEs is to reach a durable restructuring and integration of research facilities and institutions while some research work is also carried out as part of the projects. The aim of EVOLTREE is to support integration in the area of forest genomics in Europe by developing common research infrastructures and exchanging human resources.

EVOLTREE is currently setting up a repository centre of genomic resources at the Austrian Research Centers GmbH in Seibersdorf, Austria. The repository centre is a centralized and automated storage unit for genomic resources to guarantee safe and long-term storage of the material, such as genomic DNA extracts, EST libraries (expressed sequence tags, i.e. short strands of DNA that can act as identifier of a gene) and BAC libraries (e.g. artificial chromosomes) of trees and species associated to trees. The repository centre with the material stored will serve as an international reference site and will benefit research efforts in Europe and elsewhere.

She also mentioned that EVOLTREE has selected seven intensive study sites, which are large scale ecosystem plots. These sites have been established for long term research on the evolution of biodiversity at different hierarchical levels (from genes to ecosystems) and they will be used for monitoring population dynamics and biotic interactions in a given landscape. The seven sites are

located in Valais (Switzerland, alpine altitudinal gradient), Ventoux (France, Mediterranean altitudinal gradient), Solling (Germany, temperate forest), Puszcza Świętokrzyska (Poland, untouched forest), Punkaharju (Finland, boreal forest), Loire (France, riparian forest) and Landes (France, intensively managed forest). B. Vinceti further informed the participants on the development of the EVOLTREE Web portal on genetic and genomic resources (trees, insects and mycorrhizal fungi). The portal will be a large database on genetic resources managed by the EVOLTREE partner institutions (e.g. pedigrees and reference natural or breeding populations available in the form of collections, field trials, seed banks or mother stocks).

She then highlighted some dissemination activities of EVOLTREE (e.g. Web site, publications and newsletter) and efforts made to enhance dialogue between stakeholders and EVOLTREE scientists. The stakeholder group consists of about 25 members who have joined the initiative in their personal capacity, from a range of international and national institutions and associations in Europe. The stakeholder group also includes several members of the EUFORGEN Forest Management Network. The first meeting of the stakeholder group will be held in Nice-Mandelieu, France on 7-8 February 2008. It will discuss 1) benefits of integration in forest genomic research in Europe, 2) verification of the origin of timber and forest reproductive material based on molecular markers, 3) adaptation of forest trees to climate change, and 4) use of genomic approaches in forestry for bioenergy production. Further information on EVOLTREE can be found at [www.evoltree.eu](http://www.evoltree.eu).

#### *Establishment of a European Information System on Forest Genetic Resources*

J. Koskela updated the participants on the progress made by the EUFGIS project, which is co-funded by the EC under Council Regulation No 870/2004 on genetic resources in agriculture. The project aims at harmonizing minimum requirements for dynamic gene conservation units of forest trees and common information standards at pan-European level, and creating a web-based, permanent information system on national inventories on forest genetic resources in Europe. The project started its activities on 1 April 2007 it will last until 30 September 2010. All EUFORGEN member countries have been invited to participate in the project and the EUFORGEN National Coordinators have been asked to nominate a national focal point for EUFGIS. A total of 34 countries have nominated their focal points, which will then receive training on FGR documentation and which are expected to compile national data for the information system.

He also informed the participants on the outputs of a EUFGIS workshop organized in Birkerød, Denmark on 23-24 October 2007. The workshop was attended by the national focal points, representatives of the EUFORGEN Network, FAO, Global Biodiversity Information Facility (GBIF), the TREEBREEDDEX project as well as the EUFGIS partners. The purpose of the workshop was to analyze the current state of FGR documentation in different countries and share information and experiences among national focal points.

Prior to the workshop, the project carried out a survey on *in situ* gene conservation of forest trees in Europe and the results of the survey were discussed during the workshop. The workshop participants also discussed extensively minimum requirements for gene conservation of forest trees in Europe and information standards for these units. J. Koskela informed that currently an expert group is working with the minimum requirements as part of the project and its task is to harmonize them and develop common information standards for the units. The expert group consists of representatives of EUFORGEN Networks and invited external experts. The expert group had its first meeting right after in the workshop and it should finalize its work by summer or autumn 2008. More information on EUFGIS is available at the EUFORGEN Website ([www.euforgen.org](http://www.euforgen.org)).

## Seminar on forest management and forest genetic resources in northern Finland

### *Ensuring seed supply for forest regeneration in northern Finland*

S. Paanukoski (Ministry of Agriculture and Forestry) made a presentation on the specific problems in seed supply in northern Finland. Due to the harsh climatic conditions, forest trees (Scots pine and Norway spruce) produce good seed crop every 10-15 years and near the arctic timber line good seed crops occur even less frequently (few times per 100 years). The Forest Act (1997) requires that after a regeneration felling, a commercially viable stand must be created on the site within a reasonable period of time. The same principle of preventing forest destruction was already included in the first Forest Act of 1886. The state is obliged to make available good quality forest reproductive material for forest owners and subsequently it has supported establishment of seed orchards since 1964. However, due to the difficult conditions, there are no seed orchards in the northernmost part of Finland.

For these reasons Metsähallitus has been assigned a public administration duty to organized seed collections of forest trees and maintain long-term seed storage in northern Finland. The latest large-scale seed collection was carried out in 2002-2005 in collaboration with regional forestry centres and local forest management associations. The Government funding for this specific purpose was €8.4 million. In addition to securing seed supply in northern Finland for the next 10-15 years, the state funding aimed at ensuring full-time employment of forest workers, extra income opportunities for local people (income from seed collection tax free) and reasonable price of seed. The collection efforts yielded 25,700 kg of Scots pine seed and 4,000 kg of Norway spruce seed.

### *Special aspects of forest regeneration in northern regions*

M. Hyppönen (Metla) gave a presentation on forest regeneration in northern Finland where climate is cold and humid but still warmer than at the same latitude in Siberia and North America owing to the warm Gulf Stream in northern Atlantic. Under the harsh climate, forest trees grow slowly and forestry is based on long rotation periods (100-150 years depending on a site). Yet forestry has a long history in Lapland and it still plays an important role in the regional economy despite of the fact that nearly 50 percent of all forest land is conserved in Lapland.

In principle, conditions for natural regeneration are rather favourable in northern Finland. In 2006, the area of regeneration fellings accounted about 8,000 ha of seed-tree and shelterwood fellings and about 17,000 ha of clear cut areas. The seed-tree method is used for Scots pine leaving 30-80 seed trees per hectare in the regeneration fellings while the shelterwood method is applying to Norway spruce leaving 150-300 trees per hectare (these can also be other tree species than Norway spruce). Adequate level of regeneration is achieved within 5-15 years using the seed-tree method and within 5-20 years in case of the shelterwood method.

Since natural regeneration is rather slow process in northern Finland, M. Hyppönen pointed out that clear-cut and subsequent tree planting (including site preparation) is a much faster regeneration method. It commonly gives good results although there is site-specific variation in the final sapling density. Tree planting is used for both Scots pine and Norway spruce on fertile sites with fine-textured soils and a thick raw humus layer. For Scots pine, direct seeding with site preparation is also applied with good results on clear-cut areas on dry and low-fertility sites but the lack of seed especially in northern Lapland limits the use of this method. He concluded his presentation by informing the participants that a new research project on forest regeneration in the special conditions of northern Finland is being carried out by Metla. This project also continues the long tradition of forest research in Lapland.

### *Reconciliation of forestry and other land use interests in the state forests of Finnish Lapland*

L. Karvonen (Metsähallitus) presented the natural resources planning process of the state-owned forests in Finland. The planning process aims at finding a balance between the goals and needs of various interest groups and possibilities, based on the natural conditions in a given area and the impact of various goals and needs on natural resources. The interest groups include representatives of local residents, Sámi people (in Lapland), wage earners and entrepreneurs, forest industry, nature conservation, tourism and other outdoor activities, for example. All interest groups have a chance to express their needs and expectations during the planning process.

He continued by explaining several key steps of the planning process. Firstly, the current state of natural resources is assessed at a regional level using the information system of Metsähallitus which provides data on approximately 1.5 million forest and other compartments throughout Finland. The second step is an analysis of objectives during which all interest groups have a chance to express their needs and expectations. In the third step, various options are analysed and weighed, and guidelines for different activities are agreed in the fourth step. As the fifth step, a plan of action is developed by agreeing selected actions which are then implemented and monitored. A regional cooperation group, consisting of representatives of Metsähallitus and the stakeholders, analyzes the results of the actions during the past 5 years as well as the current situation. The whole planning process is usually repeated with 8 or 10-year intervals in different regions. In 2006, the planning process in Western Lapland concluded that forest management needs to pay particular attention to tourism, reindeer husbandry, game habitats and biodiversity.

Metsähallitus is currently also managing several gene reserve forests, plus tree stands, research trials and progeny tests. In January 2008, the amount of such areas will further increase as gene reserve forests and other forest areas earlier managed by Metla will be transferred under Metsähallitus. Metsähallitus is now managing a total of 3,032 ha of gene reserve forests of various tree species and in January 2008, it will start managing additional 2,545 ha of similar forests. L. Karvonen stressed that the gene reserve forests and research trials will be included into the information system of Metsähallitus to ensure that these areas will be managed for their specific purposes in the future. Metsähallitus and Metla have also signed a framework agreement which should ensure cooperation in land use, including gene conservation and research efforts.

### Finalization of the new work plan

Genetic aspects of forest management: It was decided to develop a publication on genetic aspects of forest management targeted to managers and policy makers. This publication will build on relevant findings of the review carried out by A. Valadon in France and address specific topics, such as seed collection, use of forest genetic resources (raising plants and planting) and silvicultural practices (thinning, felling, etc.). It should also include climate change considerations related to the above-mentioned topics. B. Van der Aa, M. H. Almeida, J. Hubert, J. Koskela, R. Knol and P. Rotach expressed their interest to contribute to the development of the publication. It was agreed that a table of content will be developed by 28 February 2008. The Secretariat will then organize the translation of relevant chapters of the French review by 31 March 2008 and A. Valadon agreed to check the translation by 30 April 2008. The draft text of the publication should be ready by 31 October 2008 so that it can be discussed during the next meeting.

Use of forest reproductive material: Based on the pilot study reported by I. Bach during the meeting, it was decided that this topic needs further discussion at the next meeting before any concrete activity can be developed on it.

Survey on relevant policies and practices: T. Eysteinnsson agreed to circulate an updated summary report after the meeting and all Network members should then send their final comments to him

by 31 January 2008. The task force (T. Eysteinnsson, M. Dopazo Gonzales, M. Peltonen and N. Foley) should then finalize the report which will be published in the cross-Network publication on forest management and FGR.

Survey on policy tools to promote the use of high quality FRM / examples of inappropriate use of FRM: It was agreed that B. Ditlevsen and the earlier task force led by A. Valadon (other members T. Eysteinnsson, N. Foley, C. Jasser and M. H. Almeida) should develop a combined summary report by 31 March 2008. This combined report will be then circulated to the Network members for their further comments and published in the cross-Network publication on forest management and FGR.

Economic aspects of forest genetic resources: B. Ditlevsen agreed to inform the Network members regarding the outputs of the first phase of the Danish project, which will end in April 2008. He will also provide further information on the planned second phase of the project.

#### Wrap-up session

#### *Any other business*

M. Peltonen suggested that, at the next meeting, it would be useful to share experiences on how to reach forest managers and how to disseminate guidelines, research results and recommendations to them.

L. Ackzell proposed that seed collection in protected areas should also be discussed at the next meeting and he offered to prepare a presentation on this issue.

Several participants expressed their interest in receiving the presentations after the meeting. J. Koskela informed the participants that the Secretariat will prepare a CD-Rom including the presentations and mail a copy to each participant for his/her information.

#### *Date and place of next meeting*

It was proposed that the next meeting should be held during the first or second week of November 2008. B. Van der Aa offered to host the next meeting in Belgium. The Secretariat will discuss the dates of the next meeting with B. Van der Aa (local host), J. Hubert (Chair) and B. Ditlevsen (Vice-Chair) and will then inform the Network members accordingly.

With no other business, J. Hubert closed the meeting.



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