



Report of the eleventh Meeting of the EUFORGEN Steering Committee

Dublin, Ireland
18-20 November 2015



Summary of the meeting

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Opening of the meeting

Eugene Hendrick (Department of Agriculture, Food and the Marine), representing the EUFORGEN implementing agency for Ireland, welcomed all participants. He congratulated the EUFORGEN Programme, which is considered as a reference for Ireland in the field of forest genetic resources (FGR), and gave an overview of the country's work in the area of FGR. He highlighted the fact that knowledge on FGR plays a crucial role in defining appropriate sources of forest reproductive material and in increasing the resilience of Irish forests, particularly in the context of an afforestation plan aiming to enhance the forest cover of the country from 11% to 18% by 2050. E. Hendrick concluded his speech by stressing that conservation of FGR is fundamental to forest policy in Ireland.

Judy Loo (Science Domain Leader, Forest Genetic Resources and Restoration, Bioversity International) then welcomed participants on behalf of Bioversity International. Michele Bozzano (EUFORGEN Coordinator) also welcomed participants and thanked the Department of Agriculture, Food and the Marine for hosting the meeting. He expressed his gratitude to Eugene Hendrick and Brian Clifford (EUFORGEN National Coordinator for Ireland) for supporting the organization of the meeting.

M. Bozzano next presented the meeting's draft agenda, which was then adopted. M. Bozzano, Ewa Hermanowicz and Barbara Vinceti were nominated as rapporteurs for the meeting. François Lefèvre, Mari Rusanen, Sven M.G. de Vries and Tor Myking agreed to chair the various sessions.

Session 1: Wrap-up of Phase IV (2010-2014)

Overview of technical activities during 2014

M. Bozzano provided an overview of the technical activities of the EUFORGEN Programme during 2014 (see 2014 technical report for details).

EUFORGEN working groups

M. Bozzano noted that all five working groups had finalized their respective reports. The tasks and expected outputs of the working groups were previously agreed by the Steering Committee. Each working group consisted of about ten experts selected from the pool of national experts nominated by National Coordinators (1-3 experts nominated for Objectives 1 and 2). At least one expert from each member country was included in these working groups. Other nominated experts (so called 'e-mail contributors') had the opportunity to provide inputs by email and during workshops held in 2014 (see next sub-section for more details on the working groups).

EUFGIS

In 2014, the national focal points in EUFORGEN member countries and associated countries continued compiling new data on genetic conservation units and uploading data into the EUFGIS database. A total of 45 new units were added in 2014. At the end of 2014, the EUFGIS portal contained data on 3,166 units, managed for the genetic conservation of 100 tree species. The units harboured a total of 3,968 tree populations. The number of countries providing data (31), as well as the countries with national focal points (36), remained unchanged in 2014.

A training workshop for EUFGIS focal points was organized in Zagreb, Croatia in March 2014, and was attended by 27 experts from 25 countries. The workshop was organised to train focal points in managing the EUFGIS database and to collect feedback for improvement of the [EUFGIS portal](#). During the workshop, the new search engine linking EUFGIS to the Geo-Referenced Database on Genetic Diversity (GD²) (http://portal.eufgis.org/search/#search_gd2) was launched.

FORGER project¹

The annual meeting of the project was held in Wageningen, the Netherlands, from 2–3 April. In addition to project partners, the project's External Advisory Board (composed of two members of the EUFORGEN Steering Committee) attended the event. The project contributed financially to the organisation of the EUFGIS training workshop in Croatia and to the improvement of the EUFGIS portal.

Side event in conjunction with FOREST EUROPE meetings

The EUFORGEN Secretariat and the Liaison Unit Madrid of the FOREST EUROPE process organized a side event in Cuenca, Spain in November 2014. The side event was an opportunity to present EUFORGEN to FOREST EUROPE delegates of signatory countries and international experts and to explain how the Programme contributes to the implementation of sustainable forest management in Europe. Jarkko Koskela (EUFORGEN Coordinator at the time of the meeting in Cuenca) provided an overview of the history and activities of the Programme. Other members of the EUFORGEN community also contributed to the event: Sven de Vries (Centre for Genetic Resources, the Netherlands) presented the new pan-European genetic conservation strategy for forest trees; Kjersti Bakkebø Fjellstad (Norwegian Forest and Landscape Institute) highlighted the implications of global, European and national policies for the conservation and use of FGR; and lastly, Ricardo Alía (Forest Research Centre of INIA, Spain) delivered concluding remarks. R. Alía noted that EUFORGEN had inspired other regions of the world to strengthen FGR conservation efforts, in addition to being relevant for Europe. He pointed out that the participation of Spain in EUFORGEN was useful for the country to prepare its national FGR conservation strategy.

The summary and presentations of the side event are available on the FOREST EUROPE website: <http://www.foresteurope.org/news/pan-european-collaboration-forest-genetic-resources-celebrated-cuenca-spain>

Collaboration with FAO

The staff of the EUFORGEN Secretariat attended the 22nd Committee on Forestry (COFO-22) from 23–27 June 2014, and contributed to a side event on the 'Implementation of the Global Plan of Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources (GPA-FGR)'. The event aimed to give the COFO-22 delegates an opportunity to learn more about the GPA-FGR and ongoing activities at the national, regional and global levels contributing to its implementation.

Contribution to FAO's World's Forest Genetic Resources Report

FAO released the first State of the World's Forest Genetic Resources report in June 2014. The report highlights the EUFGIS portal and the EUFORGEN Programme as models for what concerns the cooperative development of information systems and regional collaboration on FGR. Nineteen European countries (Austria, Bulgaria, Cyprus, Denmark, Estonia, Finland, France, Germany,

¹ Towards the Sustainable Management of Forest Genetic Resources in Europe, www.fp7-forger.eu

Hungary, Ireland, Netherlands, Norway, Poland, Russian Federation, Spain, Sweden, Switzerland, Turkey and Ukraine) submitted country reports to FAO. These reports are available on the country pages of the EUFORGEN website: www.euforgen.org/member-countries.

Video to celebrate 20 years of the EUFORGEN Programme

To celebrate 20 years of EUFORGEN, the Secretariat produced a short film in which two National Coordinators - Sven de Vries (Netherlands) and Jason Hubert (United Kingdom) – present key achievements of the Programme and explain why continued regional collaboration on FGR is needed.

The video is available on the EUFORGEN website (public awareness section) or on YouTube: <https://www.youtube.com/watch?v=Yp3SVe41XDI>

The Steering Committee thanked M. Bozzano for giving the overview and expressed its gratitude to the outgoing EUFORGEN Coordinator, Jarkko Koskela, for twelve years of continued and devoted support to the Programme.

Key findings and recommendations from Phase IV working groups

Chairs and vice chairs of the EUFORGEN Phase IV working groups presented a brief overview of the reports, which were officially released during the meeting. The full reports are available on the EUFORGEN website, with the main recommendations summarised below.

Pan-European strategy for genetic conservation of forest trees

S. de Vries summarised the recommendations:

- All countries are requested to finalize work and upload data on units to the EUFGIS database.
- Monitoring of progress must be continued at the European level.
- Adequate resources should be allocated to the future maintenance and development of the EUFGIS database. This database is crucial for the implementation of the pan-European strategy for genetic conservation of forest tree species.
- A strategy should be developed for mitigating the negative effects of climate change on FGR. This would include the identification of vulnerable tree species and/or populations, the identification of potential climate change indicators and threats, and a review of possible active management measures.

Link to the publication:

<http://www.euforgen.org/publications/publication/pan-european-strategy-for-genetic-conservation-of-forest-trees-and-establishment-of-a-core-network-o/>

Genetic monitoring methods for genetic conservation units of forest trees in Europe

M. Bozzano delivered a presentation on behalf of Phil Aravanopoulos, who was unable to attend, and summarised key recommendations, as listed below:

- Implement and coordinate a genetic monitoring scheme at the pan-European level.
- Develop genetic monitoring technical guidelines at the pan-European level.
- Facilitate the finalisation of site selection and coordinate early work on evaluation of demographic verifiers and sample collection.
- Identify site proximal to climatic stations and check pertinent data availability.

- Ensure that the EUFGIS database is maintained and further expanded.
- Identify facilities for the long-term conservation of the samples collected.

Link to the publication:

<http://www.euforgen.org/publications/publication/genetic-monitoring-methods-for-genetic-conservation-units-of-forest-trees-in-europe/>

Use and transfer of forest reproductive material (FRM) in Europe in the context of climate change

Bruno Fady (INRA - Unité de Recherches 'Ecologie des Forêts Méditerranéennes/URFM, France) synthesized the findings of the report as noted below:

- FRM transfer is a valuable option for adapting forests to climate change.
- Local seed sources may not always be the best option.
- Provenances should be used instead of species in assisted migration schemes.
- A revision of transfer recommendations is necessary at the pan-European level.
- More rigorous control of FRM is needed at all production and marketing stages.
- The need for FRM documentation increases under climate change.

Link to the publication:

<http://www.euforgen.org/publications/publication/use-and-transfer-of-forest-reproductive-material-in-europe-in-the-context-of-climate-change/>

It was noted that, even if countries are already fulfilling requirements in FRM control and movement, harmonization across countries for conservation purposes is needed at regional scale. It was recommended that the Secretariat highlight to the FOREST EUROPE process that long-term record-keeping for FRM movement between countries for conservation purposes is needed.

Approaches to the conservation of FGR in Europe in the context of climate change

Colin Kelleher (National Botanic Gardens, Ireland) summarised the following key recommendations:

- Continue to encourage member countries to populate the EUFGIS database.
- Add additional units to the EUFGIS core network, specifically flagged as relevant for climate change.
- A resolution from FOREST EUROPE is needed to promote the recording of movement of FRM between countries for conservation purposes.
- The area defined as Europe should be enlarged to include areas with high endemism.
- Collaboration with North Africa should be established on common species. It is likely that tree species in common are currently found in more extreme climatic conditions in North Africa than in Europe.
- A decision cascade tool to aid the identification and management of those populations most in need of conservation should be developed. The tool presented in the report is an ideal model rather than a finished product. A more advanced output could be produced through a dedicated initiative within EUFORGEN.
- The development of red listing for species and populations by region should be considered as a priority for future EUFORGEN efforts.

Link to the publication:

<http://www.euforgen.org/publications/publication/approaches-to-the-conservation-of-forest-genetic-resources-in-europe-in-the-context-of-climate-change/>

The Steering Committee decided to prioritize the recommendation to advance the development of the decision cascade tool and determined this would be the subject of a working group to be established during the current Phase of the Programme.

Implications of global, European and national policies for the conservation and use of FGR in Europe

Pierre Bouillon (Ministry of Agriculture, Agrifood and Forestry, France) presented the main findings from the report and highlighted that the forest sector is often influenced by policies implemented within other sectors; therefore, cross-sectoral regulations of relevance for forestry and, in particular, for FGR, should be continuously and closely monitored.

It was agreed that EUFORGEN would take the lead in coordinating the implementation of the Global Plan of Action on Forest Genetic Resources at the European level.

Link to the publication:

<http://www.euforgen.org/publications/publication/the-implications-of-global-european-and-national-policies-for-the-conservation-and-use-of-forest-ge/>

All reports stressed the importance of continuing the established pan-European collaboration aimed at implementing the pan-European strategy for genetic conservation of forest trees. They also indicated the need to identify means to involve non-EUFORGEN member countries in international collaborations on FGR, and to encourage national stakeholders to adopt strategies and approaches developed by EUFORGEN.

These reports are the result of the joint efforts of more than fifty scientists over the Phase IV of the Programme (2010-2014); their work was greatly appreciated and acknowledged. The Steering Committee thanked presenters, recognised the high quality of the reports, encouraged the Secretariat to promote dissemination and noted report authors should use these as a basis for the development of scientific articles to be submitted to relevant journals.

Implementation of EUFORGEN Phase V (2015-2019)

M. Bozzano synthesized the work carried out by the Secretariat during the first months of 2015.

As of 1 May 2015, J. Koskela left the position of EUFORGEN Coordinator and was replaced by M. Bozzano, who filled the position *ad interim* for 6 months before officially becoming the new EUFORGEN Coordinator on 1 November 2015, as a result of a competitive recruitment process advertised at the international level.

As of 18 November 2015, EUFORGEN had 22 member countries. Negotiations are underway with other FOREST EUROPE signatory countries, inviting them to join the new phase of the Programme.

In his presentation M. Bozzano provided an overview of the meetings and workshops organised by FOREST EUROPE in 2015 for the preparation of the Seventh Ministerial Conference, held in Madrid in October. He underlined the fact that EUFORGEN was mentioned in the Resolution M2, where signatory countries committed to “continue pan-European collaboration on forest genetic resources through the European Forest Genetic Resources Programme (EUFORGEN)”. The commitment to

“promote national implementation of strategies and guidelines for dynamic conservation and appropriate use of forest genetic resources under changing climate conditions” is another important recognition of the work carried out by EUFORGEN.

M. Bozzano also presented key findings related to Indicator 4.6 of the State of Europe’s Forests (SoEF) 2015 Report: the areas managed for conservation of FGR and for seed production have increased over the last 25 years, but there are still significant gaps in the geographical representativeness of areas managed for *in situ* genetic conservation within the distribution range of European tree species. Overall, the areas are managed for a total of 145 tree species, including subspecies and hybrids; however, three to five species alone account for half of the areas, and many important tree species are neglected.

During 2015, five reports from the outcomes of the Phase IV working groups were finalised and published.

The Steering Committee expressed appreciation for the achievements of 2015, in particular for the great visibility and recognition EUFORGEN has received in the framework of the FOREST EUROPE process.

Updates on relevant initiatives and projects

LIFEGENMON and EUFORINNO

Hojka Kraigher (Slovenian Forestry Institute) presented on the projects: LIFEGENMON and EUFORINNO.

EUFORINNO (European Forest Research and Innovation), a coordination and support action within the FP7 Capacities programme, is ending in March 2016. It has supported the expansion of the research capacity of the Slovenian Forestry Institute through secondments, trainings, summer schools and workshops in SE Europe, Turkey, Japan, South Africa and Bhutan, as well as scientific conferences. Further information on the project is available at <http://euforinno.gozdis.si>.

LIFEGENMON (Life for European Forest Genetic Monitoring System) is a LIFE+ project (5,4 M€ budget, July 2014 -June 2020) implemented by six partners from three countries to develop an early-warning system for forest genetic monitoring as an aid in the assessment of tree species’ responses to environmental change. The objectives of the project include: 1) defining optimal indicators and verifiers for monitoring changes in genetic diversity across a transect from SE Germany to N Greece; 2) preparing guidelines for forest genetic monitoring; 3) preparing a manual on forest genetic monitoring; 4) preparing a decision support system for an optimal choice of a genetic monitoring approach; and 5) organizing a series of workshops and training events for the general public and targeted events for the forestry sector. The project team is supported by an advisory board composed of members from the transect countries and by selected EUFORGEN National Coordinators and ministries. Further information on the project is available at: www.lifegenmon.si.

The Steering Committee thanked H. Kraigher for the update and expressed appreciation for the outcomes of the EUFORINNO project and for the visibility obtained by the LIFEGENMON project.

COST Action FP1202 on marginal forest populations

Fulvio Ducci (Italian Forestry Research Centre (CREA-SEL)) gave an overview of the COST Action FP1202 on marginal forest populations. Marginal/Peripheral (MaP) populations are considered to be particularly important for adapting forests to global changes. In Europe, all major biomes contain MaP populations. These populations, often surviving under extreme environmental conditions, might be characterized by interesting adaptations and constitute valuable FGR for European forest tree species.

MaP populations generally encounter more extreme biotic and abiotic conditions than those at the centre of the distribution and therefore have had to adapt to such conditions. However, the current speed of climate change will greatly exceed past rates of change and the migration potential of forest trees will not be sufficient to escape climatic pressures. Southern European forests represent “hot spots” of genetic diversity. In view of the expansion of southern-Europe-like climatic conditions to large portions of Europe by the end of the 21st century, the FGR of southern edge MaP populations are particularly important for the future of European and non-European forests.

The COST Action will produce guidelines and recommendations at different levels, influencing, for example, forest management plans, national forest plans and strategies for adaptation to climate change, regional strategies or initiatives relevant to forests and climate change adaptation.

The database of marginal populations (see next section) is an output of the COST Action, particularly relevant for EUFORGEN. Further information on the Action is available at: <http://map-fgr.entecra.it>.

Database of marginal populations - COST Action FP1202

B. Fady complemented the previous presentation, highlighting two outcomes of the Action particularly relevant for EUFORGEN: the database of marginal populations and new distribution maps of forest tree species.

The database of marginal populations covers Europe and near-neighbour countries (i.e. geographical Europe, Russia and Mediterranean countries). The data have been provided by experts of the COST Action and the database lists forest tree populations considered marginal for a selected number of species. The database currently has approximately 350 populations.

The Action has generated new distribution maps for 19 forest tree species and updated existing EUFORGEN distribution maps for five species.

The Steering Committee decided EUFORGEN would incorporate the new distribution maps developed by the COST Action into its existing set of maps and would maintain them in the long-term. The source of the new maps will be properly acknowledged.

The Steering Committee also agreed to explore possibilities to maintain the database of marginal populations, which could be linked to the EUFGIS database. It was underlined that marginal populations should be considered a priority for the conservation of the diversity of forest trees.

Application of DNA fingerprinting to control tree species and geographic origin of timber

Bernd Degen (Johann Heinrich von Thünen Institute, Germany) gave an update on the work the Thünen Institute is leading on DNA fingerprinting to control trade of tree species and geographic

origin of timber. With the objective of reducing the import and trade of illegally harvested timber, since March 2013, the EU timber regulation has been in place and requests timber traders to declare botanical species and the country of origin for timber imported to the EU. B. Degen gave an overview of the application of genetic methods to check tree species and geographic origin. These checks are carried out at the Thünen Centre of Competence on Timber Origin based in Germany for hundreds of wood samples every year. He presented examples of the species identification protocols for wood in the group of white oaks and showed genetic reference data elaborated to assign a geographic origin to larch in Russia and tropical tree species in Africa.

The Steering Committee thanked B. Degen for the overview of practical applications of recent forest genetic research results and asked for continued updates on the development of these initiatives.

Preparatory action on EU plant and animal genetic resources

S. de Vries gave a presentation of the “Preparatory action on EU plant and animal genetic resources” (July 2014-June 2016), promoted by the European Commission (DG Agriculture and Rural Development). The project’s objective is to support the EU in recognizing the potential for added value in the field of conservation and sustainable use of agricultural genetic resources. The Preparatory Action is conducted by a consortium of experts and consultants, including the Centre for Genetic Resource, the Netherlands (CGN).

A total of seven workshops will be organised from June 2015 to March 2016, each dedicated to specific topics/issues linked to a specific regional context and/or covering sectorial or methodological issues. In June 2016, a workshop on FGR was organised in Amsterdam (the Netherlands) to explore options for conservation of FGR at a pan-European scale, with a particular focus on the potential impacts of climate change on these resources. The issues addressed ranged from opportunities for networking and cooperation, communication, research and knowledge exchange, landscape and rural development to sustainable use of FGR. The workshop was attended by 25 participants, bringing together experts from a range of disciplines including specialists in FGR, representatives of EUFORGEN, managers of gene banks, researchers, policy makers, ecologists and tree breeders.

The workshop developed recommendations for the European Commission in five main areas: (i) Active EU policy on FGR; (ii) Funding EUFORGEN; (iii) Knowledge; (iv) Awareness; and (v) Assisted migration

- i. **Active EU policy on FGR:** This topic highlighted the need for a clear and active EU policy in the area of FGR.
- ii. **Funding EUFORGEN:** EUFORGEN is recognised as a key element in formulating and implementing FGR conservation strategies in Europe. From this perspective, workshop participants recommended increased and continuous support from the EU.
- iii. **Knowledge:** Workshop participants noted knowledge gaps on FGR (e.g. capacity to adapt to new climatic conditions; breeding programmes on ecological interactions in interactions; phenotyping methods for rapidly measuring complex traits). Increased knowledge was seen as crucial to effective conservation of FGR.
- iv. **Awareness:** Continued and increased awareness of the importance of FGR is needed among various stakeholders, from the general public to managers and policy makers.

- v. **Assisted migration:** The discussion on assisted migration highlighted issues, including a need to gather knowledge on the potential benefits and risks of this approach as a strategy for *ex situ* conservation of FGR.

More information on the study is available at: www.geneticresources.eu

The Steering Committee was satisfied with the report and asked to be informed in due time on the scheduling of the final conference and on any decision to be taken in relation to the Action.

GenTree

B. Fady gave a presentation of the project, GenTree – ‘Optimising the management and sustainable use of forest genetic resources in Europe’, recently funded within the framework of the Horizon 2020 Research and Innovation Programme.

The overall goal of GenTree is to provide the European forestry sector with better knowledge, methods and tools to improve the conservation and use of adapted and genetically diverse FGR in European forests in the context of global environmental change and evolving societal demands for a diversified range of forest products. More specifically, GenTree aims to design innovative strategies for conserving FGR in European forests, to broaden the range of FGR used in European breeding programmes, and to integrate conservation and breeding strategies to provide a new framework for the development of adaptive forest management.

The project has 22 partners, with INRA as the lead and Bioversity International responsible for dissemination, stakeholder engagement and knowledge transfer.

The Steering Committee congratulated B. Fady for coordinating the development of the project proposal and invited him to provide updates to the Steering Committee during future meetings.

Updates from relevant Organizations: ongoing initiatives and possibilities for collaboration

Food and Agriculture Organization of the United Nations (FAO)

Jarkko Koskela (Forestry Officer -Forest Genetic Resources and Biodiversity, FAO) provided an update on FAO’s work on FGR. In particular, he summarised the process that led to the publication of the “State of the World’s Forest Genetic Resources (SoW-FGR)” to which 18 European countries contributed. The SoW-FGR report was the basis for the development of the Global Plan of Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources (GPA-FGR), which EUFORGEN is committed to implementing in Europe. The GPA-FGR has four priority areas and 27 strategic priorities. The priority areas are:

1. Improving the availability of, and access to, information on FGR.
2. Conservation of FGR (*in situ* and *ex situ*).
3. Sustainable use, development and management of FGR.
4. Policies, institutions and capacity-building.

J. Koskela highlighted the strategic priorities relevant for the Phase V of the EUFORGEN Programme, namely, under Priority Area 2, Strategic Priority 11: “Develop and implement regional *in situ* conservation strategies and promote ecoregional networking and collaboration” and under

Priority Area 4, Strategic Priority 24: “Reinforce regional and international cooperation to support education, knowledge dissemination, research, and conservation and sustainable management of FGR”.

The Intergovernmental Working Group on Forest Genetic Resources (ITWG-FGR), established in 2009 to advise the Commission on Genetic Resources for Food and Agriculture on issues related to FGR, will hold its fourth session from 10-12 May 2016. Europe is represented by Finland, France, Norway, Poland and Russian Federation.

The Steering Committee thanked J. Koskela for the overview and reiterated its commitment to contribute to the implementation of regional-level strategic priorities of the GPA-FGR.

Biodiversity International

J. Loo gave an update on Biodiversity International’s activities related to FGR and highlighted the areas of interest for EUFORGEN: the implementation of the GPA; the work on forest ecosystem restoration; and the work on threat mapping and on timber tracking. She also informed participants of an ongoing project in Central Asia, which is an important centre of diversity for many tree species of wide use.

J. Loo reminded National Coordinators about the availability of FGR training materials at <http://forest-genetic-resources-training-guide.biodiversityinternational.org>. These materials make FGR training relevant, attractive and accessible to non-specialists.

The Steering Committee thanked J. Loo for the update and thanked Biodiversity for hosting the EUFORGEN Secretariat. It was noted that Biodiversity and FAO will play a crucial role in the expansion of the European approach to FGR conservation (i.e. minimum requirements, EUFGIS database and pan-European strategy) to neighbour countries (i.e. North Africa, Middle East and Central Asia).

European Forest Institute (EFI)

Christophe Orazio (Head of EFI Atlantic European Regional Office) gave a presentation on EFI and its work at the Atlantic European Regional Office – EFIATLANTIC. EFIATLANTIC conducts research and transfers knowledge on the sustainable management and competitive utilisation of planted forests. He described several topics covered by EFI of relevance for EUFORGEN, including EFI policy support tools, such as the Thinkforest, a permanent forum facilitating science-policy dialogue at the European Parliament and other policy fora, the Forest policy database, an up-to-date regulation register, and EFI’s work on Criteria and Indicators for sustainable forest management. He continued by briefly presenting EFIATLANTIC initiatives related to genetic resources management: the FORESTRIALS, an online register of forest trials, including genetic trials, and the hosting of the EVOLTREE network secretariat. He concluded his presentation by reviewing the REINFFORCE infrastructure (REsource INFrastructures for monitoring, adapting and protecting european atlantic FORests under Changing climatE), originally a project to design a R&D infrastructure to monitor climate change and its impact on Atlantic forests and to demonstrate the efficiency of the adaptation measures compared to current silvicultural practices. REINFFORCE has now been monitoring forest adaptation to climate change over 15 years and is continuing such efforts thanks to a consortium of 11 sub-regional partners. C. Orazio concluded his presentation by suggesting to jointly explore the possibility of organizing a ThinkForest event on FGR-related issues.

The Steering Committee thanked C. Orazio and agreed to explore possibilities to strengthen collaboration between EUFORGEN and EFI.

Prioritisation and definition of EUFORGEN objectives and areas of work during Phase V

Update on recent developments of the EUFGIS Intranet

M. Bozzano gave a short presentation on the development of new functionalities for the EUFGIS intranet that will allow EUFGIS focal points to influence the selection of the units for the Core Network (please refer to the working group “Pan-European strategy for genetic conservation of forest trees” report) and to suggest additional ones. A documentation manual will be circulated to all EUFGIS focal points in early 2016 to explain the new functionalities.

EUFORGEN communication strategy

Ewa Hermanowicz (EUFORGEN Secretariat) presented a draft communication strategy. She outlined its objectives, target audiences, specific activities (ongoing and new) and tools for monitoring and evaluation. E. Hermanowicz gave an overview of traditional communication channels which remain part of the strategy (printed materials, conferences etc.), but also proposed new products and channels such as videos, drawing upon storytelling techniques rather than technical descriptions of work, social media, smart website redevelopment based on data from Google analytics and other digital tools. She underlined the importance of adequate resources to implement the strategy effectively.

Her presentation can be accessed online at the following link:

http://prezi.com/eczyxwk1ukr1/?utm_campaign=share&utm_medium=copy&rc=ex0share

The Steering Committee was pleased by the initiative to develop a communication strategy and expressed willingness to review it, suggesting circulating the strategy with the minutes of the meeting.

EUFORGEN working groups during Phase V

After analysing the achievements of the previous Phase and the mandate and objectives of the current phase, the Steering Committee decided to establish three working groups:

Working group on the revision of Indicator 4.6 (genetic resources) of the pan-European C&I for sustainable forest management.

The working group will review Indicator 4.6 (genetic resources) of the pan-European C&I for sustainable forest management and propose how this indicator could be improved.

It was agreed that the working group be composed of a small number of members, meet only once in 2016 and propose options, illustrating the pros and cons of each, based on the existing version of the indicator. Ideally, the indicator should consist of one single value per country. The EUFORGEN Steering Committee will review the proposed options and select one to be submitted to FOREST EUROPE.

Working group on the further development of a decision cascade tool for genetic conservation of forest trees.

A second working group will be established to further develop the decision cascade tool to aid the identification and management of populations most in need of conservation, building on the Phase IV report, “Approaches to the conservation of forest genetic resources in Europe in the context of climate change” (see above). In that report, the working group considered a wide range of potential threats and developed a preliminary decision cascade tool. The proposed decision cascade tool presented in the report was a preliminary draft. Such a tool will be helpful in developing a red list of threatened tree populations of European tree species. The novelty consists in the focus on tree populations rather than species. This red list is urgently needed to guide future conservation efforts. The main objective of the working group is to identify threats at species and population level, which will guide the definition of priorities for conservation. The working group was also tasked to include introduced tree species important for forestry in several European countries.

Members of this working group will need to represent a variety of competences and geographical areas. The working group will attend the final meeting of the COST Action on marginal populations (see above) to build on its main findings and outputs. The working group will have the kick-off workshop organized in September 2016, back-to-back with the COST Action meeting.

Working group on guidelines and decision support tool for better incorporation of genetic aspects into forest management practices, including production and use of forest reproductive material

A third working group will build upon the report of the working group on “Use and transfer of forest reproductive material (FRM) in Europe in the context of climate change” (see above). It will also review literature from, and results of, the Forest Management network active during Phase III. This working group, which will focus on forest management systems, will be composed of two subgroups, focusing on two closely related areas. These subgroups will need to coordinate but will work independently.

The first sub-group will work on the production of FRM. More specifically, it will carry out the following actions:

1. Document the production chain of FRM (incl. management of seed stands, nurseries) and examine how genetic aspects are affected in collection/production/deployment of FRM, taking into account how climate change may affect seed production.
2. Make recommendations on how to improve existing schemes for tracking and recording FRM used.

The second sub-group will work on the use of FRM; specifically it will:

1. Define alternative choices of regeneration approaches (e.g. compare advantages of artificial vs. natural regeneration in the face of climate change).
2. Analyse establishment techniques and use of FRM (e.g. how to ensure FRM used is sufficiently diverse).

EUFORGEN National Coordinators will receive a request for the nomination of experts for Phase V together with the minutes of the meeting. This will allow indicating skills required and preferences for experts to be nominated as members of these working groups.

The Steering Committee jointly proposed a preliminary work plan for the Programme for the period 2016- 2017 (Annex 1).

Wrap-up session

Any other business

Sándor Bordács (Central Agricultural Office, Hungary) informed the Steering Committee on the development of a project proposal (SUSTREE). The aim of the project is to develop a working model for transnational delineations of provenance regions for Central Europe, taking into account climate change. The project would focus on the management of genetic resources for seed production, breeding and conservation. The leading partner is the Austrian Federal Research and Training Centre for Forests, Natural Hazards and Landscape (BFW). S. Bordács asked if EUFORGEN was interested in participating in the project as associated partner.

The National Coordinators noted that Austria was not a member of EUFORGEN, therefore the request was considered inappropriate by the Steering Committee and was rejected.

Closure of the meeting

It was agreed that the next meeting of the Steering Committee would be organized in autumn 2017, and that the Secretariat would decide on the venue, trying to combine the meeting with other major events related to FGR.

Tor Myking, Session Chair, thanked the local organizers for hosting the meeting and the Secretariat for its work. He also thanked meeting participants for their contributions to the discussions and the decisions taken. With no other business, T. Myking closed the meeting.

Annex 1. EUFORGEN Work Plan for 2015-2019 as agreed at the 11th Steering Committee Meeting

| Task/Activity | Outputs | Date (When activity will be completed) | Who | Comments |
|--|---|--|---|----------|
| Working group on revising index for Indicator 4.6 | <ul style="list-style-type: none"> • 1 WG meeting (set of options) • Endorsement by EUFORGEN SC • Draft report submitted to FOREST EUROPE | 02-03 2016 | WG Members SC members Secretariat | |
| Working group on further development of a cascade decision support tool for genetic <u>conservation</u> of forest trees | <ul style="list-style-type: none"> • Review previous findings (past and more recent ones) WG meeting • Link with final meeting of COST Action on marginal populations (Sept 2016) • Kick off workshop of WG immediately after (1 of the 3) • 1-2 WG meetings • Draft developed and presented to SC meeting | 04 2016 09 2016 09 2016 Early 2017 2017 | | |
| Working group on decision support tool for better incorporation of genetic aspects into <u>forest management</u> practices | <ul style="list-style-type: none"> • 1-2 WG meetings • Draft report presented at workshop • 1 WG meeting to finalize report • Present updates to SC • Finalize the report | By autumn 2016 Spring 2017 (When appropriate) Close by 2018 | Invitation sent to all EUFORGEN countries, additional experts invited, additional country representatives included by their own means | |
| Steering Committee Meeting | | Autumn 2017 | | |
| Working group (WG x) on the manual for genetic monitoring (ON HOLD) | | | | |

Annex 2. Agenda of the Steering Committee Meeting

| Wednesday 18 November - Afternoon | | |
|-------------------------------------|---|---|
| Chair of the afternoon session: tbc | | |
| 14:00 | <p>Opening of the meeting</p> <ul style="list-style-type: none"> • Welcome by host country, Eugene Hendrick (Department of Agriculture, Food and the Marine) • Welcome by Bioversity International, Judy Loo • Introduction to the meeting and adoption of the agenda, Michele Bozzano (EUFORGEN Coordinator) • Selection of chairs and nomination of rapporteurs | |
| 14:15 | <p>Wrap-up of Phase IV (2010-2014)</p> <ul style="list-style-type: none"> • Technical activities in 2014 (Michele Bozzano) • Membership status of Phase IV and financial report for 2014 (Michele Bozzano) <p>Key findings and recommendations from the Phase IV working groups (WG) reports (5' each, followed by 5 minutes questions/answers)</p> <ul style="list-style-type: none"> • WG1 - Pan-European strategy for genetic conservation of forest trees (Sven de Vries, Centre for Genetic Resources the Netherlands) • WG2 - Genetic monitoring methods for genetic conservation units of forest trees in Europe (Michele Bozzano) • WG3 - Use and transfer of FRM in Europe in the context of climate change (Bruno Fady, INRA, France) • WG4 - Approaches to the conservation of FGR in Europe in the context of climate change (Colin Kelleher, National Botanic Gardens, Ireland) • WG5 – Implications of global, European and national policies for the conservation and use of FGR in Europe (Pierre Bouillon, Ministère de l'agriculture, de l'agroalimentaire et de la forêt, France) <p><i>The Steering Committee is expected to: 1) comment the progress made; and 2) adopt the technical and financial reports for 2014.</i></p> | <p><u>Background documents:</u></p> <ol style="list-style-type: none"> 1. Report of the tenth meeting of the Steering Committee 2. Technical report for 2014 3. Financial report for 2014 4. WG1 report 5. WG2 report 6. WG3 report 7. WG4 report 8. WG5 report |
| 15.30 | Coffee break | |
| 16:00 – 17:00 | <p>Implementation of EUFORGEN Phase V (2015-2019)</p> <ul style="list-style-type: none"> • Update to 2015 EUFORGEN activities (Michele Bozzano, Bioversity International) <p><i>The Steering Committee is expected to: 1) comment the progress made; and 2) take note of potential opportunities and future needs.</i></p> | <p><u>Background documents:</u></p> <ol style="list-style-type: none"> 9. FOREST EUROPE 7th Declaration and Resolutions 10. SoEF 2015 11. Implementation of the FOREST EUROPE Commitments 12. Report on the Mid-term Evaluation of the European 2020 Targets for Forests 13. Updated Criteria and Indicators |
| 17:00-18:00 | <p>Updates on relevant initiatives and projects</p> <ul style="list-style-type: none"> • LIFEENMON and EUFORINNO (Hojka Kraigher, Slovenian Forestry Institute) • COST Action FP1202 on marginal forest populations (Fulvio Ducci, CREA-SEL, Italy) • Database of marginal populations - COST Action FP1202 (Bruno Fady INRA URFM, France) <p><i>The Steering Committee is expected to discuss these issues and their implications for EUFORGEN activities.</i></p> | |

| Thursday 19 November | | |
|-----------------------------------|---|--|
| Chair of the morning session: tbc | | |
| 9.00 | <p>Updates on relevant initiatives and projects - continued</p> <ul style="list-style-type: none"> • Application of DNA fingerprints to control tree species and geographic origin of timber (Bernd Degen, Federal Research Institute for Rural Areas, Forestry and Fisheries, Germany) • Preparatory action on EU plant and animal genetic resources (Sven de Vries, Centre for Genetic Resources the Netherlands) • GenTree (Bruno Fady INRA URFM, France) <p><i>The Steering Committee is expected to discuss these issues and their implications for EUFORGEN activities.</i></p> | |
| 10.00 | <p>Updates from relevant Organizations: ongoing initiatives and possibilities for collaboration</p> <ul style="list-style-type: none"> • Food and Agriculture Organization of the United Nations (Jarkko Koskela, FAO) • Bioversity International (Judy Loo, Bioversity) • European Forest Institute (Christophe Orazio, EFI) • Joint Research Centre (tbc) • European Commission (tbc) <p><i>The Steering Committee is expected to discuss implications for EUFORGEN activities and possibilities for collaboration.</i></p> | |
| 11.00 | Coffee/tea break | |
| 11.30 | <p>Prioritisation and definition of EUFORGEN objectives and areas of work during Phase V</p> <p>Objective 1: Collate, maintain and disseminate reliable information on forest genetic resources in Europe</p> <ul style="list-style-type: none"> • Update on recent development on the EUFGIS Intranet (Michele Bozzano, Bioversity International) • EUFORGEN communication strategy (Ewa Hermanowicz, Bioversity International) <p><i>The Steering Committee is expected to: 1) provide recommendations on the further development of the EUFGIS Intranet and portal; 2) comment the communication strategy.</i></p> | <p><u>Background documents:</u></p> <p>14. Web statistics 2014</p> <p>1. Report of the tenth meeting of the Steering Committee</p> |
| 12.30 | Lunch | |

| Chair of the afternoon session: tbc | | |
|-------------------------------------|--|---|
| 14:00 | <p>Prioritisation and definition of EUFORGEN objectives and areas of work during Phase V - Continued</p> <p>Objective 2: Coordinate and monitor conservation of forest genetic resources in Europe</p> <p>Objective 3: Develop guidelines and analyses on issues and topics relevant for the use of FGR in Europe</p> <ul style="list-style-type: none"> Updating of the pan-European Indicators for Sustainable Forest Management – Indicator 4.6 (genetic resources) (Michele Bozzano) <p><i>The Steering Committee is expected to 1) review the tentative list of tasks and 2) prioritize tasks.</i></p> | <p><u>Background documents:</u></p> <p>1. Report of the tenth meeting of the Steering Committee 13. Updated Criteria and Indicators</p> |
| 15.30 | Coffee/tea break | |
| 16.00 | <p>Development of EUFORGEN Work Plan 2015-2019</p> <p><i>The Steering Committee is expected to develop the work plan for the rest of the Phase V</i></p> | |
| 17:30 | Visit to the botanical garden | |
| 20.00 | Social dinner | |

| Friday 20 November | | |
|-----------------------------------|---|--|
| Chair of the morning session: tbc | | |
| 9.00 | <p>Implementation of the EUFORGEN Work Plan</p> <p><i>The Steering Committee is expected to provide recommendations for the implementation of the EUFORGEN activities</i></p> | |
| 10:30 | Coffee/tea break | |
| 11.00 | <p>Updates on relevant projects and initiatives (tbc)</p> <ul style="list-style-type: none"> Any relevant projects and initiatives | |
| 11.30 | <p>Wrap-up session</p> <ul style="list-style-type: none"> Any other business Date and place of the next meeting Closing remarks | |
| 12.30 | Lunch | |

Annex 3. List of Participants

EUFORGEN National Coordinators

Davorin Kajba

Dept. of Forest Genetics, Dendrology and Botany, Zagreb, **Croatia**

Josef Frýdl, Forestry and Game Management Research Institute (FGMRI)

Czech Republic

Valeriu Caisin

Forest Research and Management Institute (FRMI)

Moldova

Tiit Maaten

Institute of Forestry and Rural Engineering

Estonia

Mari Rusanen

Natural Resources Institute (LUKE),

Finland

François Lefèvre

INRA - Ecologie des Forêts Méditerranéennes,

France

Bernd Degen

Johann Heinrich von Thünen Institute

Germany

Sándor Bordács

Central Agricultural Office

Hungary

Brian Clifford

Department of Agriculture, Food and the Marine

Ireland

Fulvio Ducci

CRA - Centro di Ricerca per la Selvicoltura

Italy

Valmantas Kundrotas

Lithuanian Forest Genetic Resources Seed and Plant Service

Lithuania

Frank Wolter

Administration de la nature et des forêts,

Luxembourg

Sven M.G. de Vries

Centre for Genetic Resources the Netherlands, Wageningen University and Research Centre

The Netherlands

Tor Myking

Norwegian Institute of Bioeconomy Research

Norway

Czesław Koziol

Forest Gene Bank

Poland

Hojka Kraigher

Slovenian Forestry Institute

Slovenia

Sanna Black-Samuelsson

Swedish Forest Agency

Sweden

Peter Rotach

Swiss Federal Institute of Technology (ETHZ)

Switzerland

Gaye Eren Kandemir

Ministry of Forest and Water Affairs

Forest Tree Seeds and Tree Breeding Research Institute Directorate

Turkey

Invited speakers

Colin Kelleher
National Botanic Gardens
Ireland

Pierre Bouillon
Ministère de l'agriculture et de la pêche
France

Bruno Fady
INRA - Unité de Recherches 'Ecologie des
Forêts Méditerranéennes
France

Judy Loo
Bioversity International

Christophe Orazio
EFI Atlantic European Regional Office
France

Jarkko Koskela
Food and Agriculture Organization (FAO)

Organizers

Michele Bozzano
EUFORGEN Secretariat
Bioversity International

Barbara Vinceti
Bioversity International

Ewa Hermanowicz
EUFORGEN Secretariat
Bioversity International

