



TECHNICAL AND FINANCIAL REPORT 2023
EUROPEAN FOREST GENETIC RESOURCES PROGRAMME
(EUFORGEN) PHASE VI (2020–2024)



European Forest Genetic Resources Programme
(EUFORGEN)
Phase VI (2020–2024)

TECHNICAL AND FINANCIAL REPORT 2023

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1. Executive Summary

The European Forest Genetic Resources Programme (EUFORGEN) is an international cooperation programme promoting the conservation and sustainable use of forest genetic resources in Europe as an integral part of sustainable forest management. As of 31 December 2023, EUFORGEN has a total of 28 member countries, which are collaborating to conserve and utilize forest tree genetic resources and manage forest tree species' populations for production of forest reproductive material.

Through EUFORGEN, European countries in 2021 launched the **Forest Genetic Resources Strategy for Europe**, a coordinated effort to improve the conservation and sustainable use of European forest genetic resources (FGR). Built on 20 years of pan-European collaboration, the strategy goes beyond current individual countries' efforts by supporting an implementation plan of common actions and recommendations, with clear roles for both the EUFORGEN network and European countries. EUFORGEN's activities, as defined in the "Strategic objectives and implementation plan for Phase VI" flow into the implementation of the Strategy.

This document reports EUFORGEN's activities in 2023, including those of the Steering Committee, the Secretariat, Discussion Platforms and Working Groups. It presents the progress against the Implementation Plan for Phase VI and includes the financial report.

The report provides an account of significant progress towards the seven EUFORGEN Phase VI deliverables of: i) An improved Pan-European Strategy for the conservation of FGR integrated with other GenRes domains; ii) An upgraded EUFGIS Information system including linking with FOREMATIS and the decision support tool for the management of the Genetic Conservation Units' (GCU) network; iii) An upgraded website, including monitoring of FGR conservation; iv) A list of minimum requirements for dynamic and static *ex situ* conservation; v) A report on strategies for the adaptation to climate change (including assisted migration); vi) Guidelines for nurseries, seed centres, policy makers on production and use of FRM; and vii) Identified policy, research and forest management needs, related to FGR.

The report also outlines the inputs to the Forest Europe process and related work, as well as the collaboration with the OECD Scheme for the Certification of FRM, and with FAO. It provides an update on EUFORGEN's human and financial resources. The report goes on to describe EUFORGEN's contributions and collaboration to European initiatives and projects, including the FORGENIUS and OptFORESTS projects. Finally, the report lists those publications and reports which the programme has delivered. **The annex 1 provides more details of progress against the Implementation Plan for Phase VI.**

2. Introduction

The European Forest Genetic Resources Programme (EUFORGEN) is an international cooperation programme promoting the conservation and sustainable use of forest genetic resources in Europe as an integral part of sustainable forest management. The Programme was established in 1994, following the adoption of the 1990 Resolution S2¹ by the 1st Forest Europe², Ministerial Conference. Forest Europe, the pan-European voluntary high-level political process for intergovernmental dialogue and cooperation on forest policies in Europe, develops common strategies for its 46 signatories on how to protect and sustainably manage their forests. In 2015, at the 7th Ministerial Conference, signatory countries committed to “continue pan-European collaboration on forest genetic resources through the European Forest Genetic Resources Programme (EUFORGEN)”³. This is a clear recognition of EUFORGEN’s effectiveness and its distinctive and valuable role in conserving forest genetic diversity and contributing to sustainable resource management. In the same Ministerial Resolution, countries also committed to “promote national implementation of strategies and guidelines for dynamic conservation and appropriate use of forest genetic resources under changing climate conditions,” referencing the strategies⁴ and guidelines⁵ developed by EUFORGEN over the past decade.

In 2021, at the 8th Forest Europe Ministerial Conference, signatory countries further committed to “recognise the need for dynamic conservation and utilization of forest tree genetic resources and management of forest tree species populations for production of forest reproductive material (as reflected in the updated pan-European indicator for sustainable forest management 4.6 genetic resources⁶) and continue pan-European collaboration on forest genetic resources through the European forest genetic resources programme to this end.”⁷

European Countries, through EUFORGEN, in 2021 launched the **Forest Genetic Resources Strategy for Europe**⁸, a policy document that provides the framework for enabling the transition to effective genetic resources conservation and sustainable use in the European Region. The Strategy presents an *implementation plan* outlining *actions* to address all the *key commitments* to improving the conservation and sustainable use of European forest genetic resources.

EUFORGEN, funded by its member countries, primarily engages experts from these nations in its various activities. The EUFORGEN Steering Committee comprises National Coordinators from all member countries, collectively bearing the program's overarching responsibilities.

In 2019, the Steering Committee developed the “EUFORGEN - Strategic objectives and

¹ Strasbourg Resolution S2 “Conservation of Forest Genetic Resources” foresteurope.org/wp-content/uploads/2022/01/strasbourg_resolution_s1.pdf

² Originally the Ministerial Conference on the Protection of Forests in Europe www.foresteurope.org

³ Madrid Ministerial Resolution M2, “Protection of forests in a changing environment” <https://foresteurope.org/about/ministerial-conferences/madrid>

⁴ Pan-European strategy for genetic conservation of forest trees www.euforgen.org/forest-genetic-resources/conservation/pan-european-strategy

⁵ <https://www.euforgen.org/publications/technical-guidelines/>

⁶ Dynamic conservation and utilization of forest tree genetic resources: indicators for *in situ* and *ex situ* genetic conservation and forest reproductive material. www.euforgen.org/publications/publication/dynamic-conservation-and-utilization-of-forest-tree-genetic-resources-indicators-for-in-situ

⁷ Bratislava Ministerial Declaration “The Future We Want: The Forests We Need” <https://foresteurope.org/wp-content/uploads/2017/08/Bratislava-Ministerial-Declaration.pdf>

⁸ Forest Genetic Resources Strategy for Europe. www.euforgen.org/FGRStrategy4Europe

implementation plan for Phase VI”⁹, which is guiding EUFORGEN activities for the period 2020-2024. The overall goal of EUFORGEN is to promote conservation and sustainable use of forest genetic resources in Europe as an integral part of sustainable forest management, and to serve as a platform for pan-European collaboration in this area.

The specific objectives for Phase VI of the Programme are to:

1. **Facilitate knowledge sharing and communicate with key stakeholders** on forest genetic resources in Europe. This will involve maintaining and developing EUFGIS¹⁰ and using that and other sources of information to contribute to reports such as the State of Europe’s Forests reports¹¹. EUFORGEN will also facilitate knowledge sharing and learning among relevant actors and promote the importance of genetic diversity and outputs of EUFORGEN to policymakers, forestry professionals and practitioners on the ground, and within the wider scientific community and society.
2. **Coordinate and monitor the conservation** of forest genetic resources in Europe. This objective requires EUFORGEN to monitor implementation of the pan-European genetic conservation strategy and update the strategy. It also contributes to implementing activities that address regional-level priorities of FAO Global Plan of Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources.
3. **Promote the appropriate use of forest genetic resources** by preparing science-based guidelines and recommendations to improve genetic conservation in forest management. The work under this objective also entails analysis of policy issues to recommend changes when they conflict with the appropriate use of FGR.

The Governance of EUFORGEN is organized in (i) the **Steering Committee** which has overall responsibility for the Programme. This is composed of National Coordinators from all member countries; (ii) the **Advisory Committee**, nominated by the Steering Committee to support the Secretariat in preparing the Steering Committee meetings and to identify issues of strategic importance to EUFORGEN, and (iii) the **Secretariat** which manages the Programme and coordinates its activities.

During Phase VI, EUFORGEN carries out its activities through: (i) **Discussion Platforms**, where national experts (one per member country) meet, share, discuss and analyse relevant issues, share perspectives, and identify needs, and (ii) **Working Groups**, where selected experts (4-8 members) develop specific outputs.

This document reports EUFORGEN’s activities in 2023. It also includes a summary of expenditures and financial contributions.

3. EUFORGEN membership

As of 31 December 2023, EUFORGEN had a total of 28 member countries (Austria, Belgium, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Italy, Lithuania, Luxemburg, Malta, the Netherlands, Norway, Poland, Portugal, Serbia,

⁹ EUFORGEN Strategic objectives and implementation plan for Phase VI (2020-2024) -

www.euforgen.org/fileadmin/templates/euforgen.org/upload/Documents/EUFORGEN_PhaseVI_Objectives_and_Plan.pdf

¹⁰ European Information System on Forest Genetic Resources www.eufgis.org

¹¹ State of Europe's Forests <https://foresteurope.org/state-of-europes-forests/>

Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine and the United Kingdom). The Steering Committee, during its meeting in November 2022, decided to declare publicly the support of the EUFORGEN community to Ukraine and to invite Ukraine to join EUFORGEN Phase VI, waiving the fees for current and next Phase of EUFORGEN. Ukraine became official member by signing the Letter of Agreement in January 2023.

The Secretariat is maintaining an active dialogue with non-member countries in Europe to facilitate their membership.

4. Implementation of EUFORGEN Phase VI

In the Implementation Plan for Phase VI¹², the Steering Committee has defined the following deliverables for the phase:

1. An improved Pan-European Strategy for the conservation of FGR integrated with other GenRes domains (fully achieved)
2. An upgraded EUFGIS information system including linking with FOREMATIS and the decision support tool for the management of the genetic conservation units' network (ongoing – through the FORGENIUS and OptFORESTS projects)
3. An upgraded website, including monitoring of FGR conservation (partially achieved – ongoing)
4. A list of minimum requirements for dynamic and static *ex situ* conservation (ongoing)
5. A Report on strategies for the adaptation to climate change (ongoing)
6. Guidelines for nurseries, seed centres, policy makers on production and use of FRM (partially achieved – ongoing)
7. Identified policy, research and forest management needs, related to FGR. (achieved – ongoing)

The subsequent seven subchapters provide a detailed report on progress in finalizing each deliverable, while Annex 1 provides the status of implementation for all the activities as of 31 December 2023.

4.1 Improved Pan-European Strategy for the conservation of FGR integrated with other GenRes domains (fully achieved)

The Strategy was finalised in 2021 and launched at a high-level policy event organized in collaboration with the GenRes Bridge Project, simultaneously with the overarching *Genetic Resources Strategy for Europe* and the other two domain-specific Strategies (for plants and animals) which were presented.

The strategy is available online at www.euforgen.org/FGRStrategy4Europe

The Secretariat has started the dissemination (social media and promotion at relevant events) and developed a promotional flyer featuring the Strategy and providing the means to easily download the PDF version (through a QR code)¹³ for dissemination at the High-Level Policy Dialogue 2023 “Growing healthier forests: How can Sustainable Forest Management enhance

¹² Strategic objectives and implementation plan for Phase VI:

www.euforgen.org/fileadmin/templates/euforgen.org/upload/Documents/EUFORGEN_PhaseVI_Objectives_and_Plan.pdf

¹³ www.euforgen.org/fileadmin/templates/euforgen.org/upload/Publications/Other_PDFs/FGR_Strategy4Europe_Brochure_-_online.pdf

resilience?”, an in-person event held in Bonn on 9 November. A further print run of the Strategy was organised for the end of the year to meet the continuous requests for hardcopies.

The dissemination of this EUFORGEN milestone achievement will continue for the whole Phase VI.

The strategy will be the guiding instrument for the development of the next Phase of EUFORGEN.

4.2 Upgraded EUFGIS Information System, including linking with FOREMATIS and the decision support tool for the management of the genetic conservation units’ network (ongoing)

EUFGIS, the European information system on forest genetic resources, makes geo-referenced data available on the Genetic Conservation Units (GCUs) of forest trees in Europe. The data are provided and updated by the National Focal Points¹⁴ in line with the pan-European minimum requirements¹⁵ and data standards¹⁶ for these units. The data standards and the minimum requirements were developed as part of the EUFGIS project¹⁷ (2007–2011). The portal¹⁸ and the intranet¹⁹ have been maintained by EUFORGEN after the EU-supported project ended. EUFGIS is being upgraded through the H2020 EU-Funded project FORGENIUS (see section 9.2 below).

In 2023, the National Focal Points continued compiling new data on the units and uploading the data on the EUFGIS portal. At the end of 2023, the EUFGIS database contains information on 3229 units and 108 tree species in 35 countries. The units harbour a total of 3976 tree populations. thirty-six countries have nominated their National Focal Points²⁴.

The core network of dynamic genetic conservation units (following the definitions of the “*Pan-European strategy for genetic conservation of forest trees and establishment of the core network*”²⁰), was identified for all 108 tree species present in the Information System.

During the reporting period, the Secretariat continued to maintain and improve EUFGIS, Intranet and Portal. The Secretariat also continued providing helpdesk support to the EUFGIS National Focal Points.

The EUFGIS upgrade and the integration of the decision-support tool are being implemented through the H2020 EU-Funded project FORGENIUS²¹ (2021-2025), which is supporting the EUFGIS upgrade and the creation of a new series of services for end-users.

¹⁴ Current list of nominated National Focal Points <http://portal.eufgis.org/data-providers/>

¹⁵ Pan-European minimum requirements for dynamic gene conservation units of forest trees: http://portal.eufgis.org/fileadmin/templates/eufgis.org/documents/EUFGIS_Minimum_requirements.pdf

¹⁶ Data standards for dynamic gene conservation units of forest trees to be included into the EUFGIS information system: http://portal.eufgis.org/fileadmin/templates/eufgis.org/documents/EUFGIS_DataStandards.pdf

¹⁷ EUFGIS Project website: <http://www.eufgis.org>

¹⁸ EUFGIS Portal: <http://portal.eufgis.org>

¹⁹ EUFGIS Intranet: <http://intranet.eufgis.org>

²⁰ Pan-European strategy for genetic conservation of forest trees and establishment of a core network of dynamic conservation units www.euforgen.org/publications/publication/pan-european-strategy-for-genetic-conservation-of-forest-trees-and-establishment-of-a-core-network-o/

²¹ FORGENIUS - Improving access to FORest GENetic Resources Information and Services for End-USers www.forgenius.eu

The beta-version of the new EUFGIS²² was presented to the National Focal Points in February 2023 during a training workshop on data curation, organised back-to-back with the Discussion Platform on “GCU Network management in case of biotic outbreaks: the case study of ash dieback”. The beta interface was also presented to the EUFORGEN National Coordinators in April/May 2023.

The work will continue until the end of the FORGENIUS project (2025) and several other interactions and trainings with the EUFGIS Focal Points will be organized.

The semantic linking of EUFGIS with FOREMATIS will be undertaken in the framework of the H-Europe Project OptFORESTS (see section 10.3 below for more information).

The Secretariat organized a meeting with EC representatives in Brussels on 5 June 2023 presenting the preliminary linking of EUFGIS with FOREMATIS.

A FORGENIUS workshop “testing links between EUFGIS and external databases and testing EUFGIS public portal” was held 28-30 November 2023 in Madrid, Spain. External stakeholders attended on 29 November. The feedback collected from the external stakeholders allowed to improve the portal and the services provided.

For the proper integration of the Decision Support tool, countries are encouraged to enter updated or historical data on the status of the GCUs, since the tool can be developed only once there will be GCU with multiple years records. As of date, only one GCU has data referred to two years.

4.2.1 Data Sharing Agreement (DSA)

EUGIS makes an important contribution to documenting and monitoring the FGR status. This information system is central to reporting a range of international policy commitments in Europe, and critically, provides a point of entry for users of genetic resources. These commitments include the Forest Europe process and the FAO Global Plan of Action on FGR (GPA-FGR).

Previously, data were being transferred from the National Focal Points to the European Forest Institute (EFI) without any formal agreement regulating such transfers and allowing EFI to host and share the data. To address this gap in regulation, EFI was limiting the general public’s access to this data.

In order to provide a comprehensive service, allowing access to all data (unless limited by privacy restrictions) EFI prepared a Data Sharing Agreement (DSA) concerning the transfer of data to EUFGIS and the management and use of that data once transferred. The DSA was sent to the persons authorised to sign the agreement on behalf of the country. A total of 9 countersigned agreements were received by 31 December 2023 from Belgium (Flanders), Czech Republic, Denmark, Finland, Ireland, Luxembourg, Norway, Portugal and Sweden.

Through the FORGENIUS Project (see chapter 9.2 below) EUFGIS is being completely restructured. This will be an important upgrade, creating a new set of services. It will

²² <https://beta.portal.eufgis.org>

characterize all GCUs using a broad range of data, derived from existing environmental and climatic databases and available forest reproductive material. The **FORGENIUS project will also characterize several GCUs with genetic and phenotypic data**. This upgrade will be an important step forward, creating new services for all European countries and for the scientific community.

Additionally, the new EUFGIS will allow uploading data on those GCUs that are relevant at national level, but do not meet the minimum requirements at the European level. This aims to provide an important service to the member countries and to allow all countries to be able to fully use the functionalities of the new Information System for national benefits.

After the FORGENIUS project ends, EUFORGEN will maintain the upgraded Information System ensuring its long-term availability and maintenance under the Forest Europe mandate.

The first version of the beta portal and intranet was launched in February 2023, a second beta version was released in August 2023 and a revised version was released in November 2023.

The beta version as of December 2023, is already harvesting data from relevant databases such as **CELSA**²³, **WorldClim**²⁴ and the **European Drought Observatory**²⁵ and data from remote sensing. This allows the characterisation of individual GCUs.

Based on their geographical location, EUFGIS has linked data from **DG**² (The GD² database contains genetic and georeferenced passport data of different genetic units (populations, single trees) that are traditionally analysed in genetic surveys conducted in natural populations)²⁶, **FOREMATIS** (the EU Forest Reproductive Material Information System)²⁷ and **EFFIS** (European Forest Fire Information System)²⁸.

4.2.2 Trainings and workshops

The EUFGIS Focal Point training session was organised on 23 February 2023 in Ahrensburg, Germany when the beta version of the new EUFGIS was presented.

The training was attended by 28 participants (22 EUFGIS National Focal Points (NFP)). The meeting participants were trained on the new interface and the EUFGIS functionalities and provided precious feedback to guide the further development of the information system.

4.3 Upgraded website, including monitoring of FGR conservation (partially achieved – ongoing)

In 2020 the website was upgraded to reflect the revised visual image of the Programme. Its content was re-organized and upgraded. As the upgrade of EUFGIS and associated services will progress, relevant parts will be integrated in the EUFORGEN website, to include a visual

²³ <https://chelsa-climate.org/>

²⁴ www.worldclim.com/

²⁵ <https://edo.jrc.ec.europa.eu>

²⁶ <https://gd2.pierroton.inra.fr/>

²⁷ <https://ec.europa.eu/forematis/>

²⁸ <https://effis.jrc.ec.europa.eu/>

interface for the FGR conservation monitoring, following the revised indicator 4.6²⁹. This will be released in early 2024.

A plan to update the species web pages with visual information on the conservation status of each species, according to the indicator 4.6 was developed. The information will be updated live, based on EUFGIS. Additional text summarising the status of knowledge on species' genetic diversity on the management of the network of GCUs is being prepared by the Secretariat for the first pilot 50 tree species. The Steering Committee will define how the content of the pages will be collected for all the remaining 60 species and how information will be managed and updated during Phase VII. A general review of the website took place in summer 2023 and implementations are ongoing and will be completed in 2024.

4.4 Minimum requirements for dynamic and static *ex situ* conservation (ongoing)

In 2021, the EUFORGEN Secretariat launched a survey covering (among other subjects) “*Ex situ* Forest Genetic Conservation Status in Europe”. The survey aimed to evaluate the current state of *ex situ* FGR Conservation and existing practices, management procedures and other associated issues in Europe. The results of the survey were the starting point for EUFORGEN's work to define the minimum requirements for *ex situ* Forest Genetic Resources Conservation, which will be used in future FGR reporting in Europe.

At the 17th meeting of the EUFORGEN Steering Committee in November 2022, a Task Force was established to define the mandate for the working group that is developing the “minimum requirements for dynamic and static *ex situ* conservation”. This Task Force met several times online and defined the mandate for the Working Group that was validated by the Steering Committee.

A Working Group was established composed of: Alain Servais (Belgium), Eleonore Scholzen (Belgium), Jan-Peter George (Finland), Aurore Desgroux (France), Colin Kelleher (Ireland), Irena Fundova (Norway), Gregor Božič (Slovenia), Luis Muheim (Switzerland).

A survey was sent to the EUFGIS National Focal Points in July 2023 in order to collect information on methods of *ex situ* conservation and data storage used in member countries and thus, assist the Working Group to get an overview of the *ex situ* conservation practices in Europe.

The table of contents was presented at the Steering Committee during the meeting in May 2023, the draft report was presented to the Steering Committee during the 19th meeting on 13 December 2023.

The Working Group met seven times during 2023:

- 1st meeting 12 Jan 2023 - online

²⁹ Dynamic conservation and utilization of forest tree genetic resources: indicators for in situ and ex situ genetic conservation and forest reproductive material - www.euforgen.org/publications/publication/dynamic-conservation-and-utilization-of-forest-tree-genetic-resources-indicators-for-in-situ/

- 2nd meeting 31 March 2023 - online
- 3rd meeting 4-6 July in person meeting in Brussels, Brussels
- 4th meeting 5 September 2023 - online
- 5th meeting 10 October 2023 – online
- 6th meeting 16 October 2023 – online
- 7th meeting 8 November 2023 - online

During the online meeting of the EUFORGEN Steering Committee in December 2023, Jan Peter George (Luke) presented the progress of the draft report of the Working Group on “dynamic and static *ex situ* conservation” and mentioned the importance and the impact of the physical meeting of the Working Group in July 2023 in Brussels.

The Steering committee congratulated on the quality of the draft, which reflects the expectations. The National Coordinators provided some feedback directly during the meeting, additional feedback was given electronically on a shared version of the draft report.

4.5 Report on strategies for the adaptation of CGUs to climate change (ongoing)

In October 2022 the *EUFORGEN Discussion Platform* on “Adaptation of the Genetic Conservation Units to Climate Change” met and formulated several possible activities to be implemented to build the basis for the development of a report on strategies for the adaptation of CGUs to climate change. Some of the initiatives could kick-off during EUFORGEN’s Phase VI, but most could be addressed during Phase VII, mainly through Working Groups.

During the 18th meeting of the Steering Committee in May 2023, a Task Force was created composed of the national coordinators of Iceland, Austria and Italy, to prepare the mandate for a WG that will write an opinion paper on “Evacuation of threatened material and tracking of movements”.

A working group was established composed of: Berthold Heinze (Austria), An Vanden Broeck (Belgium), Ulo Niinemets (Estonia), Katharina Liepe (Germany), Brynja Hrafnkelsdóttir (Iceland), Andrea Piotti (Italy), Delphine Grivet (Spain), Joan Cottrell (United Kingdom).

The proposed structure of the opinion paper was presented to the Steering Committee at its 19th meeting in December 2023.

During the 19th meeting of the Steering Committee in December 2023, A.M. Farsakoglou gave a presentation on behalf of the Working Group and informed on the outcome of the several interactions which took place during the year. The mandate of the WG was to propose a term that describes “the movement of threatened GCU material from dynamic in situ to dynamic *ex situ* conservation” as an alternative to the term “assisted migration” which is frequently misused. The WG has developed a proposed terminology, but the full concept has yet to be finalized.

The Steering committee discussed the outline of the report and the proposed terminology. The National Coordinators provided feedback directly during the meeting, additional feedback was given electronically on a shared version of the draft report.

4.6 Guidelines for nurseries, seed centres, and policy makers on production and use of FRM (planned 2022-24)

In 2021, the EUFORGEN Programme released the report on “Genetic aspects linked to production and use of forest reproductive material - Collecting scientific evidence for developing guidelines and decision support tools for effective FRM management”³⁰. Aiming to support the practitioners involved in the production chain of FRM with material more accessible, the main findings of the report have been organised in six modules, addressed to the various actors involved in the production chain of FRM.

The Secretariat, in 2022, initiated the development of six packages of dissemination material (See section 6 for details of the dissemination plan). And presented one of them as an example at the 18th Steering Committee meeting in May 2023.

The six themes are:

1. Silviculture measures and their role in mitigating the effects of climate change

How different regeneration strategies can affect or influence genetic diversity of forest stands

2. Forest Reproductive Materials and Forest Basic Materials

Management of categories and types to face expected future uncertainties

3. Seed orchards – why do we need them?

4. Forest tree breeding strategies to address climate change challenges

5. Seed harvesting, treatment, storage, and nursery practices

How management practices can affect or influence genetic diversity of forest reproductive materials

6. The influence of forest management methods on the genetic structure of forest tree populations

How do the methods used for establishing and managing forests affect forest genetic diversity?

The Steering Committee approved the concept of the pilot dissemination package of Theme 5, during its 18th meeting in May 2023, and provided feedback for its improvement. The Steering Committee agreed on the production of the remaining five themes following the same approach. The text of the remaining five themes were reviewed in Spring 2023 by Working Groups established at the 17th meeting of the EUFORGEN Steering Committee in November 2022. The five texts are currently in the editorial process based on comments for improvement from the Working Groups and for English language. The five texts will be submitted to the Steering Committee for approval before typesetting and preparing further dissemination

³⁰ <https://www.euforgen.org/publications/publication/genetic-aspects-linked-to-production-and-use-of-forest-reproductive-material-frm/>

products (wall poster). The Secretariat postponed the development of the videos for each theme until 2024, after agreeing that the texts must be finalised first.

Based on the same report, the Secretariat has prepared two versions of a policy brief: a 2-page brief and a longer one.

The Steering Committee agreed that both versions should be produced and defined a timeframe to give feedback. The Secretariat produced both documents, incorporating feedback from the Steering Committee to the final text. The Steering Committee approved the dissemination of the material through FOREST EUROPE, OECD Forest Seed and Plant Scheme and through EFI dissemination channels, with the condition to strictly keep it as a EUFORGEN product.

The short policy brief was printed and first distributed during the High-Level Policy Dialogue 2023 “Growing healthier forests: How can Sustainable Forest Management enhance resilience?”, an in-person event held in Bonn on 9 November³¹.

The long version of the policy brief will be released beginning 2024.

The SC agreed on tailored dissemination to respond to the 3 billion tree pledge with existing dissemination products.

4.6.1 Plan for the dissemination of the report on “Genetic aspects linked to production and use of forest reproductive material”

The dissemination of the report “Genetic aspects linked to production and use of forest reproductive material - Collecting scientific evidence for developing guidelines and decision support tools for effective FRM management”³² is tailored to two EUFORGEN key stakeholder groups: i) forest managers, nursery managers, seed collectors, etc.; and ii) policymakers. All materials will be accessible from a new section of the EUFORGEN website which will appear as part of the main navigation menu, **Forest Reproductive Materials** (www.euforgen.org/resources/forest-reproductive-material).

Dissemination to forest managers, nursery managers, seed collectors, etc.

The report is divided into six themes (as described in section 4.6 above) and six packages for dissemination will be developed. Each package will contain 1 guidelines booklet with the complete theme content (text and graphics) + 1 (short) video focusing on a key aspect of the theme + 1 wall poster mirroring the main messages from the video.

Digital versions of the six theme materials are hosted on a dedicated space on the EUFORGEN website, **FRM Practice**³³, as well as in the Publications section.

Theme 5 booklet and wall poster were completed in October 2023 and were launched in November 2023, in advance of the finalization of the video, which will be refilmed in 2024. The media pack for the launch included:

³¹ https://www.euforgen.org/fileadmin/templates/euforgen.org/upload/Publications/Other_PDFs/FRM_Policy_Brief.pdf

³² <https://www.euforgen.org/publications/publication/genetic-aspects-linked-to-production-and-use-of-forest-reproductive-material-frm/>

³³ <https://www.euforgen.org/resources/forest-reproductive-material/frm-practice/>

- Press release
- Set of social media cards (1 guidelines booklet; 3 messages; 1 poster) with links to the EUFORGEN website

The media pack was disseminated via EUFORGEN and EFI dissemination channels and was sent to the EUFORGEN Steering Committee to send to practitioners in their own countries. If translation is required, the National Coordinator is responsible. The Secretariat also asked the Steering Committee for the names and contact details for national professional magazines.

A similar approach will be taken for the remaining five themes when they have been finalized. The videos, which will be produced as a series in 2024, will be disseminated in a dedicated campaign, which will be a second opportunity also to share the booklets and posters.

The total package of six themes will be disseminated through FOREST EUROPE, OECD Forest Seed and Plant Scheme and through EFI dissemination channels, in addition to EUFORGEN dissemination channels.

Dissemination to policymakers

As agreed with the Steering Committee (see section 4.6 above), the Secretariat prepared two versions of a policy brief: a 2-page brief and a longer one.

The short policy brief was printed and first distributed during the High-Level Policy Dialogue 2023 “Growing healthier forests: How can Sustainable Forest Management enhance resilience?”, an in-person event held in Bonn on 9 November. It was then sent to Steering Committee members for distribution to national authorities and shared via EUFORGEN and EFI dissemination channels.

The long version of the policy brief will be released online at the beginning of 2024. Digital versions of the policy briefs are hosted on a dedicated space on the EUFORGEN website, FRM Policy³⁴, as well as in the Publications section.

The policy briefs will be disseminated through FOREST EUROPE, OECD Forest Seed and Plant Scheme, in addition to EUFORGEN dissemination channels.

4.7 Identification of policy, research, and forest management needs, related to FGR (achieved – ongoing)

At the end of Phase V the EUFORGEN programme organized a science-to-policy event³⁵ aiming to present and discuss the relevance and implications of recent research findings and guidelines for policy and practice. The main focus was the role of forest tree biodiversity, in particular genetic diversity, for the adaptation of forests to climate and land use change. Subsequently, in January 2020, the Secretariat, in collaboration with the GenTree Project

³⁴ <https://www.euforgen.org/resources/forest-reproductive-material/frm-policy>

³⁵ Genetic resources - The key to adaptation of forests to global change www.euforgen.org/about-us/events/event/genetic-resources-the-key-to-adaptation-of-forests-to-global-change/

organized a consultation, involving stakeholders from a broad range of European countries, aiming to identify research and actions needs in Europe. The Secretariat then disseminated the output of the consultation to implementing agencies and to the EC.

The Steering Committee decided to organize a similar effort at the end of Phase VI or beginning of Phase VII, once the achievements of the FORGENIUS Project and the Phase VI Implementation Plan have been delivered.

5. Activities of the EUFORGEN Steering Committee

During the reported period, the Steering Committee met twice:

The 18th meeting of the EUFORGEN Steering Committee, 7-9 May 2023, took place in person in Barcelona, Spain.

Four webinars were organized in preparation for the meeting:

- 27 April - Update on the preparation of the State of the World FGR 2 - *Jarkko Koskela*
- 28 April - OptFORESTS introduction to the session - *Santiago C. González-Martínez, Laura Secco, Jacopo Giacomoni*
- 3 May - Technical and Financial Report 2022 (the report will be approved during the Steering Committee meeting, this webinar is meant to walk you through the report and its annexes - *M. Bozzano*
- 4 May - FORGENIUS, update on the project and the upgrade of the EUFGIS – *Ivan Scotti, M. Bozzano*

The Steering Committee reviewed the programme workplan and agreed on the next activities. During the meeting, the National Coordinators initiated the process to define the Operational Objectives for EUFORGEN's Phase VII and update the *Modus operandi*. The Steering Committee agreed on a Roadmap for the preparation of Phase VII. The Steering Committee agreed on the proposed roadmap. The following countries volunteered to participate in the Task Force to prepare Phase VII: Austria, Finland, France, Hungary, the Netherlands, Norway, Slovenia and United Kingdom. Other decisions made during the meeting are included in the minutes of the meeting³⁶.

During a dedicated session, the National Coordinators contributed to a Scoping event organized by the OptFORESTS project (see section 9.3 below). The aim of the event was to **understand stakeholders' needs as regards improving the sustainable use of FGR**. Particularly, the OptFORESTS consortium aimed at gaining valuable inputs that could support shaping and prioritizing specific actions at the early stage of the project. Since the scoping event took place at an early stage of the project (M7), the identified needs will be taken into consideration by the project's consortium in shaping the actions and the tasks that started at the beginning of the project. Furthermore, the event allowed the needs identified to be classified consistently with the methodologies and the categories used in other tasks of OptFORESTS.

³⁶ https://www.euforgen.org/fileadmin/templates/euforgen.org/upload/Publications/Steering_committee_reports/SC18_minutes_final.pdf

In March 2023, following a decision taken at the 17th meeting, the Steering Committee released an open letter to demonstrate EUFORGEN's solidarity with Ukraine³⁷

The 19th meeting of the EUFORGEN Steering Committee took place as an online meeting on 13-15 December 2023.

Following the presentation of the possible text of the Forest Europe Bonn Ministerial Decision and Declaration Draft, the Steering Committee agreed to provide feedback on the draft by 20 December 2023.

As done in past reporting periods, EUFORGEN will be invited to contribute to the State of Europe's Forests 2024 by providing data on Indicator 4.6 Genetic resources. The Steering Committee agreed with the proposed process. The Secretariat will initiate the collection in early 2024, making use of data already reported to EUFGIS and FOREMATIS. National Coordinators will be provided with links to verify the data in the systems and will have the possibility to update the data as needed.

The draft Strategic Objectives and Implementation Plan for EUFORGEN Phase VII were presented and National Coordinators provided feedback during the session. Additional inputs were possible on the draft after the meeting. The Activities will be discussed and defined during the 20th Steering Committee meeting in April 2024. The Steering Committee agreed that the Secretariat will include the contributions and budget proposal into the current draft of the Strategic Objectives and Implementation Plan for EUFORGEN Phase VII. The final contributions and budget will be defined during the next Steering Committee Meeting.

5.1 Revision of the Plant and Forest Reproductive Material (FRM) Legislation

In December 2021 at 16th EUFORGEN Steering Committee, Diana Charels from the Unit G1 - Plant Health of the Directorate G – Crisis Management in food, animals and plants of EC's DG Health and Food Safety (DG SANTE) presented the roadmap³⁸ for the revision of the FRM legislation and presented a guidance sought on the Revision of the FRM legislation, with specific questions to the EUFORGEN Steering Committee.

The Steering Committee established a Task Force, composed by Heino Konrad (Austria), Alain Servais (Belgium), Aðalsteinn Sigurgeirsson (Iceland), Hojka Kraigher (Slovenia) and Felipe Pérez (Spain) to prepare the reply to the guidance sought and to draft the position paper.

³⁷ <https://www.euforgen.org/about-us/news/news-detail/open-letter-euforgen-solidarity-paper-on-the-war-in-ukraine/>

³⁸ <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13083-Plant-and-forest-reproductive-material-revised-rules- en>

In close consultation with the Steering Committee and after several reiterations, the Steering Committee released the reply to the specific questions and complemented the messages with a “position paper as regards the revision of the forest reproductive material (FRM) legislation” that was submitted to the EC in March 2022.

On 5 July 2023 the EC released the Proposal for a regulation of the European Parliament and of the Council on the production and marketing of forest reproductive material, amending Regulations (EU) 2016/2031 and 2017/625 of the European Parliament and of the Council and repealing Council Directive 1999/105/EC (Regulation on forest reproductive material)³⁹.

In July 2023, acknowledging that the diversity of realities and opinions, the Steering Committee didn't release any opinion paper, but invited Diana Charels to present the proposal to the Steering Committee.

On 5 October 2023 a delegation of the EC's Unit G1 - Plant Health of DG SANTE (Diana Charels, Spyridon Flevaris, Yannis Karamitsios) presented the intention of the proposal and replied to a series of questions from the meeting participants. The National Coordinators provided specific comments to the articles 6 and 18. The EC representatives invited the EUFORGEN National Coordinators to provide inputs through the official channels and the EUFORGEN community to submit an overview of articles related to the conservation of FGR.

In November 2023 the Secretariat collected views on articles 6 and 18 and prepared an overview of opinions on. The overview was submitted through EC's “Have your say”⁴⁰.

The same overview was also a basis for a presentation given by Hojka Kraigher (NC Slovenia), on behalf of the Secretariat, at a Public Hearing at the EU Parliament on "Plant and Forest Reproductive Materials - The Stakeholders' Perspective" on 27 November 2023, in Brussels.

At the meeting in December 2023 the Steering Committee indicated the willingness to develop an analysis document with pros and cons of a Directive Vs a Regulation on the Forest Reproductive Material, focusing on the FGR conservation articles 6 and 18, should this be of interest by the relevant stakeholders. It was underlined that, in order to ensure a proper consultation and to consolidate a suitable draft, the process would require about three months. .

5.2 Planning for Phase VII

The Steering Committee, while recognising the need to continue the pan European collaboration on FGR through of EUFORGEN into a seventh Phase, defined the Roadmap and established a Task Force for the preparation of the planning for Phase VII.

³⁹ https://food.ec.europa.eu/system/files/2023-07/prm_leg_future_reg_frm.pdf

⁴⁰ https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13083-Plant-and-forest-reproductive-material-revised-rules/F3446389_en

During the 18th Steering Committee, the national coordinators jointly revised the “Modus operandi” of EUFORGEN and brainstormed on the Operational Activities for Phase VII. A Task Force composed by National Coordinators of Austria, Finland, France, Hungary, The Netherlands, Norway and Slovenia was established to further elaborate on the operational objectives and to prepare a proposal to be discussed during the 19th meeting in December 2023. The Task Force met several times and prepared a proposal, which was presented to the Steering Committee in December 2023. At its 19th meeting the Steering Committee decided that the Secretariat will include the contributions and budget proposal into the current draft of the Strategic Objectives and Implementation Plan for EUFORGEN Phase VII. The final contributions and budget will be defined during the next SC Meeting in April 2024.

The activities for Phase VII will be discussed and defined during the 20th Steering Committee meeting in April 2024.

6. Activities of the EUFORGEN’s Discussion Platforms

The Discussion Platforms are instruments to develop EUFORGEN’s workplan. A Discussion Platform is composed of national representatives, nominated by each EUFORGEN member country, and its aim is to: raise and discuss relevant issues that need a pan-European perspective; maintain the overall knowledge and understanding of issues relevant to FGR in Europe; and plan how to build capacity among the members of the forum. A Discussion Platform meets at least once in person.

The meeting of the EUFORGEN Discussion Platform on “GCU Network management in case of biotic outbreaks: the case study of ash dieback” was held back-to-back to the EUFGIS training on data curation on 21-23 February 2023, in Ahrensburg, Germany. The meeting was attended by 27 participants (22 EUFGIS National Focal Points (NFP), five Task Force members (out of which two were EUFGIS NFPs) from 24 European countries, plus the Secretariat and an observer, who jointly contributed to the identification of the needs to manage the GCU network in case of a biotic outbreak. Ash dieback was used as a case study of a biotic outbreak threatening the genetic diversity of a forest tree species at continental scale.

In preparation for the meeting, the EUFORGEN Programme organized a series of three webinars (on ash dieback and its consequences on genetic diversity. The webinars are available from the EUFORGEN website⁴¹ and were attended by about 100 participants each and currently (November 2023) have been viewed between 250 and 450 times.

The meeting determined the protocols, guidelines, and tools required for addressing biotic outbreaks. Additionally, they compiled a prioritized list of issues to be addressed, ensuring preparedness for future biotic outbreaks.

⁴¹ <https://www.euforgen.org/about-us/news/news-detail/euforgen-webinar-series-case-study-on-ash-dieback-and-its-consequences-on-genetic-diversity/>

At the meeting in May 2023 the Steering Committee found the report of the Discussion Platform very informative and meeting expectations. The Steering Committee discussed the prioritized items of the report and concluded that those related to EUFGIS that can be easily addressed will be included in the ongoing upgrade of EUFGIS. Most of the other activities fall outside the scope of the current phase of EUFORGEN and will be considered when developing the workplan for the next phase. In particular, the Steering Committee found relevant the suggestion to develop a system, integrated in EUFGIS, to allow the reporting of the impact of diseases on Genetic Conservation Units and the suggestion to develop supporting material for the EUFGIS National Focal Points, aimed at informing relevant actors, such as experts involved in GCU management, in case of a biotic outbreak.

7. Activities of the EUFORGEN Secretariat

The Secretariat coordinates the implementation of the Programme and its activities following the work plan developed by the Steering Committee. In particular, during 2023 the Secretariat (i) prepared annual technical and financial reports (2022 and drafted 2023); (ii) liaised between the Steering Committee and the working groups and Discussion Platforms; (iii) organized a meeting of a Discussion Platform (in person,) of several Task Forces (virtual), and two meetings of the Steering Committee (one in-person and one online) (iv) organized three webinars on Ash Dieback and one on estimating effective population size. The Secretariat continuously maintained the EUFORGEN website and the EUFGIS Information System.

In 2023 the Secretariat coordinated the preparation of the background documents for the EU Working Party meeting and the collaboration with ongoing projects and initiatives.

The Secretariat also maintained communication channels with relevant stakeholders and represented the Programme in relevant meetings. A full list of external events is provided in section 11.

The SC agreed during the SC18 meeting in May 2023, to systematically organize webinars for scientific debates on different topics of interest. A first Webinar "[Estimating Effective Population Size \(\$N_e\$ \) for FGR conservation](#)" took place on 13 June 2023, attended by 120 online participants. The recording of the webinar is available on EUFORGEN's YouTube channel, accessible via the EUFORGEN website, and had over 200 views by the end of 2023. A second webinar was initially planned for the autumn 2023 but could not take place due to unavailability of the key speaker. The webinar, on Italian stone pine genetic conservation challenged by the outbreak of a new pathogen pine tortoise scale (*Toumeyella parvicornis* (Cockerell)), will be organized in early 2024.

7.1 Inputs to the Forest Europe process and related work

The EUFORGEN Secretariat actively contributed to the FOREST EUROPE activities on the Pan-European Forest Risk (FoRisk) Facility through the EUFORGEN researcher who participated as an expert at the Expert Group Meetings of the three pilot phases. the first, on wildfires, was completed in February 2023, the second, on biotic threats, in August 2023 and the third, on storms, in December 2023. During the online FoRisk Expert Group Meeting on 25-26 January

2023, the EUFORGEN researcher presented the results of the webinar "Manage to Conserve Forest Genetic Resource conservation as part of Sustainable Forest Management" (held in October 2022).

In November 2023, Þröstur Eysteinnsson, the Director of the Icelandic Forest Service and former EUFORGEN National Coordinator for Iceland, represented EUFORGEN at the High-Level Policy Dialogue 9 November 2023, Berlin, Germany. "Growing healthier forests: How can Sustainable Forest Management enhance resilience?". The event, attended by 60 participants on site and more than 30 signatories online, was an important occasion to provide genetic considerations to the broader high-level debate on managing forests for resilience.

A dedicated section on EUFORGEN was created on the Forest Europe website under the session "implementing mechanisms"⁴²

Meetings during 2023

- FoRisk Expert Group Meeting, 25-26 January 2023, Online
- Expert level meeting, 20-23 June 2023, Dresden, Germany
- FoRisk Expert Group Meeting, 30 June 2023, Online
- High-Level Policy Dialogue 9 November 2023, Berlin, Germany. "Growing healthier forests: How can Sustainable Forest Management enhance resilience?"
- FoRisk Expert Group Meeting, 7-8 December 2023, Online

7.2 Collaboration with the OECD Scheme for the Certification of FRM

The EUFORGEN Secretariat is collaborating with the Secretariat of the *OECD Scheme for the Certification of Forest Reproductive Material* to implement joint communication on relevant common issues. The purpose is to disseminate relevant messages related to the appropriate use of forest reproductive material. In particular the collaboration will allow wider dissemination of the relevant findings of the report on *Genetic aspects linked to production and use of forest reproductive material (FRM)*⁴³ and the dissemination material currently being developed (see section 4.6 above).

The EUFORGEN Coordinator attended the Technical Working Group meeting of the OECD Forest Seed and Plant Scheme for the Certification of Forest Reproductive Material Moving in International Trade on 25-26 April 2023 in Bratislava, Slovak Republic and the Annual Meeting of the OECD Forest Seed and Plant Scheme for the Certification of Forest Reproductive Material Moving in International Trade on 27-27 September 2023 in Paris, France.

⁴² <https://foresteurope.org/euforgen/>

⁴³ <http://www.euforgen.org/publications/publication/genetic-aspects-linked-to-production-and-use-of-forest-reproductive-material-frm/>

7.3 Staff of the EUFORGEN Secretariat

During the reported period, the permanent staff of the Secretariat were Michele Bozzano (Coordinator), Anna-Maria Farsakoglou (Researcher), Sarah Adams (Communications Manager), Lidwina Koop (Administrative Officer), Gerard Fernandez (Communications Officer), Eduardo Veber (Communication Officer) and James Chaplin (scientific support).

The Secretariat carried out part of the work through collaboration with external consultants and temporary staff, depending on the workload, tasks and the required expertise.

8. Financial summary for 2023

In January 2023, the opening balance of the EUFORGEN trust fund was € 408,629. The closing balance of the trust fund for 2023 is € 323,005 and carried forward to the next year (2024) of Phase VI of EUFORGEN.

Total financial contributions received from Member Countries for the year 2023 were €323,750.

The budget planned for Phase VI, excluding external funding, amounts to equivalent to approximately €360,000 per year. The overall budget for Phase VI included Euro 296,250 from external funding (secured i.e. H2020 projects). The overall actual expenses for 2023 (€406,085) results higher than the planned budget. This increase is mainly due to increase human resources costs, related to the production of the dissemination material.

Staff costs in 2023 were around €232,986 and remain the main cost category, representing approximately 57 % of the total expenditure.

The expenditure in 2023 regarding the Discussion Platforms amounting € 39,419 related to the meeting of the Discussion Platform on ash dieback and EUFGIS training in February 2023, and to the meeting of the *ex-situ* Working group in July 2023.

Finally, other direct costs, such as Public Awareness, Communication, Publications and dissemination, represented €22,743. These expenses mainly included the production of dissemination material for FRM, editing, proofreading, layout services, web maintenance and server hosting.

The detailed financial report for 2023 is available in the Annex 2 to this report.

During the meeting in May 2023, the Steering Committee identified that a more detailed forecast of the financial report will be needed for the rest of the Phase VI and Phase VII.

9. Contributions to European initiatives and projects

9.1 GenRes Bridge Project

The project “GenRes Bridge – Joining forces for genetic resources and biodiversity management” ended on 31 December 2021.

The overall aim of the project was to develop an overarching integrated strategy for genetic resources in Europe. The EUFORGEN Secretariat, represented by the European Forest Institute (EFI) was the coordinator of the consortium composed of 17 partners.

GenRes Bridge capitalized on the knowledge, strategies, tools and infrastructures developed individually in the crop, forest and animal domains over the past few decades by the three pan-European GenRes networks: EUFORGEN, ECPGR⁴⁴ (European Cooperative Programme for Plant Genetic Resources), and ERFP⁴⁵ (The European Regional Focal Point for Animal Genetic Resources)

On 16-17 October 2023 at the EU Working Party on Genetic Resources, a dedicated session on the “Continuation of work on the Genetic Resources Strategy for Europe” was organized. The need to financially support the three networking programmes was highlighted.

M. Bozzano, as former coordinator of the project and EUFORGEN Coordinator was invited to a workshop titled “Optimising genetic potential for resilient and diverse production systems”, held in Brussels on 23 October 2023. The workshop was an occasion to disseminate the overarching Genetic Resources Strategy for Europe⁴⁶ and reinforce the collaboration with plant and animal genetic resources community.

More information on GenRes Bridge is available at www.genresbridge.eu

9.2 FORGENIUS Project

The FORGENIUS H2020 project⁴⁷ aims to increase the quantity and quality of data in the EUFGIS information system using multiple descriptors from genomic, phenotypic, remote-sensing and predictive models, and to make data and analytical tools available in operationally-useful and harmonized standards as a service for users in the fields of conservation, breeding and forest management.

FORGENIUS provides insights into the diversity of European forests and their resilience to climate change. The project uses state-of-the-art technology and knowledge in plant and evolutionary biology, ecology, remote-sensing, genomics, genetics, modelling, and forestry. It aims to upgrade EUFGIS, by adding new types of data and information on the Genetic Conservation Units (GCUs). FORGENIUS will allow a significant upgrade of EUFGIS that will be the key to invent new, adaptive strategies to preserve GCUs at the continental level.

FORGENIUS is:

- i. assessing genetic, phenotypic, and environmental diversity, as well as resilience of GCUs under climate change;
- ii. providing scientific evidence to support management decisions that promote the resilience and adaptability of GCUs;
- iii. characterizing the entire network of GCUs presently in EUFGIS (and any that are entered in future) and their genetic resources;
- iv. creating innovative data accessibility and modelling services for users within and outside the forest genetic resources conservation communities.

⁴⁴ <http://www.ecpgr.cgiar.org/>

⁴⁵ <https://www.rfp-europe.org/>

⁴⁶ <http://www.genresbridge.eu/GRS4E>

⁴⁷ Funded from the European Union's Horizon 2020 research and innovation programme under grant agreement No 862221 - www.forgenius.eu

In addition to characterizing the GCUs, FORGENIUS is upgrading EUFGIS. The project will develop a totally new interface and adopt new technologies to run the information system and associated services. FORGENIUS will also generate new data and indices that will integrate with and complement existing information. The expanded EUFGIS will be a new tool for national authorities responsible for the management of the network of GCUs in each country, as well as for the wider conservation community.

- The EUFORGEN Coordinator and the EUFORGEN researcher attended the second annual conference in February 2023 in Avignon, France.
- The EUFORGEN Coordinator attended the FORGENIUS Workshop on testing EUFGIS: links with external databases and public portal, 28-30 November 2023, Madrid, Spain.
- A workshop on technical implementation of the inclusion of services developed in WP6 into the EUFGIS information system and testing established link took place in December 2023.
- A public webinar was organized by the Secretariat in collaboration with the FORGENIUS project coordinator on 27 October 2023. Dr. Nicolas Martin gave a talk about the advances obtained by FORGENIUS on the potential role of intraspecific variability in drought resistance traits in shaping intraspecific drought resistance of tree species. Dr Xavier Morin addressed how the impact of climate change varies across forests, depending on their composition, structure and age. He will also review the state-of-the-art regarding the tree diversity effects on forest functioning and properties, and present perspectives to better understand these tree diversity effects, including at the intraspecific level.

More information on FORGENIUS is available at www.forgenius.eu

9.3 OptFORESTS Project

The OptFORESTS Horizon Europe project “Harnessing forest genetic resources for increasing options in the face of environmental and societal challenge - HORIZON-CL6-2022-BIODIV-01-07” was awarded in summer 2022. The Grant Agreement was signed on 6 October 2022 and the project started on 1 November 2022, and will run for five years until 31 October 2027.

The OptFORESTS project aims to work towards the future adaptation of forests by harnessing Forest Genetic Resources (FGR), and supporting their conservation and sustainable use through the following main lines of work and objectives:

- Conducting research on the selection of diverse forest reproductive material (FRM), including mixtures, adapted to future climates
- Fostering sustainable use and resilience of natural forests
- Helping expand and diversify nursery production
- Developing nature-based solutions (NBS), tools (e.g, expanded Information Systems) and cultural trajectories to promote forest biodiversity and ecosystem services
- Demonstrating biodiversity solutions

As main work stream activities, OptFORESTS will carry out genetics, modelling, stakeholder surveys, expert panels and socio-economic analyses. These will be complemented by studying the effects of silviculture and landscape heterogeneity on genetic diversity and the

development of new silvicultural options for genetically mixed forests, to be implemented through training software (marteloscopes) and long-term demonstration plots. Other action lines of OptFORESTS will include assessment of the European nursery sector, forecasting of future FRM needs, development of plant production technologies and cooperation between nurseries.

The EUFORGEN Secretariat will facilitate the dissemination and exploitation of project results to achieve long-term impacts on the FGR community in Europe and beyond. Other functions within OptFORESTS will be to establish synergies and links between tools and systems already created in the field of forest genetics, such as EUFGIS and the European Commission's Forest Reproductive Material Information System (FOREMATIS).

An article about the project⁴⁸ is available as news in the EUFORGEN's website.

The first annual meeting of the OptFORESTS project took place 13-17 November 2023, Bordeaux, France.

More information on the OptFORESTS project is available at: www.optforests.eu

10. Publications and reports

List of EUFORGEN publications produced/released during the reported period:

- EUFORGEN Newsletter, April 2023 issue⁴⁹
- EUFORGEN Newsletter, June 2023 issue⁵⁰
- Report of the 18th EUFORGEN Steering Committee meeting⁵¹
- EUFORGEN Newsletter, December 2023 issue⁵²
- Report of the 19th EUFORGEN Steering Committee meeting⁵³

11. External events and meetings

During 2023, the Secretariat attended several events that created awareness about recent outputs of the Programme and introduced EUFORGEN's work to new audiences. A list of key events is presented below.

- Second Annual Meeting of the FORGENIUS project, 28 February-3 March 2023, Avignon, France

⁴⁸ <https://www.euforgen.org/about-us/news/news-detail/euforgen-forest-europe-webinar-forest-genetic-resource-conservation-as-part-of-sustainable-forest/>

⁴⁹ <https://mailchi.mp/282ea69d8938/april-2023https://mailchi.mp/282ea69d8938/april-2023>

⁵⁰ <https://mailchi.mp/181deb392c6c/newsletter-june-2023>

⁵¹ <https://www.euforgen.org/publications/publication/euforgen-steering-committee-report-of-the-eighteenth-meeting/>

⁵² <https://mailchi.mp/1e4ffdc519e/euforgen-december-2023>

⁵³ <https://www.euforgen.org/publications/publication/euforgen-steering-committee-report-of-the-nineteenth-meeting/>

- 7th Session of the Intergovernmental Technical Working Group on Forest Genetic Resources, 7-9 March 2023, Rome, Italy.
- Technical Working Group meeting of the OECD Forest Seed and Plant Scheme for the Certification of Forest Reproductive Material Moving in International Trade, 25-26 April 2023, Bratislava, Slovak Republic.
- Meeting at the EC in Brussels "The EUFGIS Information System & its Linking with FOREMATIS" 5 June 2023, Brussels, Belgium.
- Forest Europe Expert level meeting, 20-21 June 2023, Dresden Germany.
- 19th Regular Session of the Commission on Genetic Resources for Food and Agriculture, FAO 17-21/07/2023, Rome, Italy.
- Second EVOLTREE Conference, 11-15 September, Brasov, Romania.
- Annual Meeting of the OECD Forest Seed and Plant Scheme for the Certification of Forest Reproductive Material Moving in International Trade, 27 September 2023, Paris, France
- FOREST EUROPE High-Level Policy Dialogue, 9th November 2023, Berlin, Germany
- OPTFORESTS first annual meeting, 13-17 November 2023, Bordeaux, France (*online presentation*)
- FORGENIUS Workshop on testing EUFGIS: links with external databases and public portal, 28-30 November 2023, Madrid, Spain

12. Webinars

Various webinars were organized during 2023 as single events or in preparation for meetings.

12.1 Webinars organized in preparation for meetings

- Meeting of the Discussion Platform GCU Network management in case of biotic outbreaks: the case study of Ash dieback "

A series of three webinars were organized in preparation for the meeting. The webinars took place on 3, 10 and 17 February. The recordings⁵⁴ are available. For titles and speakers see the image below.

⁵⁴ <https://www.euforgen.org/about-us/news/news-detail/euforgen-webinar-series-watch-all-february-sessions-online/>



EUFORGEN Webinar Series

Biotic outbreak management of the Genetic Conservation Units Network
Case study on ash dieback

Photo: Adobe Stock / adamikarl

3 February 11:00 - 12:00 CET	10 February 11:00 - 12:00 CET	17 February 11:00 - 12:00 CET
<p> Phytopathology of Ash dieback (<i>Hymenoscyphus fraxineus</i>) - Including monitoring the spread of the disease</p> <p>Michelle Cleary, Swedish University of Agricultural Sciences (SLU)</p>	<p> The genetic basis (genetic architecture) of sensitivity and tolerance to ash dieback</p> <p>Richard Buggs, Royal Botanic Gardens Kew & Queen Mary, University of London</p>	<p> Natural selection in ash populations</p> <p>Erik Dahl Kjær, Department of Geosciences and Natural Resource Management, University of Copenhagen</p>
<p> Potential invasion of emerald ash borer (<i>Agrilus planipennis</i>)</p> <p>Rimvydas Vasaitis, Swedish University of Agricultural Sciences (SLU)</p>	<p> Ash genetic resistance research and tree breeding</p> <p>Ben Bubner, Thünen-Institut Heino Konrad, Austrian Research Centre for Forests (BFW)</p>	<p>More info at euforgen.org</p> 

- **Eighteenth meeting of the EUFORGEN Steering Committee**

Four webinars took place in preparation of the meeting of the Steering Committee in May 2023:

- 27 April 2023 - Update on the preparation of the State of the World FGR 2 - *Jarkko Koskela*
- 28 April 2023 - OptFORESTS introduction to the session - *Santiago C. González-Martínez, Laura Secco, Jacopo Giacomoni*.
- 3 May 2023- Technical Report 2022 (the report will be approved during the Steering Committee meeting, this webinar is meant to walk you through the report and its annexes - *M. Bozzano*
- 4 May 2023 - FORGENIUS, update on the project and the upgrade of the EUFGIS – *Ivan Scotti, M. Bozzano*

12.2 EUFORGEN webinar series

- 13 June 2023: Estimating Effective Population Size (N_e) for FGR conservation

12.3 Webinar presenting the legislative proposal on the production and marketing of FRM

- A webinar was organized on 5 October to report on the status of the new legislation. At this webinar, the European Commission's DG SANTE representatives presented to the EUFORGEN Steering Committee the Legislative proposal on the production and marketing of forest reproductive material in the Union.

Annex 1 Progress against the Implementation Plan for Phase VI

The three tables below (one for each Strategic Objective) present the planned activities for EUFORGEN Phase VI, and the status of their implementation, as of 31 December 2023.

Strategic Objective 1: Facilitate knowledge sharing and communicate with key stakeholders

Status colour coding: **achieved**, **ongoing**, **planned**, **pending**

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2022 / Date of achievement
Facilitate knowledge sharing and learning among relevant Actors (eg scientists, national competent authorities, practitioners and policymakers)	SC meetings with invited observers from non-member countries	S +NC	ongoing	agenda, list of participants and minutes of the meeting	Achieved – ongoing In 2023 1 Steering Committee meeting in person organized (9-11 May 2023) and one virtual on 13-15 December 2023.
	Advisory Committee meetings	S +NC	ongoing	agenda, list of participants and minutes of the meeting	Achieved – ongoing AC consulted in preparation for the Steering Committees - Ongoing
	Support the preparation of new project proposals	S	ongoing	number of Project consortia where the Secretariat is involved in early stages	Achieved – ongoing (one project proposal preparation supported in 2021)
	Identify country experts with knowledge on specific tree species and topics	S +NCs	ongoing	Interface developed / number of species with identified reference person	Pending

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2022 / Date of achievement
	Cross border collaboration with non-European Neighbor Countries	S+NC	ongoing	list of event and initiatives	Achieved FGRS4 Europe includes actions for Neighbour countries
Communicate the importance of genetic diversity and outputs of EUFORGEN to policymakers, forestry professionals and practitioners on the ground, wider scientific community and society	Communicate the programme results to stakeholders)	S + EFI comms unit	2024	list of events, presentation and leaflets released and disseminated	Achieved – ongoing
	Establish/strengthen communication channels with relevant policy makers	S + NCs	ongoing	# of high level meeting where EUFORGEN is represented. with reference to EUFORGEN in relevant policy documents	Achieved – ongoing EUFORGEN represented at Forest Europe High-Level Talks on 9 November 2023 And Forest Europe ELM, 2 OECD, 1 ITWG-FGR.
	Promotion campaigns raising awareness on the FGR conservation strategy;			number and list of leaflets and infographics, evidence of their dissemination	Ongoing
	Get coverage of the topic of FGR in international media by strengthening media partnerships and developing	S		list of relevant events and coverage	Pending

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2022 / Date of achievement
	products of interest to media				
	Present EUFORGEN, its activities and products outside the circle of forest geneticists	S	ongoing	list of selected scientific and practical events	Achieved – ongoing Forest Europe
	Maintain or strengthen communication channels with key actors such as Forest Europe, OECD FRM, FAO CGRFA, FAO ITWFGR, IPBES, CBD	S + AC	ongoing	list of Forest Europe, OECD FRM, FAO CGRFA, FAO ITWFGR, IPBES, CBD and other relevant events attended by Secretariat and AC	Achieved – ongoing Forest Europe, OECD FRM, FAO ITWFGR, JRC, Bioversity, ECPGR, ERFP
Maintain and further develop the EUFGIS information system and	Connecting EUFGIS with FOREMATIS IS to provide information of the availability of FRM to potential users	S	2021	feature in place and results operative	Ongoing will be a new functionality of the revised EUFGIS (point below) testing example available in existing interface at:

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2022 / Date of achievement
contribute to the further development of the distribution maps of European forest trees	Improving the functionality of EUFGIS to facilitate the national reporting efforts	S	2024	new version of EUFGIS Portal and Intranet available	Ongoing (FORGENIUS)
	Collaborate with the Joint Research Centre (JRC) of the European Commission in improving distribution maps, serving as a link between the FGR scientific community and JRC. Provide access to maps via EUFORGEN website	S + MC	ongoing	list of new maps where EUFORGEN's contribution is acknowledged, number of maps in EUFORGEN's website	Achieved – ongoing https://www.euforgen.org/species/ new maps available from https://data.mendeley.com/datasets/hr5h2hcg4/9#file-2b32e368-04f0-40d2-bb82-ac5eacdb79e8
	contribute to the preparation of FAO State of the World FGR, by providing national & Europe Region perspectives	S+ EUFGIS Focal Points + MC	2020-2023	list and text of relevant chapters	ongoing Regional contribution submitted (S). 19 National Contribution submitted to FAO by MC.

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2022 / Date of achievement
Contribute to relevant international reporting efforts, such as the State of Europe's Forests reports	Support the monitoring of the implementation of the GPA- FGR. Provide the Regional perspective	S + MC	ongoing	EUFGIS is used as source of data for National and Regional reporting	Achieved – ongoing
	Contribute to the State of Europe's Forest (Responsible for report on Indicator 4.6)	S + MC	2024	data on Indicator 4.6 are provided in due time and reference to EUFORGEN and EUFGIS is made in the report	Planned
	Publish reports of the WG or proceedings of relevant events		2024	Reports released electronically	Planned
	make available the overview of the State of Europe's FGR report, presenting 4.6 data for all species	S + MC	2024	data on indicator 4.6 are presented for each species in EUFORGEN's website	Planned (in the framework of the upgrade of EUFGIS)

Strategic Objective 2: Coordinate conservation of forest genetic resources in Europe

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2022 / Date of achievement
Update the pan-European conservation strategy also including response to large scale risks	Working group to guide and support the GenRes Bridge project in updating the European strategy for the conservation of FGR	S + WG + SC	2021	composition of the WG records of the inputs to the development of the strategy. updated strategy	Achieved FGR Strategy published (2021) www.genresbridge.eu/grs4e
	Involve non-member countries and neighbour countries in revising the Pan-European FGR conservation strategy	S + Project partners	2021	list of non-member and neighbour countries consulted and involved in the development of the strategy	Achieved FGR Strategy published in 2021 www.euforgen.org/fileadmin/templates/euforgen.org/upload/Publications/Thematic_publications/FGR_Strategy4Europe.pdf Non-member countries consulted: Belarus, Bosnia & Herzegovina, Bulgaria, Cyprus, Georgia, Greece, Moldova, North Macedonia, Portugal, Romania , Turkey, Ukraine.

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2022 / Date of achievement
Support National implementation of the GPA-FGR	attend relevant meetings of FAO ITWG-FGR and CGRFA Global and maintain the link with the Member Countries	S +AC+ NC+ SC	ongoing	list of ITWG FGR and CGRFA meetings attended by Secretariat and AC	Achieved – ongoing
Implement the pan-European conservation strategy	Working Group developing Minimum Requirements for static and dynamic <i>ex situ</i> conservation	WG+ NEs	2023	composition of the working group and report (minimum requirements for <i>ex situ</i> conservation)	Ongoing – draft circulated to SC
	Optimize the European network of genetic conservation units (training of EUFGIS FPs)	S+ GenRes Bridge Partners+ EUFGIS FPs	2021, 2024	list of trained EUFGIS FP, agenda, report and list of recommendations for the improvement of EUFGIS	Achieved – ongoing (one more trainings planned before the end of the Phase)
	implementation of the decision support tool for the management of the genetic conservation units' network	S+ EUFGIS FPs	2024	the tool is available and the EUFGIS information system modified. EUFGIS FPs trained	Ongoing – <u>missing historical data</u>

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2022 / Date of achievement
	Support the implementation of a pan-European genetic monitoring scheme with focus on the core network of GCUs	S +NCs	2024	composition of the WG, report (in case of a WG) or newly created opportunities	Ongoing through FORGENIUS

Strategic Objective 3: Promote the appropriate use of forest genetic resources

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2022 / Date of achievement
Prepare science-based recommendations and tools for better incorporating genetic aspects into Sustainable Forest Management practices	Discussion Platform (DP) on strategies for the adaptation to climate change	MC+ S	2024	list of participants, agenda, minutes and recommendations	Achieved
	WG on strategies for the adaptation to climate change	MC+ S	2021-2024	list of members, minutes of meetings, report of WG	Ongoing preparing an opinion paper on “evacuation”
	WG(s) building on Phase V WG on FRM - Customisation of guidelines for various audiences	MC+ S	2024	list of members, minutes of meetings, report of WG	Ongoing – first Theme released

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2022 / Date of achievement
	workshop to identify research needs and priorities on FGR in Europe (also apply to the other objectives)	MC+ S	2020	list of participants, minutes, prioritised list of research and policy needs	Achieved GenTree final conference www.gentree-h2020.eu/fileadmin/Gentree-uploads/documents/GenTree_stakeholders_consultation_30Jan2020_report_short_final.pdf
	link EUFGIS with FOREMATIS (conversion of EUFGIS into a Semantic IS)	S	2021	new Semantic EUFGIS Information system released, effectively linked to FOREMATIS	Ongoing
Analyse policy issues and recommend changes when they conflict with the appropriate use of FGR	Working Group on FGR-related policies	S + SR	ongoing	list of members, minutes of meetings, recommendations of WG, reports to SC	Ongoing

1 S=Secretariat, NC= National Coordinators, SC= Steering Committee, SR = Selected Representatives, FP = Focal Points, MC = designated Member countries representatives, AC = Advisory Committee, NE = National Expert, WG= working groups

2 FE = Forest Europe, CBD= Convention on Biological Diversity, GPA FGR = Global Plan of Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources ExtRev= External Review, ToC= Theory of Change

Annex 2 Financial reports 2023

Summary of Expenditure - up to 31/12/2023

Details	Budget - Opening Balance (EUR) ⁽¹⁾	Total Expenditure (EUR)	2020 Expenditure (EUR)	2021 Expenditure (EUR)	2022 Expenditure (EUR)	2023 Expenditure (EUR)
Secretariat Staff	1,122,221	722,445	164,110	126,270	199,078	232,986
Secretariat Travel	65,000	21,343	4,002	0	6,191	11,150
Steering Committee (meetings)	140,000	41,731	0	6,478	(235)	35,488
Discussion Platforms and Working Groups	235,000	77,636	12,812	0	25,405	39,419
EUFGIS Portal and Websites	115,142	21,389	20,488	0	0	901
Public Awareness, Communication, Publications and dissemination	85,000	95,965	8,508	23,133	41,581	22,743
Total direct costs	1,762,363	980,508	209,920	155,881	272,019	342,687
Overheads 18.5%	326,037	181,394	38,835	28,838	50,324	63,397
Total Budget* / Expenditures	2,088,400	1,161,902	248,755	184,719	322,343	406,085
Carry-over Phase V ⁽²⁾		233,657				
2020 Contributions paid		256,300				
2021 Contributions paid		339,950				
2022 Contributions paid		331,250				
2023 Contributions paid		323,750				
Closing Balance		323,005				

*The overall budget for Phase VI included Euro 296,250 from external funding (secured i.e. H2020 projects)

(1) As per amendment to the EUFORGEN programme of work and budget for Phase VI (1 January 2020–31 December 2024), agreed by EUFORGEN Steering Committee

(2) Closing balance of Phase V (2018-2019)

Contributions received by EFI in relation to EUFORGEN Phase VI (as of 31.12.2023)

Country	Annual contribution Phase VI	Contribution for 2020 (EUR)	Contribution for 2021 (EUR)	Contribution for 2022 (EUR)	Contribution for 2023 (EUR)
Austria*	12,500	12,500	12,500	12,500	12,500
Belgium*	12,500	12,500	12,500	12,500	12,500
Croatia*	6,500	6,500	6,500	6,500	6,500
Czech Republic*	7,500	7,500	7,500	7,500	7,500
Denmark*	12,500	12,500	12,500	12,500	12,500
Estonia*	5,000	5,000	5,000	5,000	5,000
Finland*	9,600	9,600	9,600	9,600	9,600
France*	30,000	30,000	30,000	30,000	30,000
Germany* ⁽¹⁾	35,000	0	43,750	43,750	43,750
Greece ⁽⁵⁾	9,600				
Hungary*	7,500	7,500	7,500	7,500	0
Iceland*	5,000	5,000	5,000	5,000	5,000
Ireland*	7,500	7,500	7,500	7,500	7,500
Italy*	16,200	16,200	16,200	16,200	16,200
Lithuania*	5,000	5,000	5,000	5,000	5,000
Luxembourg*	5,000	5,000	5,000	5,000	5,000
Moldova ⁽⁵⁾	2,500				
Netherlands*	15,000	15,000	15,000	15,000	15,000
Norway*	12,500	12,500	12,500	12,500	12,500
Poland*	12,500	12,500	12,500	12,500	12,500
Serbia*	5,000	5,000	5,000	5,000	5,000
Slovakia* ^(2&7)	7,500		7,500	7,500	7,500
Slovenia*	6,500	6,500	6,500	6,500	6,500
Spain	16,200	0	32,400	16,200	16,200
Sweden*	12,500	12,500	12,500	12,500	12,500
Switzerland*	15,000	15,000	15,000	15,000	15,000
Turkey ⁽⁵⁾	15,000				
United Kingdom / Welsh Government*	30,000	30,000	30,000	30,000	30,000
Malta* ^(3 & 4)	5,000	5,000	5,000	5,000	5,000
Portugal ⁽⁶⁾	7,500			7,500	7,500
Total Received	342,100	256,300	339,950	331,250	323,750

* Countries that have signed the membership agreement for Phase VI

(1) Germany agreed to pay the contribution for Phase VI spread over four years starting from 2021, i.e. Euro 43,750 per year

(2) The contribution from Slovakia for the year 2022 was received in 2021

(3) Malta joined as new country (was not a member country in Phase V).

(4) The contribution from Malta for the year 2022 contribution was received in 2021.

(5) Greece, Moldova and Turkey have not signed the membership agreement for Phase VI

(6) Portugal joined as new country in 2022

(7) the contribution from Slovakia for the year 2023 was received in 2022.