

TECHNICAL AND FINANCIAL REPORT 2020-2021

EUROPEAN FOREST GENETIC RESOURCES PROGRAMME (EUFORGEN) PHASE VI (2020-2024)



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

TECHNICAL AND FINANCIAL REPORT 2020-21

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Table of Contents

1.	Exec	cutive Summary	4
2.	Intro	oduction	5
3.	EUF	ORGEN membership	6
4.	Imp	lementation of EUFORGEN Phase VI	7
	4.1 domai	Improved Pan-European Strategy for the conservation of FGR integrated with other GenRes	
	4.2 suppoi	Upgraded EUFGIS Information System, including linking with FOREMATIS and the decision tool for the management of the genetic conservation units' network (ongoing – 2021-2025)	5)
	4.3	Upgraded website, including monitoring of FGR conservation (partially achieved – ongoing)	9
	4.4 24)	Minimum requirements for dynamic and static <i>ex situ</i> conservation (ongoing – planned 202 9	:3
	4.5 (plann	Report on strategies for the adaptation to climate change (including assisted migration) ed 2022-2024)	9
	4.6 (plann	Guidelines for nurseries, seed centers, and policy makers on production and use of FRM ed 2022-23)	9
	4.7 ongoin	Identification of policy, research and forest management needs, related to FGR (achieved – ng)	
5.	Euro	ppean information system on forest genetic resources (EUFGIS)	1
	5.1	Data Sharing Agreement (DSA)	1
	5.2	Trainings and workshops	3
5.	Acti	vities of the EUFORGEN Steering Committee	4
7.	Acti	vities of the EUFORGEN Secretariat1	4
	7.1	Inputs to the Forest Europe process and related work	8
	7.2	Collaboration with the OECD Scheme for the Certification of FRM	8
	7.3	Collaboration with FAO	9
	7.4	Staff of the EUFORGEN Secretariat	9
3.	Fina	ncial summary for 2020 and 20211	9
Э.	Con	tributions to European initiatives and projects2	0
	9.1	GenTree Project	0
	9.2	GenRes Bridge Project	1
	9.3	FORGENIUS	
10). Pubi	lications and reports2	3
41	nnex 1 I	Progress against the Implementation Plan for Phase VI	5
4,	nnex 2	Technical and Financial reports 2020-2021	5

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 2021, EUFORGEN has a total of 26 member countries, who together 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. This document reports EUFORGEN's activities in 2020 and 2021, including those of the Steering and Advisory Committees and the Secretariat. It's financial reporting demonstrates prudent financial management, and ongoing implementation through Discussion Platforms and Working Groups, despite the Covid-19 pandemic. It also articulates EUFORGEN's current phase VI specific objectives of i) Facilitating knowledge sharing and communicating with key stakeholders on forest genetic resources in Europe; ii) Coordinating and monitoring European forest genetic resources conservation, and iii) Promoting appropriate use of forest genetic resources

The report provides an account of significant progress towards EUFORGEN's Phase VI seven deliverables of: i) An improved Pan-European Strategy for the conservation of FGR integrated with other GenRes domains (Achieved); ii) An upgraded EUFGIS Information system including linking with FOREMATIS and the decision support tool for the management of the genetic conservation units' network (ongoing); 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 centers, 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 GenTree Project, the GenRes Bridge Project, and the FORGENIUS project. Finally the report lists those publications and reports which the programme has delivered. The annexes provide 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." European Countries, through EUFORGEN, in 2021 launched the Forest Genetic Resources Strategy for Europe⁸, 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 is financed by its member countries and its activities are mainly carried out by experts from the member countries. The EUFORGEN Steering Committee is composed of National Coordinators from all member countries, and it has overall responsibility for the Programme.

In 2019, the Steering Committee developed the "EUFORGEN - Strategic objectives and implementation plan for Phase VI", 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

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 $\underline{www.foresteurope.org}$

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 <u>www.euforgen.org/forest-genetic-resources/conservation/pan-european-</u>

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/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

 $^{{}^8\,}Forest\,Genetic\,Resources\,Strategy\,for\,Europe.\,\underline{www.euforgen.org/FGRStrategy4Europe}$

⁹ EUFORGEN Strategic objectives and implementation plan for Phase VI (2020-2024) - <u>www.euforgen.org/fileadmin/templates/euforgen.org/upload/Documents/EUFORGEN_PhaseVI_Objectives_and_Plan.pdf</u>

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.
- 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. During the reported period, the planned discussion platforms activities have been postponed due to COVID-19 travel and meeting limitations.

This document reports EUFORGEN's activities in 2020 and 2021. It also includes a summary of expenditures and financial contributions.

3. EUFORGEN membership

As of 31 December 2021, EUFORGEN had a total of 26 member countries (Austria, Belgium, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Italy, Lithuania, Luxemburg, Malta, the Netherlands, Norway, Poland, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, the United Kingdom).

The Secretariat is maintaining an active dialogue with non-member countries in Europe to facilitate their membership. In 2020 and 2021 the following non-member countries have been invited to attend the Steering Committees as observers: 2020: Belarus, Bosnia and Herzegovina, Cyprus, Greece, Moldova, North Macedonia, Portugal, Romania, Turkey and Ukraine. 2021: Greece, Portugal and Turkey.

 $^{^{\}rm 10}$ European Information System on Forest Genetic Resources $\underline{\rm www.eufgis.org}$

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

4. Implementation of EUFORGEN Phase VI

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

- An improved Pan-European Strategy for the conservation of FGR integrated with other GenRes domains (fully achieved)
- An upgraded EUFGIS Information system including linking with FOREMATIS and the decision support tool for the management of the genetic conservation units' network (ongoing – 2021-2025 - through the FORGENIUS project)
- 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 planned 2023-24)
- 5. A Report on strategies for the adaptation to climate change (planned 2022-2024)
- 6. Guidelines for nurseries, seed centers, policy makers on production and use of FRM (planned 2022-23)
- 7. Identified Policy, Research and forest management needs, related to FGR. (achieved ongoing)

The seven subchapters below 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 2021.

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

At the end of Phase V the Steering Committee established a Working Group to support the development of the Forest Genetic Resources Strategy for Europe. The Working group was composed of: Ricardo Alia (Spain), Phil Aravanopoulos (Greece), Berthold Heinze (Austria), Gaye Kandemir (Turkey), Czesław Kozioł (Poland), and Frank Wolter (Luxembourg).

The Working Group was complemented by representatives of the GenRes Bridge Project: Kjersti Bakkebø Fjellstad (NIBIO), Hojka Kraigher (GIS), François Lefèvre (INRAE), Mari Rusanen (LUKE), and Marjana Westergren (GIS, EFI), coordinators of relevant recent and on-going research projects and networks: Bruno Fady (GenTree), Santiago C. González-Martínez (EVOLTREE), Ivan Scotti (FORGENIUS), and the EUFORGEN Secretariat: Michele Bozzano (EUFORGEN-EFI) and Anna-Maria Farsakoglou (EUFORGEN-EFI).

The Working Group met for the first time (in person) in Finland on 28-31 October 2019, and then, due to the COVID-19 outbreak all the following interactions were organized virtually.

Between 15 April and 30 June 2020 a total of 10 online meetings were organized. These meetings set the basis for the development of the first draft, which was developed in parallel by the above-mentioned authors.

The first draft of the *Forest Genetic Resources Strategy for Europe* was shared in October 2020 with the National Coordinators and their feedback was collected through email and during the 15th Steering Committee meeting. Later on, several interactions through email correspondence, allowed the National Coordinators to provide inputs and feedback on the progressive versions of the Strategy.

¹² Strategic objectives and implementation plan for Phase VI: https://www.euforgen.org/fileadmin/templates/euforgen.org/upload/Documents/EUFORGEN_PhaseVI_Objectives_and_Plan.pdf

On 8-10 June 2021, the Steering Committee met virtually to discuss the proposed key commitments. The Working Group then prepared the Implementation Plan, which was finally validated by the Steering Committee together with the revised version of the Strategy on 5 October 2021.

The Strategy was 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. (see Chapter 9.2 for more details).

The Forest Genetic Resources Strategy for Europe follows the same structure of the FAO Global Plan of Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources (GPA-FGR) and defines how European countries implement the GPA-FGR individually and through EUFORGEN.

The strategy is available online at www.euforgen.org/FGRStrategy4Europe
More information available online at www.euforgen.org/about-us/news/news-detail/forest-genetic-resources-strategy-for-europe-1

The Secretariat has started the dissemination (social media and promotion at relevant events). The dissemination of this milestone achievement of EUFORGEN will continue for the whole Phase VI.

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 – 2021-2025)

As highlighted in the 2019 report, the EUFGIS Information System is obsolete and urgently needs restructuring and upgrading both of the technology and of the associated services (for data providers, national authorities and broader conservation community). The upgrade of EUFGIS and the integration of the decision-support tool will be implemented through the EUFunded project FORGENIUS¹³ (2021-2025), which is supporting the upgrade of EUFGIS and the creation of a new series of services for end-users.

The preparation for the upgrade started in October 2020 with a workshop for the EUFGIS focal points, organized in the framework of the GenRes Bridge project, then continued in 2021, with two other workshops organized in the framework of the FORGENIUS project. Two Work Packages of the FORGENIUS project are devoted to the upgrade of EUFGIS (i) WP5 (Improvement and enlargement of the EUFGIS Information System) aims at restructuring the EUFGIS information system and uploading the data and results of the other work packages generating data into the database; (ii) WP6 (Quality services for user access to genetic resources information) aims to build the bioinformatic tools into a web application that will allow endusers to extract and make use of the information stored in EUFGIS.

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

The Secretariat and several organizations in Member Countries are partners in the project. See section 5 (EUFGIS) and 9.3 (FORGENIUS) for more information.

At the end of 2020 the Secretariat commissioned a <u>detailed study</u>¹⁴ on EUFGIS and FOREMATIS interoperability - technical strategies to share information between the two information systems. The study will guide the linking of the two information systems. This will be partially

¹³ FORGENIUS - Improving access to FORest GENetic Resources Information and Services for End-USers <u>www.forgenius.eu</u>

¹⁴ EUFGIS and FOREMATIS interoperability technical strategies to share information between the two Information Systems www.euforgen.org/fileadmin/templates/euforgen.org/upload/Documents/EUFGIS misc/Working paper_EUFGIS-FOREMATIS.pdf

implemented using the existing FORGENIUS funding. The Secretariat has already submitted a project proposal to raise more funding aiming at fully-semantic linkages.

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 interface for monitoring of FGR conservation, following the revised indicator 4.6¹⁵. This is scheduled for 2022-24.

4.4 Minimum requirements for dynamic and static *ex situ* conservation (ongoing – planned 2023-24)

In 2021, the EUFORGEN Secretariat launched a survey on "Forest Genetic Resources (FGR) conservation data status in Europe, on the EUFGIS upgrade and on static *ex situ* genetic conservation".

The part of the survey on "Ex situ Forest Genetic Conservation Status in Europe" aimed to evaluate the current state of ex situ FGR Conservation and existing practices, management procedures and other linked elements in Europe. The results of the survey will act as the basis 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.

The work was postponed due to COVID-19 traveling and meeting limitations. It has been rescheduled for 2023-24.

4.5 Report on strategies for the adaptation to climate change (including assisted migration) (planned 2022-2024)

The development of the report was planned to have been achieved through a Discussion Platform meeting in autumn 2022, followed by a Working Group meeting and reporting on the findings. Due to COVID-19 traveling and meeting limitations, it has been re-scheduled for 2022-23.

4.6 Guidelines for nurseries, seed centers, and policy makers on production and use of FRM (planned 2022-23)

The Steering Committee decided in 2019 that, once the report "Genetic aspects linked to production and use of forest reproductive material" was released, the Secretariat, supported by one or more Working Groups, would transform relevant messages from the report into a format, suitable for several target audiences (e.g. nurseries, seed centers, policy makers). Formats will include executive summaries, videos, and so forth as appropriate. The report was finally released at the end of 2020 and the activities postponed due to the worsening 2020 Pandemic situation.

¹⁵ 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/publications/publication/dynamic-conservation-and-utilization-of-forest-tree-genetic-resources-indicators-for-in-situ/

In 2022 the Secretariat will develop a draft brief for policy makers based on the report, which will be circulated to the Steering Committee for feedback. The development of the material for nurseries and seed centers is scheduled for 2022-23, when a working group will be nominated.

Part of the dissemination activities will be implemented in collaboration with the OECD Scheme for the Certification of Forest Reproductive Material (see chapter 7.2 below).

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 event¹⁶ 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.

This event was jointly organized by four European research and implementation projects - GenTree¹⁷, SUSTREE¹⁸, SPONFOREST¹⁹ and LIFEGENOMON²⁰ – and the EUFORGEN programme. The event provided an occasion to present the *Recommendations with Policy Relevance*²¹ identified by the Steering Committee in 2019. All recommendations were then reflected in the Horizon Europe 2021 Calls ²². This indicates the effectiveness of the communication channel and the recognition of the EUFORGEN Programme as a honest broker in the science-policy interface.

In January 2020, the Secretariat, in collaboration with the GenTree Project organized a consultation, involving stakeholders from a broad range of European countries, aiming to identify research and actions needs in Europe. About 60 participants attended the event, representing 25 European countries. The EUFORGEN Member countries have been invited to nominate one representative each. The consultation focused on i) identifying critical issues not yet addressed by research, ii) formulating a list of research priorities for future collaborative work in the area of FGR conservation and sustainable use, and iii) on preparing a portfolio of research ideas to be presented to different funding bodies and implementing agencies. The report is available at https://www.gentree-h2020.eu/fileadmin/Gentree-uploads/documents/GenTree stakeholders consultation 30Jan2020 report short final.pdf, including the list of the Stakeholders who attended the event and the identified needs.

The Steering Committee will evaluate the achievements of EUFORGEN's Phase VI and the outputs of the FORGENIUS project, before further assessing the research and action needs relevant to FGR in Europe.

¹⁶ Genetic resources - The key to adaptation of forests to global change www.euforgen.org/about-us/events/events/event/genetic-resources-the-key-to-adaptation-of-forests-to-global-change/

¹⁷ GenTree - Optimizing the management and sustainable use of forest genetic resources in Europe - www.gentree-h2020.eu

¹⁸ **SUSTREE** (Conservation and sustainable utilization of forest tree diversity in climate change) www.interregcentral.eu/Content.Node/SUSTREE.html

¹⁹ **SPONFOREST** - Unravelling the potential of spontaneousforest establishment for improving ecosystem functions and services in dynamic landscapes - https://www.biodiversa.org/1024

²⁰ **LIFEGENMON** (LIFE for European Forest Genetic Monitoring System) - www.lifegenmon.si

²¹ Recommendations with Policy Relevance

 $[\]underline{www.euforgen.org/fileadmin/templates/euforgen.org/upload/Documents/LeafletBrux_EUFORGEN_messages.pdf$

²² Protection and sustainable management of forest genetic resources of high interest for biodiversity, climate change adaptation, and forest reproductive materials https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl6-2022-biodiv-01-07

5. European information system on forest genetic resources (EUFGIS)

EUFGIS 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 Points²³ in line with the pan-European minimum requirements²⁴ and data standards²⁵ for these units. The data standards and the minimum requirements were developed as part of the EUFGIS project²⁶ (2007–2011). The portal²⁷ and the intranet²⁸ have been maintained by EUFORGEN after the EUsupported project ended.

In 2020-21, the National Focal Points continued compiling new data on the units and uploading the data on the EUFGIS portal. At the end of 2021, the EUFGIS portal contained data on 3,983 units and 112 tree species in 35 countries. The units harbor a total of 5,093 tree populations. Thirty-six countries have nominated their National Focal Points²⁴.

The core network of dynamic conservation units (following the definitions of the "Pan-European strategy for genetic conservation of forest trees and establishment of the core network"²⁹), was identified for all 112 tree species present in the Information System.

5.1 Data Sharing Agreement (DSA)

EUFGIS makes an important contribution to documenting and monitoring the status of FGR. This information system is central to reporting on Europe meeting a range of international policy commitments 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).

To date, data have been 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 has been 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 is preparing a Data Sharing Agreement (DSA) concerning the transfer of data to EUFGIS and the management and use of that data once transferred.

To enhance its effectiveness and impact, EUFGIS requires further development to enable access to both reliable data and information required to monitor conservation and threat/risk status. Interoperability of EUFGIS data with data from other research areas is fundamental to promote greater integration of FGR into wider research and development areas. This would help to

²³ Current list of nominated National Focal Points http://portal.eufgis.org/data-providers/

²⁴ Pan-European minimum requirements for dynamic gene

 $conservation\ units\ of\ forest\ trees: \ \underline{http://portal.eufgis.org/fileadmin/templates/eufgis.org/documents/\underline{EUFGIS_Minimum_requirements.pdf}}$

²⁵ Data standards for dynamic gene conservation units of forest trees to be included into the EUFGIS

 $information\ system:\ http://portal.eufgis.org/fileadmin/templates/eufgis.org/documents/EUFGIS_DataStandards.pdf$

²⁶ EUFGIS Project website: http://www.eufgis.org

²⁷ EUFGIS Portal: http://portal.eufgis.org

²⁸ EUFGIS Intranet: <u>http://intranet.eufgis.org</u>

²⁹Pan-European strategy for genetic conservation of forest trees and establishment of a core network of dynamic conservation units <u>www.euforgen.org/publications/publication/pan-european-strategy-for-genetic-conservation-of-forest-trees-and-establishment-of-a-core-network-o/</u>

address inter-disciplinary questions that may arise in relation to the implementation of the various policies that are relevant to forestry and biodiversity.

Linking EUFGIS with other relevant information systems in Europe is therefore strategic. This will not be possible until the rights of the Information System manager (EFI) are formally recognized by the data providers (the countries) to be able to share data with third parties and to provide access to such data.

Through the FORGENIUS Project (see chapter 9.3 below) EUFGIS will be completely restructured. This will be an important upgrade, creating a new set of services. It will 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 forwards, creating new services for all European countries and for the scientific community.

Additionally, the new EUFGIS will also allow uploading data on those GCUs that are relevant at national level, but that 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. This will imply that EFI will hold data on behalf of the countries, and that this facility will need to be regulated. There will be different levels of data visualization, and the National Focal Points will still be able to contribute to regulating Information System access.

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 a graphic description of the roadmap to developing and releasing the DSA is provided in Figure 1

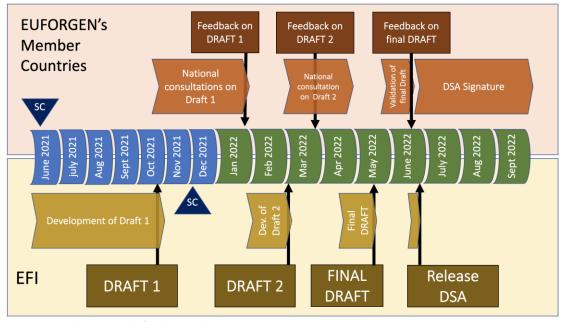


Figure 1: Roadmap towards finalizing and signing a common DSA

The DSA draft 1 was submitted to the EUFORGEN National Coordinators in November 2021. The draft was used for national-level consultations, and to define the appropriate signatory for the DSA. The first consultation started in November 2021 ended in January 2022. There was a devoted session regarding the DSA during the 16th SC meeting in December 2021.

5.2 Trainings and workshops

In order to cope with the impossibility of organizing an event in person due to the COVID-19 pandemic and to provide a better and longer-lasting training on EUFGIS and its functionalities, a series of training sessions was recorded and made available to the EUFGIS Focal points through the EUFGIS Intranet:

- 1. Introduction: www.youtube.com/watch?v=-ZtKR0jkjl0
- 2. Units and Target Species: www.youtube.com/watch?v=inekRVZIxuA
- 3. Species and Environmental Zones: www.youtube.com/watch?v=rLxPadaeEZ4&t=1s
- 4. Core Network: www.youtube.com/watch?v="sSEEqHZLw4">www.youtube.com/watch?v="sSEEqHZLw4

In addition, during the reported period, the following trainings and workshops have been organised for the EUFGIS National Focal Points:

20-22 October 2020 (Virtual) attended by representatives from Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Lithuania, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom. This workshop, in addition to training the Focal Points, aimed to **identify constraints, needs and possible services associated to EUFGIS.**

20-21 April 2021 (virtual) attended by representatives from Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Moldova, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and the United Kingdom. The workshop aimed to **identify upgrade needs of the EUFGIS Information System**.

19-20 October 2021 (virtual). Attended by representatives from Austria, Bulgaria, Croatia, Finland, France, Germany, Iceland, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Moldova, the Netherlands, Norway, Poland, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and the United Kingdom. The participants were trained on **data processing**, in the specific on how to handle and process **polygons of the GCUs** in order to facilitate sampling in the GCUs and **remote sensing characterization**.

Between the first and the second workshop the Secretariat run a survey to better define and prioritise the identified constraints, needs and services.

6. Activities of the EUFORGEN Steering Committee

During the reported period, the Steering Committee met three times:

- 1. 15th meeting of the EUFORGEN Steering Committee, 24-26 November 2020, virtual meeting
- 2. 2021 Extraordinary meeting of the EUFORGEN Steering Committee, 8-10 June 2021
- 3. 16th meeting of the EUFORGEN Steering Committee, 1-2 December 2021, Brussels, Belgium, back-to-back with the final meeting of the GenRes Bridge project (hybrid meeting)

In addition to overseeing Programme activities, the Steering Committee contributed to developing the *Forest Genetic Resources Strategy for Europe* (see sub-chapter 4.1 above) and on the overarching *Genetic Resources Strategy for Europe* (see sub-chapter 9.2 below).

In December 2021, the Steering Committee established a Task Force to draft an open letter on the role for the EUFORGEN Programme in the framework of the new EU Forest Strategy for 2030 to be submitted to the relevant offices of the European Commission. At the same meeting, the Steering Committee established another Task Force to draft a position paper on revising forest reproductive material legislation.

7. Activities of the EUFORGEN Secretariat

The Secretariat coordinated the activities of the Phase V Working Groups in order to finalize the publication of the respective reports. in 2020 and 2021. The Secretariat has been coordinating the development of the FGR Strategy for Europe and represented the programme in all relevant events (most organized virtually due to COVID 19 pandemic). The Secretariat also actively contributed to the development of the overarching Genetic Resources Strategy for Europe³⁰ and to the related negotiations. In the framework of the GenRes Bridge project, the Secretariat coordinated all FGR-related activities (in addition to the overall project coordination). A significant amount of time during 2021 was devoted to an additional fundraising aimed to support EUFORGEN's activities on sustainable use of FGR

The Secretariat developed and run a survey on "FGR conservation data status in Europe, on the EUFGIS upgrade and on static *ex situ* genetic conservation", which helped define upgrading needs for EUFGIS. It will also support the work of the Working Group on developing *ex situ* minimum requirements.

EUFORGEN Secretariat updated the communication strategy, to reflect the strategic objectives of Phase VI. The website remains EUFORGEN's main channel, with about 6,000 visits per month, where the species pages are the most visited. Social media, such as Twitter and Facebook, are also continuing to gain the attention of the external community. All channels showed an increase in number of visits: 22% for the web, 48% increase of twitter followers, 27% increase of Facebook followers and 51% increase in newsletter subscribers.

Overview of website (changes and improvements)

A new structure was set up in order to allow an easier navigation of the website.

A hypertext transfer protocol secure (HTTPS), the secure version HTTP, was encrypt

A hypertext transfer protocol secure (HTTPS), the secure version HTTP, was encrypted in order to increase security of data transfer.

³⁰ Genetic Resources Strategy for Europe www.genresbridge.eu/genetic-resources-strategy-for-europe/downloadable-version

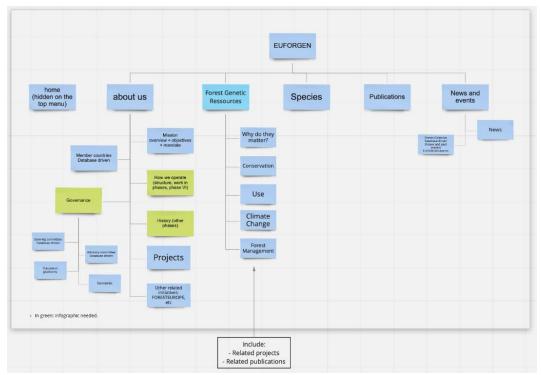
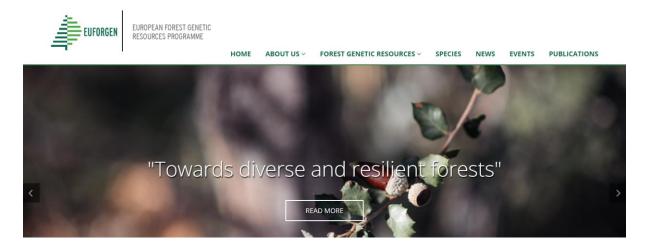


Figure 2 Updated structure of the EUFORGEN website

The website also underwent a re-styling with a new logo and tagline.

The homepage was improved with a new layout, faster sliding bar with the new tagline and direct link to EUFGIS. Species³¹ and Countries³² pages have been improved harvesting data directly from the EUFGIS Information System.

The pages for the member countries were updated with information about the Implementing Agency and logo.



³¹ https://www.euforgen.org/species/

^{32 &}lt;u>https://www.euforgen.org/member-countries/</u>

• Traffic (comparison 2018-2019 vs 2020-2021)

Increase of users and views:

	Users		Views	
2020-2021	134 733	+55%	329 381	+22%
2018-2019	87 N33		256 6/1	



Geographical location of the users (2020-2021)



Bounce Rate

9. /member-countries/

10. /species/quercus-robur/

Most visited pages and news (2020-2021)

Unique Pageviews

Avg. Time on Page

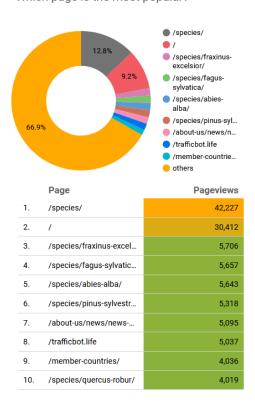
addition and a second a second and a second and a second and a second and a second	proprieta proprieta	:56 	75.70%	54.46%			
Site Content		Page				Pageviews	% Pageviews
Page	+	1. /species/			P	42,227	12.82%
Page Title	2. /			便	30,412	9.23%	
Site Search		3. /species/fraxinus-excelsior/				5,706	1.73%
Search Term		4. /species/fagus-sylvatica/			æ	5,657	1.72%
Events		5. /species/ables-alba/				5,643	1.71%
Event Category		6. /species/pin	us-sylvestris/		_{(P}	5,318	1.61%
	7. /about-us/news-news-detail/why-active-forest-management-is-necessary/			æ	5,095	1.55%	
	8. /trafficbot.life			æ	5,037	1.53%	

% Exit

4,036 | 1.23%

4,019 | 1.22%

Which page is the most popular?



In 2020 the EUFORGEN logo and the digital image were revised. A brand book³³ was developed and made available. The tagline "*Towards diverse and resilient forests*" was agreed through a consultation process ending in June 2021. The images below show the revised version of the logo and a template cover for new publications.





During the reporting period, the Secretariat continued to maintain and improve EUFGIS, Intranet and Portal (see section 5 above). The Secretariat also continued to provide helpdesk support to the EUFGIS National Focal Points.

The EUFORGEN Secretariat has represented the Programme in relevant meetings, in particular of i) the Forest Europe Process; ii) the OECD Scheme for the Certification of Forest Reproductive

 $www.euforgen.org/fileadmin/templates/euforgen.org/upload/Documents/PA_material/EUFORGEN_Brand_Book_2021.pdf$

³³ EUFORGEN_Brand_Book_2021:

Material; iii) the Intergovernmental Technical Working Group on Forest Genetic Resources; ITWG-FGR); iv) the Commission on Genetic Resources for Food and Agriculture, and v) the Committee on Forestry. The Secretariat also represented the programme at relevant conferences and events (mostly virtual due to the COVID-19 pandemic).

7.1 Inputs to the Forest Europe process and related work

In 2020, the EUFORGEN Secretariat contributed to finalizing the chapter on *Indicator 4.6 Genetic resources* of the State of Europe's Forests Report³⁴. The Secretariat also contributed to FGR-related parts of the publication *Adaptation to Climate Change in Sustainable Forest Management in Europe*³⁵.

The Secretariat attended all the Expert Level Meetings (2020 and 2021) and the Bratislava Conference (2021).

In 2021, at the 8th Forest Europe Ministerial Conference, signatory countries 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 resources³⁶), and continue pan-European collaboration on forest genetic resources through the European forest genetic resources programme to this end."³⁷

In the Video released at the Eighth Forest Europe Ministerial conference "30 years of Forest Europe", EUFORGEN is mentioned as major highlight of the first Ministerial Conference³⁸.

The Secretariat is collaborating with the Forest Europe Liaison Unit Bonn Forest risk knowledge mechanism, to seek high-level dialogue opportunities on possible conflicts related to strict protection of old-growth forests: in the new EU Forest Strategy for 2030³⁹ there is a plan to strictly protect old-growth forests. Often the old-growth forests are also very valuable conservation sites for forest genetic resources and can also be identified as Genetic Conservation Units (as part of the Pan-European network⁴⁰). If the interpretation of strict protection is too narrow, and forests not managed to favor the conservation of the target tree species diversity, valuable genetic resources could be lost forever.

7.2 Collaboration with the OECD Scheme for the Certification of FRM

The EUFORGEN Secretariats is collaborating with the Secretariat of the *OECD Scheme for the Certification of Forest Reproductive Material* to develop a joint communication strategy on relevant common issues. The purpose is to disseminate the relevant findings of the working group report on *Genetic aspects linked to production and use of forest reproductive material* (FRM)⁴¹. The foreseeing joint communication materials would explain the importance of

content/uploads/2016/08/Adaptation_to_Climate_Change_in_SFM_in_Europe_compressed.pdf

39 the new EU Forest Strategy for 2030 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021DC0572

³⁴ FOREST EUROPE, 2020: State of Europe's Forests 2020. https://foresteurope.org/wp-content/uploads/2016/08/SoEF_2020.pdf

³⁵ FOREST EUROPE 2020. Adaptation to Climate Change in Sustainable Forest Management in Europe, Liaison Unit Bratislava, Zvolen, 2020 - https://foresteurope.org/wp-

³⁶ 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/publications/publication/dynamic-conservation-and-utilization-of-forest-tree-genetic-resources-indicators-for-in-situ

³⁷ Bratislava Ministerial Declaration "The Future We Want: The Forests We Need" https://foresteurope.org/wp-content/uploads/2017/08/Bratislava-Ministerial-Declaration.pdf

³⁸ https://www.youtube.com/watch?v=C1tdqsv3xu4

⁴⁰ Pan-European strategy for genetic conservation of forest trees and establishment of a core network of dynamic conservation units - www.euforgen.org/forest-genetic-resources/conservation/pan-european-strategy/

⁴¹ http://www.euforgen.org/publications/publication/genetic-aspects-linked-to-production-and-use-of-forest-reproductive-material-frm/

selecting suitable FRM in the face of climate change, as well as the importance of arguing for the development of policies and regulation that enable the use of a more appropriate FRM and not necessarily limit them to the use of endogenous material.

In addition, as a follow-up to one of the "Recommendations with Policy Relevance" that the EUFORGEN programme released in 2019, which called for "Monitor adaptation and evolutionary potential of transferred forest reproductive material". It specifically suggested creating "an online information system for geo-referenced records of the origin, movement and use of forest reproductive material", "to record the production, marketing and end use of the forest reproductive material and, where available, performance data". Being a topic of relevance for both OECD and EUFORGEN, the two Secretariats are coordinating, in order make a proper assessment on the needs and the willingness of countries to contribute and to benefit as much as possible from the digitalization transition that is currently affecting the sector.

7.3 Collaboration with FAO

The EUFORGEN Secretariat contributed to the regional assessment for the preparation of the second State of the World's Forest Genetic Resources (SOW-FGR). It also attended and contributed to relevant meetings of the Intergovernmental Technical Working Group on Forest Genetic Resources and of the Commission on Genetic Resources for Food and Agriculture.

7.4 Staff of the EUFORGEN Secretariat

During the reported period, the permanent staff of the Secretariat were Michele Bozzano (Coordinator), Anna Maria Farsakoglou (Scientific Assistant – -since March 2020), Ewa Hermanowicz (Communication Officer – until March 2021), Pilar Valbuena (Communication officer - March-July 2021) Christiane Düring (Administrative Officer until September 2020) and Lidwina Koop (Administrative Officer – since September 2020). The Secretariat carried out a significant amount of work through collaboration with external consultants and temporary staff, depending on the workload, activities and the required expertise.

8. Financial summary for 2020 and 2021

The travel and meeting restrictions during 2020 and 2021 prevented EUFORGEN from organizing most of the planned face-to-face activities. This, combined with the funding for Secretariat staff from the GenRes Bridge project, allowed a significant saving in resources. This saving will allow continuing the planned activities for Phase VI over the remaining years.

In January 2020, the opening balance of the EUFORGEN trust fund was €233,657. The closing balance of the trust fund for 2021 is €399,222 and carried forward to the next year (2022) of Phase VI of EUFORGEN.

Total financial contributions received from Member Countries for the year 2020 were €256,300 and for 2021 € 339,950. Contributions for 2022 were received in 2021 for a total of €12,500.

The overall actual expenses for 2020-2021 (€ 369,355) were lower than the planned budget of € 704,945 (budget for two years of operation). This decrease is mainly due to the reduction of

⁴²www.euforgen.org/fileadmin/templates/euforgen.org/upload/Documents/LeafletBrux_EUFORGEN_messages.pdf

the costs related to events being organized virtually due to the Covid situation, and part of the staff time was covered by the GenRes Bridge project.

Staff costs in 2020-2021 were around €290,380 and remain the main cost category, representing approximately 80% of the total. These costs were much lower than the budget for 2020-2021. This decrease was mainly due to fewer Secretariat staff during the year and part of the staff time was covered by the GenRes Bridge project. The recruitment of the communication officer had been put on hold due to the limited activities of the Programme related to COVID-19.

Travel costs for 2020-2021 were €7,555 and significantly lower than foreseen in the budget. The main reason for this deviation is that almost no travel took place in 2020-2021 due to the COVID-19 pandemic. The main travel costs for staff related to the EUFORGEN Steering Committee meeting in December 2021.

The expenditures in 2020 regarding the discussion platform amounting € 12,812 were related to the editing of the WG reports.

Finally, other direct costs, such as Public Awareness, Communication, Publications and dissemination, represented € 31,641, less than 10% of the total. These expenses included mainly the editing, lay out and production of the *Forest Genetic Resources Strategy for Europe*, web maintenance and database implementations, and software applications. The detailed financial report for 2020 and 2021 is available in the Annex 2 to this report.

9. Contributions to European initiatives and projects

9.1 GenTree Project

GenTree ("Optimising the management and sustainable use of forest genetic resources in Europe") was a project funded by the EU Horizon 2020 research and innovation programme. The goal of GenTree was to provide the European forestry sector with better knowledge, methods and tools for optimising the management and sustainable use of FGR in Europe in the context of climate change. The project (March 2016 – February 2020) was coordinated by the French National Research Institute for Agriculture, Food and the Environment (INRAE) and included 22 public and private research organizations and enterprises in the consortium.

The EUFORGEN Secretariat was co-responsible for the Work Package on communication and stakeholders' engagement. In 2020 the GenTree project held its final scientific conference 'Genetics to the rescue: managing forests sustainably in a changing world' 28-29 January, Avignon, France. On 30 January, in collaboration with the EUFORGEN Secretariat, the GenTree project, building on the conference, organized a consultation to identify research questions that remain open. About 60 participants attended the event, representing 25 European countries. The consultation focused on identifying critical issues not yet addressed by research, on the formulation of a list of research priorities for future collaborative work in the area of forest genetic resources conservation and sustainable use, and on the 20reparateion of a portfolio of research ideas to be presented to different funding bodies and implementing agencies. The full report is available at https://www.gentree-h2020.eu/fileadmin/Gentree-uploads/documents/GenTree stakeholders consultation 30Jan2020 report short final.pdf

More information on GenTree is available at www.gentree-h2020.eu

9.2 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, ECPGR⁴³ (European Cooperative Programme for Plant Genetic Resources), and ERFP⁴⁴ (The European Regional Focal Point for Animal Genetic Resources)

The three networks directly contribute to the GenRes Bridge project, via three *ad-hoc* working groups established to support and contribute to GenRes Bridge's activities. The *ad-hoc* groups ensure that the perspectives of the respective communities are properly considered within the project's outputs. EUFORGEN's working group, nominated in 2019 during the last Steering Committee meeting of Phase V, was composed of representatives from Austria, Greece, Luxembourg, Poland, Spain and Turkey, by the GenRes Bridge Project partners and coordinators of relevant European Projects on forest genetic resources. In parallel to the contribution and feedback to the European Genetic Resources Strategy, the working groups developed domain-specific strategies (see chapter 4.1 above).

The GenRes Bridge project has significantly contributed to ensuring long-term food security, and delivering many non-food products and services. It has supported different functions of agriculture and forestry, fundamental to planetary wellbeing. It has harnessed knowledge, strategies, tools and infrastructures developed individually in the crop, forest and animal domains over recent decades by the three pan-European genetic resources networks: ECPGR, ERFP and EUFORGEN. Together with a wide range of biodiversity stakeholders and end-users of Genetic Resources within and beyond Europe, GenRes Bridge has enhanced the conservation and sustainable use of genetic resources in Europe, achieving all of its objectives as follows:

- Accelerated collaborative efforts among crop, forest and animal Genetic Resources networks and wider (agro) biodiversity stakeholders
- Widened individual network capacities to enhance the status and effectiveness of Genetic Resources conservation and use
- Enhanced Genetic Resources' conservation status
- Improved services offered to Genetic Resources end-users

The main deliverables of the GenRes Bridge project have been:

- i. The Genetic Resources Strategy for Europe (<u>www.genresbridge.eu/GRS4E</u>)
- ii. An innovative concept for integrated management and conservation of genetic resources focused on genetically-diverse landscapes, linked to hotspots of livestock, crop and forest genetic diversity (<u>www.genresbridge.eu/resources/genetic-hotspots</u>)
- iii. The *Genetic Resources Gateway*, a portal to map and access initiatives and actors responsible for Genetic Resources conservation (<u>www.genres.eu</u>)

⁴³ http://www.ecpgr.cgiar.org/

¹³

⁴⁴ https://www.rfp-europe.org/

iv. The open-access, peer-reviewed *Journal Genetic Resources*, on plant, animal and forest genetic resources (www.genresj.org)

The GenRes Bridge project also aimed to strengthen the interaction of representatives from the three sectors and relevant stakeholders. This was partially achieved through a meeting in November 2020 (the event was held only virtually, due to COVID-19 pandemic restrictions) and through the final dissemination event held in Brussels in November 2021⁴⁵. The events showed the legacy of ECPGR, ERFP and EUFORGEN to the project's outputs and their commitment to implement the *Genetic Resources Strategies for Europe*.

The Launch of the Genetic Resources Strategies for Europe was attended by 64 participants on site, and 330 online. The press release of the Launch of the Genetic Resources Strategies for Europe available at: www.genresbridge.eu/genetic-resources-strategy-for-europe/press-release/, while the full recording of the Launch is available at: www.genresbridge.eu/genetic-resources-strategy-for-europe/recordings/

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

9.3 FORGENIUS

The FORGENIUS project⁴⁶ 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.

In addition to characterizing the GCUs, FORGENIUS is upgrading EUFGIS itself. 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

⁴⁵ Program of the event: www.genresbridge.eu/fileadmin/templates/Genres/Uploads/Documents/GRS4E_Draft_programme.pdf

⁴⁶ Funded from the European Union's Horizon 2020 research and innovation programme under grant agreement No 862221 - www.forgenius.eu

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.

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

10.Publications and reports

List of publications produced/released during the reported period

- EUFORGEN. Forest Genetic Resources Strategy for Europe. 2021, European Forest Institute .80 p.
- D.Gömöry, K.Himanen, M. M.Tollefsrud, C. Uggla, H. Kraigher, S. Bordács, P. Alizoti; S. A'Hara, A. Frank, G. F. Proschowsky, J. Frýdl, T. Geburek, M. Guibert, M. Ivanković, A. Jurše, S. Kennedy, J. Kowalczyk, H. Liesebach, T. Maaten, A. Pilipović, R. Proietti, V. Schneck, A. Servais, B. Skúlason, C. Sperisen, F. Wolter, T. Yüksel and M. Bozzano. 2021. Genetic aspects in production and use of forest reproductive material: Collecting scientific evidence to support the development of guidelines and decision support tools. European Forest Genetic Resources Programme (EUFORGEN), European Forest Institute. 216 p.
- A. Rudow, M. Westergren, J. Buiteveld, V. Buriánek, B. Cengel, J. Cottrell, G. de Dato, K. Järve, D. Kajba, C. Kelleher, F. Lefèvre, M. Liesebach, L. Nagy, S. Stojnić, M. Villar, L. Yrjänä, M. Bozzano. 2020. Decision support tool for the management of dynamic genetic conservation units. European Forest Genetic Resources Programme (EUFORGEN), European Forest Institute. 104 p.
- Lefèvre, F., Alia, R., Bakkebø Fjellstad, K., Graudal, L., Oggioni, S.D., Rusanen, M., Vendramin, G.G., Bozzano, M. 2020. Dynamic conservation and utilization of forest tree genetic resources: indicators for *in situ* and *ex situ* genetic conservation and forest reproductive material. European Forest Genetic Resources Programme (EUFORGEN), European Forest Institute. 33 p
- EUFORGEN Newsletter. March 2020 https://mailchi.mp/977fc5e264ff/march-2020
- EUFORGEN Newsletter July 2020 https://mailchi.mp/1cf8d9a952b0/july2020?e=%5bUNIQID%5d
- EUFORGEN Newsletter October 2020 https://mailchi.mp/97ada718dcaa/october2020?e=0175fa7529
- EUFORGEN Newsletter January 2021 https://mailchi.mp/03ab204b1a42/january2021?e=0175fa7529
- EUFORGEN Newsletter May 2021 https://mailchi.mp/8ac99b36e7c8/january2021-5100541?e=e4cef72ff0

- EUFORGEN Newsletter November 2021 https://mailchi.mp/b7995a1ac4bb/november2021-8590581?e=3cf9562a04
- Report of the 15 and 16th EUFORGEN Steering Committee meeting

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 2021.

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

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2021 / Date of achievement
Facilitate	SC meetings with invited observers from non-member countries	S+NC	ongoing	agenda, list of participants and minutes of the meeting	Achieved – ongoing 2 Steering Committees organized (15 - 24-26 November 2020 and 16 - 1-2 December 2021) and 1 Extraordinary meeting (8-10 June 2021)
knowledge sharing and learning among relevant Actors	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
(eg scientists, national competent	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)
authorities, practitioners and policymakers)	Identify country experts with knowledge on specific tree species and topics	S +NCs	ongoing	Interface developed / number of species with identified reference person	Pending
	Cross border collaboration with	S+NC	ongoing	list of event and initiatives	Achieved FGRS4 Europe includes actions for Neighbour countries

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2021 / Date of achievement
	non-European Neighbor Countries				
	Communicate the programme results to stakeholders)	S + EFI comms unit	2024	list of events, presentation and leaflets released and disseminated	Achieved – ongoing
Communicate the importance of	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 3 Forest Europe, 3 OECD, 1 ITWG-FGR, 1 CGR-FA FAO.
genetic diversity and outputs of EUFORGEN to policymakers, forestry	Promotion campaigns raising awareness on the FGR conservation strategy;			number and list of leaflets and infographics, evidence of their dissemination	Ongoing
professionals and practitioners on the ground, wider scientific community and society	Get coverage of the topic of FGR in international media by strengthening media partnerships and developing products of interest to media	S		list of relevant events and coverage	Pending
	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

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2021 / Date of achievement
	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 CGRFA, 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: https://www.euforgen.org/me mber-countries/luxembourg/?showForematis=true
contribute to the further development of the distribution maps of	Improving the functionality of EUFGIS to facilitate the national reporting efforts	S	2024	new version of EUFGIS Portal and Intranet available	Ongoing (FORGENIUS) https://www.forgenius.eu/eufgis 5
European forest trees	Collaborate with the Joint Research Centre (JRC) of the European Commission in improving	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/ hettps://www.euforgen.org/species/ https://www.euforgen.org/species/ htt

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2021 / Date of achievement
	distribution maps, serving as a link between the FGR scientific community and JRC. Provide access to maps via EUFORGEN website				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.
Contribute to relevant international reporting efforts, such as the State	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
of Europe's Forests reports	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

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2021 / Date of achievement
	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 FORGENIUS project)

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

Operation al Objective	Activities Phase VI	Responsibility	Time frame	means of verification	Status as of 31 December 2021 / Date of achievement
Update the pan-	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 Strategy published (2021) www.genresbridge.eu/grs4e
European conservati on strategy also including response to large scale risks	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/te mplates/euforgen.org/upload/P ublications/Thematic publicatio ns/FGR Strategy4Europe.pdf Non-member countries consulted: Belarus, Bosnia & Herzegovina, Bulgaria, Cyprus, Georgia, Greece, Moldova, North Macedonia, Portugal, Romania, Turkey, Ukraine.
Support National implemen tation 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

Operation al Objective	Activities Phase VI	Responsibility	Time frame	means of verification	Status as of 31 December 2021 / Date of achievement
	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)	Pending
Implemen t the	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 (GenRes Bridge and FORGENIUS. Two more training planned before the end of the Phase)
pan- European conservati on strategy	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 (FORGENIUS)
	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	Pending?

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 2021 / Date of achievement
Prepare science- based recommendations and tools for better incorporating genetic aspects into	Discussion Platform (DP) on strategies for the adaptation to climate change	MC+ S	2024	list of participants, agenda, minutes and recommendations	Postponed to 2022 due to COVID 19 traveling and meeting limitations
Sustainable Forest Management practices	WG on strategies for the adaptation to climate change	MC+S	2021-2024	list of members, minutes of meetings, report of WG	Postponed to 2022 due to COVID 19 traveling and meeting limitations
	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 – Planned
	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

Operational Objective	Activities Phase VI	Responsibility ¹	Time frame	means of verification	Status as of 31 December 2021 / Date of achievement
	link EUFGIS with FOREMATIS (conversion of EUFGIS into a Semantic Information System)	S	2021	new Semantic EUFGIS Information system released, effectively linked to FOREMATIS	Planned the semantic linking will need additional funding and changes on the FOREMATIS side. Project proposal submitted
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 - Planned for 2022

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 Technical and Financial reports 2020-2021

Summary of Expenditure - up to 31/12/2021

D etails	Budget · Opening Balance (EUR)(1)	Budget for years 2020-2021	Total Expenditure (EUR) 2020-2021	2020 Expenditure (EUR)	2021 Expenditure (EUR)	Balance 2020-2021 (budget minus expenditures)	Overall budget Balance (EUR)
Secretarial Staff	1,122,221	448,888	290,381	164,110	126,270	158,508	831,840
Staff Travel	65,000	26,000	7,555	4,002	3,553	18,445	57,445
Steering Committee (meetings)	140,000	56,000	6,478	0	6,478	49,522	133,522
Discussion Platforms and Working Groups	235,000	94,000	12,812	12,812	0	81,188	222,188
EU FGI S Poital and Websites	115,142	46,057	20,488	20,488	0	25,569	94,654
Public Awareness, Communication, Publications and dissemination	85,000	34,000	31,641	8,508	23,133	2,359	53,359
Total direct costs	1,762,363	704,945	369,355	209,920	159,435	335,591	1,393,008
Overheads 18.5%	326,037	130,415	68,331	38,835	29,495	62,084	257,707
Total Expenditures	2,088,400	835,360	437,685	248,755	188,930	397,675	1,650,715

Carry over Phase V(2) 2020 Contributions paid 2021 Contributions paid Closing Balance

233,657 256,300 339,950 392,222

(1) As per amendment to the EUFORGEN programme of work and budget for Phase VI (1 January 2020–31 December 2024), a greed by (2) Closing balance of Phase V (2018-2019)

Contributions received by ER in relation to EUFORGEN Phase VI (as of 31.12.2021)

	Annual contribution Phase VI	Contribution for 2020 (EUR)	Contribution for 2021 (EUR)	Contribution for 2022 (EUR)	cont	standing tribution 21 (EUR)
Country Austria*	12.500	12,500	12,500		202	iz (EUN)
Belgium*	12,500	12,500	12,500			
Croatia*	6,500	6,500	6,500			
Czech Republic*	7,500	7,500	7,500			
Denmark*	12,500	12,500	12,500			
Estonia*	5.000	5,000	5,000			
Finland*	9,600	9,600	9,600			
France*	30,000	30,000	30,000			
Germany ^{e (1)}	35,000	0	43,750			
Greece (9	9,600	0	0			
Hungary*	7,500	7,500	7,500			
I celand *	5,000	5,000	5,000			
Ireland*	7,500	7,500	7,500			
Italy*	16,200	16,200	16,200			
Lithuania*	5,000	5,000	5,000			
Luxembourg*	5,000	5,000	5,000			
Moldova ⁽³⁾	2,500	0	0			
Netherlands*	15,000	15,000	15,000			
Norway*	12,500	12,500	12,500			
Poland*	12,500	12,500	12,500			
Serbia*	5,000	5,000	5,000			
Slovakia* (2)	7,500		7,500	7,500		
Slovenia*	6,500	6,500	6,500			
Spain	16,200	0	32,400			
Sweden*	12,500	12,500	12,500			
Switzerland*	15,000	15,000	15,000			
Turkey ⁽⁵⁾	0	0	0			
United Kingdom / Welsh Government*	30,000	30,000	30,000			
Malta* (36.0)	5,000	5,000	5,000	5,000		
Total Received	327,100	256,300	339,950	12,500		0

^{*} Countries that have signed the memberhip agreement for Phase VI

(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

12,500

⁽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