



## **GenTree**

## Optimizing the management and sustainable use of forest genetic resources in Europe

# Deliverable D5.1 Report on Policy Instruments and Measures

Planned delivery date (as in DoA): M18

Actual submission date: 31/01/2018, month M23

Workpackage: WP5

Workpackage leader: EFI

Deliverable leader: EFI

Version: 1.0

This deliverable is part of a project that has received funding from the European Union 2020 research and innovation programme under grant agreement No 676876	
Dissemination Level	
PU Public	PU
CI Classified, as referred to Commission Decision 2001/844/EC	
CO Confidential, only for members of the consortium (including the Commission Services)	

Research and Innovation action: GA no. 676876

Start date of the project: March 1st, 2016







### **TABLE OF CONTENTS**

1.	Intro	ductionduction	3
	1.1.	Need for Action and Objectives	4
2.	The	GenTree Forest Policy Database	4
	2.1.	Developing an innovative FGR-relevant policy database	5
	2.2.	What is included in the database?	7
	2.3.	How to use the database	9
3.	Polic	y concepts affecting FGR conservation and management	. 10
	3.1.	FGR-related Policy Frameworks in Europe	. 10
	3.2.	Concluding remarks and suggested policy recommendations	. 12
4.	Parti	ners involved in the work	. 15
5.	Anne	exes	. 16
	5.1.	Annex I. List of policy documents that are FGR-relevant	. 16
	5.2.	Annex II. List of policy documents on forest reproductive material	. 19
	5.3.	Annex III. List of policy documents on invasive species	. 22
	5.4.	Annex IV. List of policy documents related to plants and plant health	. 24
	5.5.	Annex V. Policy dictionary	. 27
6.	Refe	rences	. 30





### 1. Introduction

European forests are diverse, with each region featuring a distinct set of environmental conditions, tree species, risks and uncertainties. Forest Genetic Resources (FGR) are an inherent component of the diverse forest ecosystems that can be found across Europe. This natural variation means that each region faces distinct challenges, characterised by diverse socio-economic and environmental drivers, pressures and dynamics (e.g., demand for different ecosystem services, landownership structures and varied forest management goals). These contextually specific challenges are also affected by inherent limitations of current and future approaches to forest management (Taylor et al., 2017, Ratnam et al., 2014) and from limiting factors such as the lack of funding and public awareness (Pérez-Espona, 2017) and a lack of scientific knowledge and capacities to improve FGR management (FAO, 2014, FOREST EUROPE, 2015, EEA, 2015).

However, as in many other parts of the world, Europe is also facing a biodiversity crisis (EEA, 2015). This is largely due to the varied range of anthropogenic pressures our natural environment is being subjected to. Many species and habitats are today threatened and we risk losing tree populations with valuable characteristics (FAO, 2014). The maintenance and protection of biodiversity, including FGR, has, for this reason, become a matter of concern in Europe. It is also this contextual background that set the stage for the GenTree project, stressing the need for taking action on FGR management, so that future forest management is better equipped to operate under rapidly changing environmental, regulatory and socio-economic conditions.

The protection of biodiversity in the European Union (EU) has been an issue since the 1970s, when the first environmental legislation was enacted, followed by the Habitats Directive and Birds Directive - known as the Nature Directives - in the 1990s (Directive, 92/43/EEC, Directive, 2009/147/EC). More recently, the EU Biodiversity Strategy to 2020 promotes efforts to reverse biodiversity and ecosystem degradation, with the aim of reversing biodiversity loss in the EU (European Commission, 2011). There, genetics is explicitly mentioned in Action 9 and 10 of Target 3 "Increase the contribution of agriculture and forestry to maintaining and enhancing biodiversity" and Action 20 in Target 6 "Help avert global biodiversity loss", which includes the protection of genetic resources in wild species due to their role in the protection of global biodiversity. This is similar to Aichi target 13<sup>1</sup> in the Strategic Plan for Biodiversity 2011-2020 to the Convention on Biological Diversity (CBD). Some of these actions moreover emphasise the importance of conserving genetic resources in terms of socio-economic factors (United Nations Environment Programme, 1992). This is in line with the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) to the CBD. These examples demonstrate that FGR and genetic diversity are a fundamental aspect of ongoing policy efforts, not only as they are crucial for the long-term survival of forests and their

<sup>&</sup>lt;sup>1</sup> See <a href="https://www.cbd.int/sp/targets/">https://www.cbd.int/sp/targets/</a>.





evolutionary potential (Koskela et al., 2014) but also for the application of FGR management in nature conservation (Taylor et al., 2017).

### 1.1. Need for Action and Objectives

Deliverable 5.1 is built on the GenTree Forest Policy Database<sup>2</sup> and is an output of Task 5.3 – European and national policies affecting FGR: current situation and policy needs. This work is based on the recognition that there is a lack of information on EU policy frameworks affecting FGR conservation and management and in particular, on those policy frameworks that have an indirect impact. This lack of information limits the capacity of decision-makers to determine relevant policy actions needed on FGR.

FGR are in fact influenced directly or indirectly by a variety of international, EU and national policies from different sectors such as environmental, agricultural, conservation, energy and forestry policies. Few of these sectoral policies have been designed with a special focus on FGR. This means that there may be conflicts between targets of particular policies, reducing their impact and effectiveness (Edwards and Kleinschmit, 2013). It is accordingly important to analyse the coherence between policies having an impact on FGR and to identify potential conflicts between different policy areas. This would furthermore help to outline possible trade-offs between policy targets.

Some suggestions for recommended actions are given at the end of this deliverable. The deliverable should serve as a basis for a better understanding of policy conflicts and trade-offs affecting FGR and to provide recommendations for future policies aimed at maintaining multifunctional forest landscapes under changing climate conditions.

## 2. The GenTree Forest Policy Database

The focus of this deliverable is on presenting the open-access GenTree Forest Policy Database, <sup>3</sup> which was developed to conduct the above-noted review of FGR-relevant policy for Task 5.3 (see Figure 1). The review and analysis of macro-level regulatory frameworks and policy measures have focused on the international and EU policy level and their corresponding targets towards FGR. Amongst others, examples include the directives on plant reproductive material (European Commission, 2013b), the regulation on invasive species (Regulation, 1143/2014) and other FGR-relevant instruments (e.g., legal, financial and information) such as the Common Agricultural Policy (Regulation, 1303/2013, 1305/2013, 1306/2013, 1307/2013, 1308/2013) and the renewable energy directive (Directive, 2009/28/EC).

The purpose of the current deliverable is as such to showcase the **policy database** (section 2.1 to 2.3) and to present some of the **conclusions** and **suggested policy** 

<sup>&</sup>lt;sup>2</sup> The GenTree Forest Policy Database can be found here: http://policydatabase.boku.ac.at.

<sup>&</sup>lt;sup>3</sup> See http://policydatabase.boku.ac.at/index.php/forest-genetic-resources.





**recommendations** from the review (see section 3). The extended policy review has been made available on the GenTree Forest Policy Database as an "**e-review**" that can be read directly online or downloaded. There is significant added value in having a living, interactive and online e-review that can be updated as the policy environment changes, in particular as any policy review only provides a temporally fixed snapshot of a policy environment at the time of its publication. It is also the reason for focusing this deliverable on the database and its contents.

It can be added that the e-review attempts to broaden earlier European Forest Genetic Resources Programme (EUFORGEN) supported policy reviews (e.g., Bouillon et al., 2015, Kelleher et al., 2015, Konnert et al., 2015), looking beyond those regulatory frameworks that address FGR conservation and management directly. The purpose has been to review regulatory frameworks that affect the forest-based sector but that do not address or note FGR directly. In addition, compared to previous FGR-related policy reviews, it provides an account of more recent policy developments that have taken place up to January 2018. For instance, covering recent findings from the evaluation of forestry measures under rural development provides details on FGR relevant forestry measures being implemented at EU Member State level (European Commission, 2017).

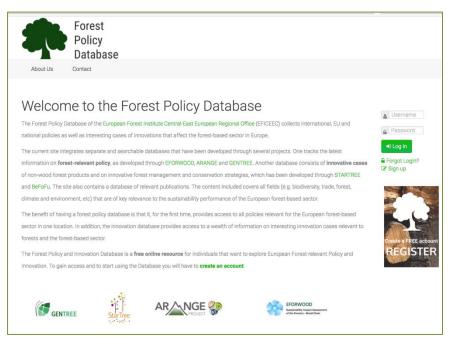


Figure 1. The GenTree Forest Policy Database (see http://policydatabase.boku.ac.at).

### 2.1. Developing an innovative FGR-relevant policy database

The GenTree Forest Policy Database was developed as part of Work Package 5 on adapting management and policies to optimise the use of FGR. The database is – in a nutshell – an online inventory of past and current legislation and policy documents that relates directly to forestry, forest management and FGR. The work focused on the identification and inclusion of relevant policy documents affecting forests and analysed with





a view to determine their impact on FGR. The overarching purpose of the database is to provide an **open-access**, **up-to-date** and **searchable** platform for quick information access on EU FGR-relevant policy that is continuously updated and maintained. This creates substantial added value for the forest policy research community as there is presently no other policy database that focuses exclusively on EU forest-related and FGR-relevant policy.

While the present platform and associated forest policy database has been developed in connection with work for GenTree, steps were also taken to **incorporate research on EU forest-related policy** carried out through earlier FP6 and FP7 projects. More specifically, EFORWOOD<sup>4</sup> (FP6), ARRANGE<sup>5</sup> (FP7) and StarTree<sup>6</sup> (FP7) have collected information on forest-related policy documents as relevant to mountain forest policy, the forest-based sector more generally and innovative non-wood forest product use case studies. Integrating this content into the database on FGR-related policy came naturally through the work being done by the European Forest Institute for all these projects. The aim has been to preserve efforts and results from finalised projects and to create a valuable tool for future research on forest- and FGR-related policy. The provision of all relevant content for this type of policy research on a single platform adds significant value. It has also made it possible to considerably enlarge the GenTree Forest Policy Database beyond its original scope, effectively allowing users to investigate a much wider set of policies that set important framework conditions for the forest-based sector.

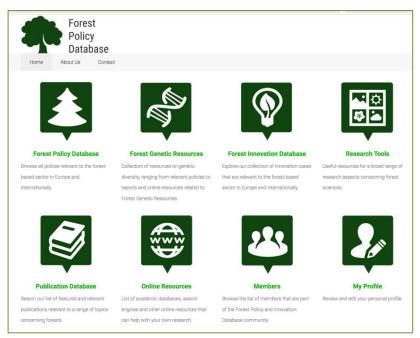


Figure 2. The database portal.

<sup>&</sup>lt;sup>4</sup> See http://www.innovawood.com/eforwood/.

<sup>&</sup>lt;sup>5</sup> See http://www.arange-project.eu/.

<sup>&</sup>lt;sup>6</sup> See https://star-tree.eu/.





### 2.2. What is included in the database?

The platform presently provides the user with an open-access portal to all the content that is included in the database (see Figure 2). This includes:

- **Forest Policy Database**: All forest-relevant polices in the database, including different options to search and analyse the content.
- Forest Genetic Resources: Results from the policy review, covering international and European FGR-relevant policy domains. It also includes two country examples to showcase how policy varies at the national level.
- **Forest Innovation Database**: Collection of innovative cases of non-wood forest products and on innovative forest management and conservation strategies.
- **Forest-focused Publication Database**: Collection of publications, reports, technical guidelines, policy briefs, covering a wide range of FGR-relevant topics.

The forest policy database presently allows the user to explore **852 policy documents** that cover a wide range of searchable policy areas, including domains such as agriculture, biodiversity, climate change, environment, forestry and FGR. From all the documents included, 88 policy documents specifically address FGR and forest reproduction. This increases to 128 policy documents if plant health and invasive species are also taken into account.

The e-review provides an introduction to all the policy domains included in the analysis, covering two main areas, namely, **international FGR-related policies** (e.g., International Treaty on Plant Genetic Resources for Food and Agriculture, Nagoya Protocol and non-legally binding agreements) and **EU polices relevant to FGR** (e.g., agricultural and rural development, environment and FGR) as outlined in Figure 3. Annex I to IV provide a detailed list of all policy documents addressed specifically under the "Forest Genetic Resources" section of the e-review, as related to FGR, forest reproduction, plant health and invasive species. These policy documents are also easily accessible for downloading on the database.





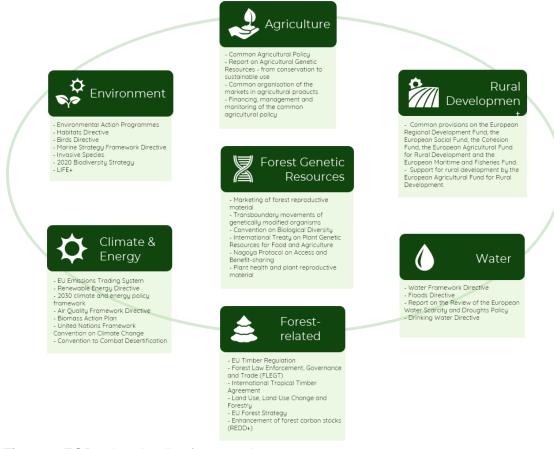


Figure 3 FGR-related policy frameworks

Below is a more detailed breakdown of FGR-relevant and forest reproduction policy documents (see Figure 4 and 5), as included in the e-review. The breakdown into 13 categories relates to the types of policy documents issued at the EU and international level. The documents addressing FGR and forest reproduction include soft and hard laws<sup>7</sup>, reports, assessments and legislative proposals (e.g., international treaties, EU regulations, directives, decisions and communications). It can be noted that from the 852 policy documents in the database, 206 are legally-binding instruments that are presently in force. From the 88 FGR and forest reproduction relevant policy documents, 29 are legally-binding instruments (directives, regulations and decisions) that are presently in force. This number increases to 41 if plant health and invasive species are considered. Annex V provides brief definitions of the documents referenced in Figure 4 and 5.

<sup>&</sup>lt;sup>7</sup> Soft versus hard law refers to "soft" instruments which do not have any legally binding force (e.g., strategies) versus "hard" instruments that are legally binding (e.g., directives and regulations). See also Annex V for a brief description of all types of policy documents included into the database.





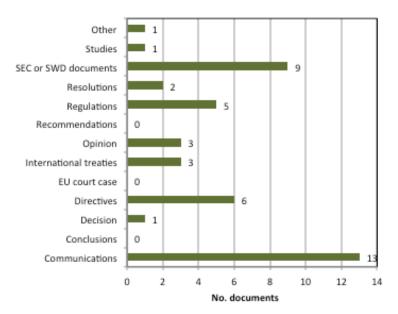


Figure 4. Breakdown of FGR-relevant policy documents.

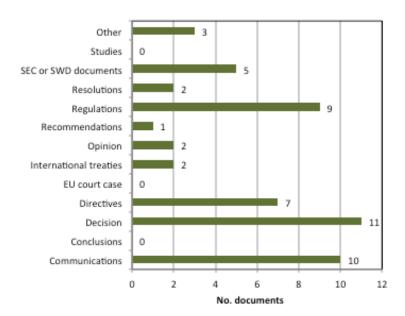


Figure 5. Breakdown of policy documents relevant to forest reproduction

### 2.3. How to use the database

The platform is unique in allowing the user to explicitly explore international and EU forest-related policy by accessing the **complete list of all policy documents**<sup>8</sup>. The list provides an overview of basic information on all the policy documents in the database (type of policy,

<sup>&</sup>lt;sup>8</sup> See http://policydatabase.boku.ac.at/index.php/publication-list?search=list\_of\_policies&task=search&icon\_edit=edit





year and issuing organisation) as well as allowing the user to download any policy document directly.

The user can also actively **search the database**<sup>9</sup>. There are three search functions included:

- Basic search criteria Allowing the user to search by title, type of policy (e.g., communications, regulations, directives, etc.), year of publication and geographical scope (e.g., global, pan-European, European Union, National).
- Advanced search criteria In addition to the search criteria under the basic search, the
  advanced search allows the user to do a keyword search, segment according to
  additional categories (e.g., action plans, amendments, protocols, green papers, etc.),
  whether it is legally-binding or in force, search for policies issued by specific
  organisations, search by document reference and topical tags (e.g., FGR, forest
  reproduction, invasive species, biodiversity, climate change, etc.).
- Document reference Allowing the user to search only for a specific policy reference number.

The different search options (basic, advanced and document reference) enable the user to segment the database according to the above-given search criteria for any given policy analysis.

The section dedicated specifically to FGR-related policy (the e-review) allows the user to explore policy summaries, covering all policy domains that have been identified as relevant to the sustainable use of FGR. These summaries provide an introduction to regulatory and non-regulatory instruments that affect FGR management and conservation, including policy domains that do not explicitly address FGR. The reader is also referred to reports such as Pülzl et al. (2013), Sotirov et al. (2015), EEA (2016), and Aggestam et al. (2017) for other forest-related policy reviews.

To gain full access to the database requires registration and approval from the website administrator. Involved users can also be given administrative rights that allow them to add and edit the available list of policy documents.

## 3. Policy concepts affecting FGR conservation and management

### 3.1. FGR-related Policy Frameworks in Europe

The e-review<sup>10</sup> and critical assessment of relevant policies demonstrate that there is no clear EU policy framework under which all social, economic and environmental issues affecting FGR can be addressed and coordinated effectively. Forests are (due to the lack of competence at EU level) not separate but rather woven into a fabric of interconnected institutions, policies and sectors, all of which have an impact on FGR (Arts et al., 2010, Pülzl

<sup>&</sup>lt;sup>9</sup> See http://policydatabase.boku.ac.at/index.php/policy-database

<sup>&</sup>lt;sup>10</sup> See http://policydatabase.boku.ac.at/index.php/forest-genetic-resources.





and Dominguez, 2013, Lazdinis et al., 2009, Aggestam et al., 2017). In other words, FGR conservation and management is susceptible to all environmental, societal and economic processes of change across Europe and beyond. Moreover, it can be noted that the demands for ecosystem services provided by forests are increasing, together with potential conflicts between forest management and policy objectives and the interests of different stakeholders (FAO, 2014, EEA, 2015, FOREST EUROPE, 2015). The implications of this contextual background stress the need for policy action on FGR and for finding a balance in FGR use and development.

Europe is advanced in terms of the sustainable management of FGR as compared to other regions in the world (EEA, 2015, FAO, 2014, FOREST EUROPE, 2015). The e-review demonstrates challenges and highlights that FGR are addressed in several (legally binding and non-binding) EU and national policy documents. Ongoing efforts have already improved the coordination, exchange and dissemination of information on FGR in Europe. Examples include EUFORGEN, 11 that has successfully established a FGR-related platform for dialogue at a pan-European level (Gotor and Scheerer, 2017) and Conservation Genetic Resources for Effective Species Survival (ConGRESS), 12 that provides information to biodiversity managers and policy-makers to encourage the use of genetic data (Pérez-Espona, 2017). On the global level, it can also be noted that IUCN recently adopted a resolution (WCC-2016-Rec-104) that recognises forest genetic diversity as a valid conservation goal<sup>13</sup>, making it possible to include gene conservation units in the categories of protected areas according to IUCN criteria. These are positive developments, which demonstrate that the global community, the EU and its Member States are addressing several points of the Global Plan of Action for the Conservation, Sustainable Use and Development of Forest Genetic Resources<sup>14</sup>.

While many positive developments have taken place, the State of the World's Forest Genetic Resources (FAO, 2014) notes that the knowledge of FGR is "inadequate for well-informed policy or management in most countries" (p. xxii). The report furthermore emphasises the need for information on the impact of legislative frameworks to adequately address FGR conservation. This would be a necessary prerequisite for sound policy-making in the future. It also implies that institutional and policy frameworks in Europe need to be improved to address the constraints related to FGR concerns in a broader forest-related policy context. Having this in mind, one challenge identified in the policy review concern the policy level (international, European, national and/or regional) at which FGR-related forest policy should be addressed. For instance, trade-offs linked to EU FGR-relevant policy objectives and targets often happen close to the forest, at the local scale and by local actors that are in charge of policy implementation (Gollata and Newig, 2017). One example being that FGR conservation may carry significant costs for local communities, whereas at the

<sup>&</sup>lt;sup>11</sup> See www.euforgen.org.

<sup>&</sup>lt;sup>12</sup> See www.congressgenetics.eu.

<sup>&</sup>lt;sup>13</sup> See https://portals.iucn.org/library/sites/library/files/documents/IUCN-WCC-6th-005.pdf.

<sup>&</sup>lt;sup>14</sup> See http://www.fao.org/3/a-i3849e.pdf.





global scale, conservation provides significant benefits (e.g., improved forest resilience and mitigating risks from climate change). This emphasises the important role that local actors have when considering policy implementation.

Taking a multi-level governance perspective, the last issue highlights that local people are central actors in forest resource use, which ultimately determine the success of FGR conservation and management. The local level is for this reason also a quintessential component of FGR-related policy implementation (Živojinovic et al., 2015). While participation has not been a focus of this policy review, this implies that local actors need to be more involved in forest management, policy formulation and implementation, particularly within the existing institutional frameworks affecting FGR (Vogelpohl and Aggestam, 2011, Taylor et al., 2017, Aggestam and Pülzl, 2018). Local involvement is as such seen as a core challenge facing forest governance in Europe in more general terms. There is presently an unbalanced involvement of local and/or regional structures in policy-making (e.g., NGOs, interest associations and the general public), whether at the EU or national level (Lazdinis et al., 2009, Howlett et al., 2010, Pülzl and Dominguez, 2013, Sarvašová et al., 2014, Secco et al., 2016, Gotor and Scheerer, 2017). The impact has been that the local level is not being considered to a great extent when policies - affecting not only the sustainable use of FGR but also forests and conservation efforts in general - are being formulated and/or implemented (Pülzl and Lazdinis, 2011, Pülzl and Dominguez, 2013, Secco et al., 2016). Regional and/or local actors should be given more opportunities to participate in the preparation and implementation process of FGR-related policies and measures. This should entail addressing current participatory planning and improved forest management practices.

### 3.2. Concluding remarks and suggested policy recommendations

The added value and knowledge generated by the e-review<sup>15</sup> comes from the fact that it has analysed a much wider set of policy frameworks (e.g., industrial emissions and trading, water, energy and transport) as compared to earlier reviews. This has allowed for an overview (or birdseye perspective) of the EU policy frameworks that (directly and indirectly) affect FGR conservation. From this, it is possible to generalise a set of policy challenges and recommendations that may be seen as specific for FGR management and/or generic for forests. With regards to policies and policy frameworks affecting FGR management and conservation, the following issues requires special attention:

### ⇒ Policy fragmentation and incoherence

EU policies affecting FGR (and forests in general) are fragmented and not well integrated, principally due to conflicting policy objectives. This is driven by different policy pathways and target setting in the EU. Examples include renewable energy targets and the bioeconomy strategy that will require large-scale changes to land-use patterns to satisfy the demand for woody biomass as compared to biodiversity targets set to halt the loss of biodiversity and ecosystem services by 2020. These targets are rarely mutually

<sup>&</sup>lt;sup>15</sup> See http://policydatabase.boku.ac.at/index.php/forest-genetic-resources.





inclusive and all have implications for FGR conservation and sustainable use. Another example are regulatory frameworks related to ambient air quality and emissions that do not recognise the genetic effects of atmospheric pollution on forest ecosystems. The complex institutional architecture at EU level (e.g., overlapping competencies and fragmentation) furthermore exacerbate conflicting policy targets affecting FGR, even if they do not address forests directly.

### ⇒ Horizontal and vertical integration

The different policy goals and agendas pursued by EU institutions implies that horizontal (across sectors) and vertical (across levels of governance) integration needs to be strengthened to achieve a coherent policy approach for FGR. Numerous authorities and institutions at international, EU and national level are presently involved in the development and implementation of FGR-relevant policies, programmes or strategies (e.g., Food and Agriculture Organization of the United Nations, Directorates-General of the European Commission, National Ministries of Agriculture, Forestry and Environment). This suggests that improved integration of cross-cutting policies, such as the EU Timber Regulation (*Trade*), Land Use, Land Use Change and Forestry (*Climate and Energy*) and Industrial Emission Directive (*Environment*), would be a prerequisite for addressing conflicting policy targets that constrain the implementation of conservation strategies for FGR. Moreover, the lack of EU competence on forests and the failure of the EU Forest Strategy to resolve policy incoherencies suggest that there is no governance mechanism at EU level that can adequately integrate FGR management into relevant cross-cutting sectorial policies and/or thematic programmes.

### ⇒ Policy coordination and communication

The use of existing science-based recommendations on the management and sustainable use of FGR has improved in policy-making, including an enhanced link between science and policy on FGR conservation (e.g., through EUFORGEN). However, a general lack of policy coordination and communication between relevant sectors and institutions remains as a significant impediment to horizontal, vertical and inter-sectoral collaboration on FGR. In particular, improved communication between policy-makers, the private sector and practitioners is still lacking on FGR conservation issues. Appropriate policy coordination mechanisms (including incentives) are also missing for those sectors that only have an indirect impact on FGR conservation and management.

### ⇒ Participation

FGR-related policy is affected by a lack of support from policy-makers and a lack of public awareness on the importance of FGR conservation. Participation and participatory approaches for improved policy-making and priority setting on FGR are consequently important. Examples include tools to address trade-offs and conflicts between sectors (e.g., nature conservation and energy) and support towards policy coordination and communication (e.g., improved coherence). Participatory approaches need to better underpin awareness building on the regulatory environment affecting FGR.

It should be recognised that all issues noted above are inherently interlinked. It is not possible to achieve a coherent approach on FGR without addressing both policy and





institutional fragmentation and incoherencies, horizontal and vertical policy interactions and the need for policy coordination, communication and participation. In summary, some of the main policy challenges for FGR conservation consequently include:

- 1. Efficient policy coordination and priority setting, including resolving issues on the appropriate policy level (international, EU, national or regional) that should tackle FGR conservation and management.
- 2. Finding an appropriate balance between the objectives of FGR use, protection and conservation. This includes balancing the provision of FGR-related goods and services not only for protecting biodiversity but also for commercial use, climate change mitigation and resilience, etc.
- 3. Improved support for (horizontal and vertical) organisational and institutional cooperation as regards to FGR conservation and management, including the development of multidisciplinary policy expertise and competences.
- 4. Harnessing emerging technologies and a wider range of market-oriented economic instruments for FGR conservation and management.

One common question that emerged from this and earlier forest policy reviews is whether there is a need to develop a regulatory instrument on FGR conservation at EU level, or whether this competence should remain at Member State level (Winkel et al., 2013, Winkel and Sotirov, 2016, Aggestam and Pülzl, 2018). The question of EU competence on forests (less so on FGR) has been discussed extensively in the forest policy literature, but there is no clear answer (Lazdinis et al., 2009, Vogelpohl and Aggestam, 2011, Pülzl et al., 2013, Aggestam et al., 2017). A hard policy approach (e.g., legally-binding agreement on forests), may have some benefits for FGR conservation, such as ensuring policy implementation and allowing for enforcement, but this is not a certain outcome (Aggestam and Pülzl, 2018). In fact, a hard policy approach on FGR conservation may be counterproductive as increased EU competence on FGR (or forests) could actually augment vertical policy fragmentation and incoherence. For example, institutional differentiation and a lack of understanding of national specificities could make it more difficult to carry out a coherent policy approach on FGR (Howlett et al., 2010, Nilsson et al., 2012, Edwards and Kleinschmit, 2013).

There may rather be a need for improved soft policy approaches on FGR. As an example, one possible development would be a strategy that specifically addresses FGR, aside from the present biodiversity strategy (European Commission, 2011). This may arguably help to increase horizontal and vertical policy coordination and communication on FGR, as well as increase general awareness on FGR-relevant topics (Pülzl and Lazdinis, 2011). The limited success of the EU Forest Strategy (European Commission, 2013a) would however suggest that any FGR-related strategy would only have a minor impact (Pelli et al., 2012, Aggestam and Pülzl, 2018). Finally, there is the question of whether forestry measures that are currently being implemented are adequate. On this can be reported that the uptake of FGR-relevant forestry measures under the EU framework for rural development programmes (2014-2020) has been modest (European Commission, 2017). This implies, on the one hand, limited interest from EU Member States. On the other hand, the limited interest suggests that continued financial incentives for FGR conservation and management under rural development would be imperative. Questions do nevertheless remain as regards to





the form these financial incentives should take. For instance, should there be a common policy on FGR-relevant ecosystem service provision and/or should other (market-oriented) economic instruments be introduced?

While significant progress has been made at the national level, it is also clear that national sectoral policies (e.g., energy, environment, water and research) and associated institutions need to take into account key principles that are essential for FGR conservation (e.g., maintenance of viability and genetic integrity) and the current and future contribution of FGR to climate change resilience as well as the general economy. Aside from timber production, FGR provide a range of different products and services that will benefit not only local people but society as a whole (Alfaro et al., 2014). Sectoral policies would for this reason need to increase the consideration given to FGR conservation and to increasingly reflect this in national policy instruments. This further emphasise the need for better horizontal and vertical cooperation and coordination between ministries and stakeholders as well as to continue advancing collaboration on FGR to overcome problems of policy fragmentation (Howlett et al., 2010, Pülzl and Dominguez, 2013, Pülzl and Lazdinis, 2011, Secco et al., 2016). Moreover, where the protection or preservation of certain areas need to be prioritised, effective financial incentives have to be proposed by either the state and/or local stakeholders in order to compensate landowners for management restrictions. FGR conservation and management demands active support through incentives that contribute towards shaping the behaviour of local/regional actors.

### 4. Partners involved in the work

EFI, ASP, THÜNEN and Bioversity.





### 5. Annexes

## 5.1. Annex I. List of policy documents that are FGR-relevant.

Type of Policy	Year	Title	Category	Issuing org.
Other	1984	Europe's green mantle – heritage and future of our forests	Newsletter	European Commission
Communication	1989	The Conservation of Tropical Forests: The role of the Community		European Commission
Directive	1990	Contained use of genetically modified micro-organisms		European Council
Directive	1990	Deliberate release into the environment of genetically modified organisms		European Council
International Treaty	1992	Convention on Biological Diversity		Convention on Biological Diversity
Communication	1993	Proposal for a regulation on the conservation, characterization and utilization of genetic resources in agriculture	Proposal	European Commission
Regulation	1994	Conservation, characterization, collection and utilization of genetic resources in agriculture		European Council
Communication	1997	Report on the implementation of Council Regulation (EC) No 1467/94	Report	European Commission
Communication	2001	Experiences with Directive 90/219/EEC on the contained use of genetically modified micro-organisms	Report	European Commission
Communication	2001	Biodiversity Action Plan for Agriculture	Action Plan	European Commission
Communication	2001	Proposal for a Council regulation on the conservation, characterisation, collection and utilisation of genetic resources in agriculture	Proposal	European Commission
Communication	2001	Report on the implementation of Council Regulation on the conservation, characterisation, collection and utilisation of genetic resources in agriculture	Report	Independent Expert Group
Directive	2001	Deliberate release into the environment of genetically modified organisms	Repeal	European Parliament
International Treaty	2001	International Treaty on Plant Genetic Resources for Food and Agriculture		FAO
Communication	2002	Notifications concerning the deliberate release into the environment of genetically modified organisms for purposes other than for placing on the market	Proposal	European Commission
Communication	2003	Proposal for a regulation on a programme on the conservation, characterisation, collection and utilisation of genetic resources in agriculture	Proposal	European Council
Regulation	2003	Transboundary movements of genetically modified organisms		European Commission
Regulation	2003	Genetically modified food and feed		European Parliament and Council
Regulation	2004	Establishing a Community programme on the conservation, characterisation, collection and utilisation of genetic resources in agriculture and repealing Regulation (EC) No 1467/94	Repeal	European Council
Opinion	2005	Co-existence between genetically modified crops, and conventional and organic crops		European Economic and Social Committee
Directive	2008	Providing for certain derogations for acceptance of agricultural landraces and varieties which are naturally adapted to the local and regional conditions and threatened by genetic erosion []		European Commission







Study	2008	A pan-European inventory of alien species: rationale, implementation and implications for managing biological invasions		European Environment Agency
Directive	2009	Contained use of genetically modified micro-organisms		European Parliament
Directive	2009	Providing for certain derogations, for acceptance of vegetable landraces and varieties which have been traditionally grown in particular localities and regions and are threatened by genetic erosion and of vegetable varieties with no intrinsic value []		European Commission
Opinion	2009	The role of forests and the forest-based sector in meeting the EU's climate commitments	Green Paper	Economic and Social Committee
SEC or SWD document	2009	Coexistence of genetically modified crops with conventional and organic farming Implementation of national measures on the coexistence of GM crops with conventional and organic farming	Report	European Commission
Communication	2010	Forest Protection and Information in the EU: Preparing forests for climate change	Green Paper	European Commission
International Treaty	2010	Nagoya Protocol on Access and Benefit-sharing		Convention on Biological Diversity
SEC or SWD document	2010	Implementation of the Forest Focus scheme	Working Document	European Parliament
Resolution	2011	Resolution on the Green Paper on forest protection and information in the EU: preparing forests for climate change		European Parliament
Communication	2012	Proposal for a decision as regards the inclusion of forest reproductive material of the 'qualified' category within the scope of that Decision and the updating of the name of the authorities responsible for the approval and control of the production	Proposal	European Commission
Decision	2012	Amending Council Decision 2008/971/EC to include forest reproductive material of the 'qualified' category and to update the name of the authorities responsible for the approval and control of the production	Amendment	European Parliament
Resolution	2012	Our life insurance, our natural capital: an EU biodiversity strategy to 2020	Strategy	European Parliament
SEC or SWD document	2012	Summary Impact Assessment – Accompanying the Proposal for a Regulation on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union	Impact Assessment	European Commission
SEC or SWD document	2012	Accompanying the Proposal for a Regulation on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union	Impact Assessment	European Commission
SEC or SWD document	2012	Annexes to the Impact Assessment – Accompanying the Proposal for a Regulation on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union	Annex	European Commission
SEC or SWD document	2012	Member States on their experience with Directive 2009/41/EC on the contained use of genetically modified micro-organisms	Annex	European Commission
SEC or SWD document	2012	Details from individual Member States on their experience with Directive 2009/41/EC on the contained use of genetically modified micro-organisms	Working Document	European Commission
Communication	2013	A new EU Forest Strategy: for forests and the forest- based sector	Strategy	European Commission
Communication	2013	Agricultural Genetic Resources – from conservation to sustainable use	Report	European Commission
Opinion	2013	Opinion on the Proposal for a Regulation on the production and making available on the market of plant reproductive material (plant reproductive material law)		European Economic and







		and the Proposal for a Regulation on protective measures against pests of plants.		Social Committee
SEC or SWD document	2013	Agricultural Genetic Resources – from conservation to sustainable use	Working Document	European Commission
Regulation	2014	Compliance measures for users from the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits		European Parliament and Council
SEC or SWD document	2015	EU assessment of progress in implementing the EU biodiversity strategy to 2020	Working Document	European Commission







## 5.2. Annex II. List of policy documents on forest reproductive material

Type of Policy	Year	Title	Category	Issuing org.
Directive	1966	Marketing of forest reproductive material		European Council
Directive	1971	External quality standards for forest reproductive material marketed within the Community		European Council
Decision	1975	Authorizing the Member States to approve for marketing reproductive material of certain forest species not complying with the requirements of the Council Directive on the marketing of forest reproductive material.		European Commission
Directive	1975	Amending Directive No 66/404/EEC on the marketing of forest reproductive material		European Council
Decision	1978	Equivalence of forest reproductive material produced in Austria		European Council
International Treaty	1992	Convention on Biological Diversity		Secretariat of the Convention on Biological Diversity
Communication	1993	Authorizing Member States to provide for derogations from certain provisions of Council Directive 77/93/EEC in respect of wood of conifers (Coniferales) other than of Thuja L., Pinus L. and mixtures with Pinus L., originating in the USA	Proposal	European Commission
Communication	1993	Authorizing Member States to provide for derogations from certain provisions of Council Directive 77/93/EEC in respect of wood conifers (Coniferales) other than of Thuja L., Pinus L. and mixtures with Pinus L., originating in Canada	Proposal	European Commission
Communication	1994	Proposal for a decision extending the period of application of Council Decision 78/262/EEC concerning the equivalence of forest reproductive material produced in Austria	Proposal	European Commission
Decision	1995	Authorizing Member States to permit temporarily the marketing of forest reproductive material not satisfying the requirements		European Commission
Directive	1999	Marketing of forest reproductive material	Repeal	Council of the European Union
International Treaty	2001	International Treaty on Plant Genetic Resources for Food and Agriculture		FAO
Regulation	2002	Format of national lists of the basic material of forest reproductive material		European Commission
Regulation	2002	Definition of small quantities of seed		European Commission
Regulation	2002	Authorisation of a Member State to prohibit the marketing of specified forest reproductive material to the end-use		European Commission
Regulation	2002	Provision of mutual administrative assistance by official bodies		European Commission
Decision	2004	Authorising Member States to permit temporarily the marketing of seed of the species Cedrus libani, Pinus brutia and planting stock produced from this seed		European Commission
Regulation	2004	Marketing of forest reproductive material derived from certain basic material		European Commission
Decision	2005	Authorising Member States to take decisions in respect of forest reproductive material produced in third countries		European Commission

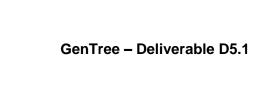






Decision	2005	Authorising France to prohibit the marketing to the end user, with a view to seeding or planting in certain regions of France, of reproductive material of Pinus pinaster Ait. Of Iberian Peninsula origin		European Commission
Regulation	2005	Common organisation of the market in seeds	Repeal	European Council
Decision	2006	Temporarily authorising Spain to approve for marketing seed of the species Pinus 20adiate and planting stock produced from this seed imported from New Zealand		European Commission
Decision	2008	Authorising Member States to take decisions on the equivalence of the guarantees afforded by forest reproductive material to be imported from certain third countries		European Commission
Decision	2008	Equivalence of forest reproductive material produced in third countries		European Council
Communication	2008	Proposal for a decision on the equivalence of Forest Reproductive Material produced in third countries	Proposal	European Commission
Directive	2008	Providing for certain derogations for acceptance of agricultural landraces and varieties which are naturally adapted to the local and regional conditions and threatened by genetic erosion []		European Commission
Regulation	2009	Placing of plant protection products on the market		European Commission
Directive	2009	Providing for certain derogations, for acceptance of vegetable landraces and varieties which have been traditionally grown in particular localities and regions and are threatened by genetic erosion and of vegetable varieties with no intrinsic value []		European Commission
Decision	2010	Releasing Member States from the obligation to apply certain Directives on the marketing of fodder plant seed, cereal seed, material for the vegetative propagation of the vine, forest reproductive material, beet seed, vegetable seed []		European Commission
Other	2010	Scheme for the Certification of Forest Reproductive Material Moving in International Trade		OECD
Directive	2010	Providing for certain derogations for marketing of fodder plant seed mixtures intended for use in the preservation of the natural environment		European Commission
Resolution	2011	Resolution on the Green Paper on forest protection and information in the EU: preparing forests for climate change		European Parliament
Recommendatio n	2012	Guidelines for the presentation of the information for the identification of lots of forest reproductive material and the information to be provided on the supplier's label or document	Guidelines	European Commission
Opinion	2012	Amending Council Decision 2008/971/EC as regards the inclusion of forest reproductive material of the "qualified" category within the scope of that Decision and the updating of the name of the authorities responsible []	Proposal	Economic and Social Committee
Decision	2012	Amending Council Decision 2008/971/EC to include forest reproductive material of the 'qualified' category and to update the name of the authorities responsible for the approval and control of the production	Amendement	European Parliament
Communication	2012	Proposal for a decision as regards the inclusion of forest reproductive material of the 'qualified' category within the scope of that Decision and the updating of the name of the authorities responsible for the approval and control of the production	Proposal	European Commission







Communication	2012	Proposal for a regulation on access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union	Proposal	European Commission
Resolution	2012	Legislative resolution on the proposal for a decision amending Council Decision 2008/971/EC as regards the inclusion of forest reproductive material of the 'qualified' category within the scope of that Decision and the updating of the name of the authorit		European Parliament
Regulation	2013	Data requirements for plant protection products		European Commission
Communication	2013	Proposal regulation for a new plant reproductive material law	Proposal	European Commission
Communication	2013	Proposal for a regulation on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health, plant reproductive material, plant protection products	Proposal	European Commission
SEC or SWD document	2013	Proposal regulation for a plant reproductive material law	Impact Assessment	European Commission
SEC or SWD document	2013	Accompanying the proposal for a regulation on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health, plant reproductive material, plan	Impact Assessment	European Commission
SEC or SWD document	2013	Summary Impact Assessment – Accompanying the Proposal for a Regulation on protective measures against pests of plants	Impact Assessment	European Commission
SEC or SWD document Communication	2013 2013	Proposal for a regulation on protective measures against pests of plants Proposal for a regulation on protective measures against pests of plants	Impact Assessment Proposal	European Commission European Commission
SEC or SWD document	2013	A blueprint for the EU forest-based industries	Working Document	European Commission
Other	2013	Guidelines on the Production of Forest Reproductive Materials	Guidelines	OECD
Opinion	2013	Opinion on the Proposal for a Regulation on the production and making available on the market of plant reproductive material (plant reproductive material law) and the Proposal for a Regulation on protective measures against pests of plants.		European Economic and Social Committee
Communication	2013	Proposal for a Regulation laying down provisions for the management of expenditure relating to the food chain, animal health and animal welfare, and relating to plant health and plant reproductive material	Proposal	European Commission
Other	2014	Forest Seed and Plant Scheme		OECD
Regulation	2014	Laying down provisions for the management of expenditure relating to the food chain, animal health and animal welfare, and relating to plant health and plant reproductive material	Amendment	European Parliament







## 5.3. Annex III. List of policy documents on invasive species

Type of Policy	Year	Title	Category	Issuing org.
International Treaty	1992	Convention on Biological Diversity		Secretariat of the Convention on Biological Diversity
International Treaty	2000	European Landscape Convention		European Council
Other	2004	European strategy on invasive alien species	Strategy	Council of Europe
Study	2008	A pan-European inventory of alien species: rationale, implementation and implications for managing biological invasions		European Environment Agency
Communication	2008	Towards an EU strategy on invasive species	Strategy	European Commission
SEC or SWD document	2008	Towards an EU strategy on invasive species	Annex	European Commission
SEC or SWD document	2008	Summary Impact Assessment – Towards an EU strategy on invasive species	Impact Assessment	European Commission
Study	2008	Policy options to minimise the negative impacts of invasive alien species on biodiversity in Europe and the EU	Strategy	Institute for European Environmental Policy (IEEP)
Conclusions	2009	A mid-term assessment of implementing the EU Biodiversity Action Plan and Towards an EU Strategy on Invasive Alien Species – Council conclusions		European Council
Opinion	2009	Towards an EU strategy on invasive species		Economic and Social Committee
Study	2009	Recommendations on policy options to minimise the negative impacts of invasive alien species on biodiversity in Europe and the EU	Strategy	Institute for European Environmental Policy (IEEP)
Study	2009	Assessment of the impacts of IAS in Europe and the EU		Institute for European Environmental Policy (IEEP)
Study	2009	Analysis of the impacts of policy options/measures to address IAS	Strategy	Institute for European Environmental Policy (IEEP)
Study	2010	Assessing and controlling the spread and the effects of common ragweed in Europe		Natural Environment Research Council
Study	2010	Assessment to support continued development of the EU Strategy to combat invasive alien species		Institute for European Environmental Policy (IEEP)
Study	2011	Assessment of existing policies on invasive alien species in EU Member States and selected OECD countries		Bio Intelligence Service
SEC or SWD document	2012	Summary Impact Assessment – Accompanying the Proposal for a Regulation on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union	Impact Assessment	European Commission
SEC or SWD document	2012	Accompanying the Proposal for a Regulation on Access to Genetic Resources and the Fair and	Impact Assessment	European Commission







		Equitable Sharing of Benefits Arising from their Utilization in the Union		
SEC or SWD document	2012	Annexes to the Impact Assessment – Accompanying the Proposal for a Regulation on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union	Annex	European Commission
Regulation	2012	Making available on the market and use of biocidal products		European Parliament and Council
SEC or SWD document	2013	Proposal for a Regulation on the prevention and management of the introduction and spread of invasive alien species	Impact Assessment	European Commission
SEC or SWD document	2013	Summary Impact Assessment – Accompanying the Proposal for a Regulation on the prevention and management of the introduction and spread of invasive alien species	Impact Assessment	European Commission
SEC or SWD document	2013	Accompanying the proposal regulation on the prevention and management of the introduction and spread of invasive alien species	Working Document	European Commission
Communication	2013	Proposal for a regulation on the prevention and management of the introduction and spread of invasive alien species	Proposal	European Commission
Study	2013	Agriculture, forestry and fishery statistics		EUROSTAT
Regulation	2014	Prevention and management of the introduction and spread of invasive alien species	Amendement	European Parliament and Council
SEC or SWD document Regulation	2015 2016	EU assessment of progress in implementing the EU biodiversity strategy to 2020 Adopting a list of invasive alien species	Working Document	European Commission European Commission
Regulation	2016			
Regulation	2017	Commission Implementing Regulation (EU) 2017/1454 of 10 August 2017 specifying the technical formats for reporting by the Member States pursuant to Regulation (EU) No 1143/2014		European Commission
Regulation	2017	Commission Implementing Regulation (EU) 2017/1263 of 12 July 2017 updating the list of invasive alien species of Union concern established by Implementing Regulation (EU) 2016/1141		European Commission







## 5.4. Annex IV. List of policy documents related to plants and plant health

Type of Policy	Year	Title	Category	Issuing org.
Regulation	1971	Common organisation of the market in seeds		European Council
Directive	1979	Prohibiting the placing on the market and use of plant protection products containing certain active substances		European Council
Directive	1991	Placing of plant protection products on the market		European Council
Directive	1992	Conservation of natural habitats and of wild fauna and flora (Habitats Directive)		European Council
International Treaty	1992	Convention on Biological Diversity		Secretariat of the Convention on Biological Diversity
Communication	1993	Authorizing Member States to provide for derogations from certain provisions of Council Directive 77/93/EEC in respect of wood of conifers (Coniferales) other than of Thuja L., Pinus L. and mixtures with Pinus L., originating in the USA	Proposal	European Commission
Communication	1993	Authorizing Member States to provide for derogations from certain provisions of Council Directive 77/93/EEC in respect of wood conifers (Coniferales) other than of Thuja L., Pinus L. and mixtures with Pinus L., originating in Canada	Proposal	European Commission
Directive	2000	Protective measures against the introduction into the Community of organisms harmful to plants or plant products and against their spread within the Community		European Council
Regulation	2000	Common organisation of the markets in flax and hemp grown for fibre		European Council
International Treaty	2000	European Landscape Convention		European Council
International Treaty	2001	International Treaty on Plant Genetic Resources for Food and Agriculture		FAO
Regulation	2002	Definition of small quantities of seed		European Commission
Regulation	2002	Provision of mutual administrative assistance by official bodies		European Commission
Communication	2002	Towards a Thematic Strategy on the Sustainable Use of Pesticides	Strategy	European Commission
Decision	2004	Authorising Member States to permit temporarily the marketing of seed of the species Cedrus libani, Pinus brutia and planting stock produced from this seed		European Commission
Regulation	2005	Maximum residue levels of pesticides in or on food and feed of plant and animal origin	Amendement	European Parliament
Decision	2005	Authorising Member States to take decisions in respect of forest reproductive material produced in third countries		European Commission
Regulation	2005	Common organisation of the market in seeds	Repeal	European Council
Recommendation	2007	Protection of species of wild fauna and flora by regulating trade		European Commission
Decision	2008	Authorising Member States to take decisions on the equivalence of the guarantees afforded by forest reproductive material to be imported from certain third countries		European Commission
Regulation	2009	Placing of plant protection products on the market		European Commission







SEC or SWD document	2009	Coexistence of genetically modified crops with conventional and organic farming Implementation of national measures on the coexistence of GM crops with conventional and organic farming	Report	European Commission
Study	2010	Assessing and controlling the spread and the effects of common ragweed in Europe		Natural Environment Research Council
Other	2010	Scheme for the Certification of Forest Reproductive Material Moving in International Trade		OECD
Communication	2011	Proposal for a regulation establishing a common organisation of the markets in agricultural products (Single CMO Regulation)	Proposal	European Commission
Communication	2012	Proposal for a regulation on access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union	Proposal	European Commission
Regulation	2012	Making available on the market and use of biocidal products		European Parliament and Council
Study	2013	Agriculture, forestry and fishery statistics		EUROSTAT
Regulation	2013	Data requirements for plant protection products		European Commission
Communication	2013	Healthier Animals and Plants and a Safer Agri-Food Chain		European Commission
Communication	2013	Proposal regulation for a new plant reproductive material law	Proposal	European Commission
Communication	2013	Proposal for a regulation on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health, plant reproductive material, plant protection products	Proposal	European Commission
SEC or SWD document	2013	Proposal regulation for a plant reproductive material law	Impact Assessment	European Commission
SEC or SWD document	2013	Accompanying the proposal for a regulation on official controls and other official activities performed to ensure the application of food and feed law, rules on animal health and welfare, plant health, plant reproductive material, plan	Impact Assessment	European Commission
SEC or SWD document	2013	Summary Impact Assessment – Accompanying the Proposal for a Regulation on protective measures against pests of plants	Impact Assessment	European Commission
SEC or SWD document	2013	Proposal for a regulation on protective measures against pests of plants	Impact Assessment	European Commission
Communication	2013	Proposal for a regulation on protective measures against pests of plants	Proposal	European Commission
Other	2013	Guidelines on the Production of Forest Reproductive Materials	Guidelines	OECD
Other	2013	Common catalogue of varieties of agricultural plant species – 32 <sup>nd</sup> complete edition		European Commission
Opinion	2013	Opinion on the Proposal for a Regulation on the production and making available on the market of plant reproductive material (plant reproductive material law) and the Proposal for a Regulation on protective measures against pests of plants.		European Economic and Social Committee
Communication	2013	Proposal for a Regulation laying down provisions for the management of expenditure relating to the food chain, animal health and animal welfare, and relating to plant health and plant reproductive material	Proposal	European Commission
Directive	2014	Implementing Directive on protective measures against the introduction into the Community of organisms harmful to plants or plant products		European Commission







Other	2014	Forest Seed and Plant Scheme		OECD
Regulation	2014	Laying down provisions for the management of expenditure relating to the food chain, animal health and animal welfare, and relating to plant health and plant reproductive material	Amendement	European Parliament
Regulation	2014	Laying down rules with regards to methodologies for climate change support, the determination of milestones and targets in the performance framework and the nomenclature of categories of intervention for the European Structural and Investment Funds		European Commission
Regulation	2016	Protective measures against pests of plants		European Parliament





### 5.5. Annex V. Policy dictionary

### Communication

A Communication is a policy document with no mandatory authority. The Commission takes the initiative of publishing a Communication when it wishes to set out its own thinking on an issue. A Communication has no legal effect.

### Conclusion

Council Conclusions are termed "soft law" as they are not legally binding on EU member states (ie: "non-binding"). However, "Conclusions" are political statements by the Council and enable (and legitimate) cooperation between two or more member states which may involve changes in practices or the law at national level and allows them to undertake joint operational action. As such they have been used by as few as three member states or by all. Conclusions also set out the direction of policies to be pursued when the European Commission initiates a proposal. The European and national parliaments have no say at all regarding their content. Since 11 September 2001 Council Conclusions have played an increasingly significant policy-making function and are discussed at length in the working parties. Council Resolutions have the same legal effect as Conclusions.

#### Decision

Decisions are EU laws relating to specific cases. They can come from the EU Council (sometimes jointly with the European Parliament) or the Commission. They can require authorities and individuals in Member States either do something or stop doing something, and can also confer rights on them. EU decisions are: (1) addressed to specific parties (unlike regulations), and (2) fully binding.

### **Directive**

EU directives lay down certain end results that must be achieved in every Member State. National authorities have to adapt their laws to meet these goals, but are free to decide how to do so. Directives may concern one or more Member States, or all of them. Each directive specifies the date by which the national laws must be adapted - giving national authorities the room for manoeuvre within the deadlines necessary to take account of differing national situations. Directives are used to bring different national laws into line with each other, and are particularly common in matters affecting the operation of the single market (e.g. product safety standards).

### **EU** court case

The Court of Justice of the European Communities was set up under the ECSC Treaty in 1952 (based in Luxembourg). It makes sure that EU legislation is interpreted and applied in the same way in all EU countries, so that the law is equal for everyone. It ensures, for example, that national courts do not give different rulings on the same issue. The Court also ensures that EU Member States and institutions do what the law requires. The Court has the power to settle legal disputes between EU Member States, EU institutions, businesses and individuals.

### **Green Paper**

A Green Paper is one of the old-school formal consultation techniques used by the Commission, whereby it presents a paper outlining the options that it is considering on a certain question. This document should not be longer than 30 pages and is translated into all official languages. There are minimum standards of consultation that apply, meaning everything, including responses and the Commission's summary, have to be published on





the website of the DG concerned and that stakeholders get a minimum of eight weeks to reply.

### **Impact Assessment**

An impact assessment gives decision-makers evidence regarding the need for EU action and the advantages and disadvantages of alternative policy choices. It may also find that no action should be taken at EU level. Impact assessments are prepared for Commission initiatives expected to have significant direct economic, social or environmental impacts. These can be (1) legislative proposals, (2) non-legislative initiatives (white papers, action plans, financial programmes, negotiating guidelines for international agreements) that define future policies, and (4) implementing measures and delegated acts. Planning of impact assessments is communicated to the public via so-called roadmaps. A major component of an Impact Assessment is consultation of the stakeholders in the area being investigated. In this sense stakeholders will likely be formally consulted, either via hearings or questionnaires, to attain their opinion.

### International treaty

A binding formal agreement, contract, or other written instrument that establishes obligations between two or more subjects of international law (primarily states and international organizations). The rules concerning treaties between states are contained in the Vienna Convention on the Law of Treaties (1969), and those between states and international organizations appear in the Vienna Convention on the Law of Treaties Between States and International Organizations or Between International Organizations (1986). [definition taken from the Encyclopaedia Britannica]

### **Opinion & Recommendations**

These types of policy documents are primarily used as guiding documents and are not law.

#### Resolution

The Council and the European Parliament adopt Resolutions, which are also not binding, suggesting a political desire to act in a given area. These instruments enable the European institutions to suggest guidelines for coordination of national legislations or administrative practices in a non-binding manner, i.e. without any legal obligations for the addressees - Member States and/or citizens.

### Regulation

Regulations are the most direct form of EU law - as soon as they are passed, they have binding legal force throughout every Member State, on a par with national laws. National governments do not have to take action themselves to implement EU regulations. They are different from directives, which are addressed to national authorities, who must then take action to make them part of national law, and decisions, which apply in specific cases only, involving particular authorities or individuals. Regulations are passed either jointly by the EU Council and European Parliament, and by the Commission alone.

### **SEC and SWD document**

These are staff and joint staff working documents (e.g., impact assessments, summaries of impact assessments and staff working papers). Staff working documents presently have the identifier SWD, but were previously identified as SEC before 2012 (SEC is now only used for internal documents of the European Commission).





### **White Paper**

A White paper is, like the Green Paper, one of the formal consultation techniques used by the Commission. It is a document in which the Commission outlines which legislative options it favours, seeking any additional comments and ideas. This document must be no longer than 15 pages and it is translated into all the official languages. The same minimum standards as for the Green Paper is applied.





### 6. References

- AGGESTAM, F. & PÜLZL, H. 2018. Coordinating the uncoordinated: the EU Forest Strategy. *Forests,* Submitted.
- AGGESTAM, F., WINKEL, G., PÜLZL, H. & SOTIROV, M. 2017. The EU policy framework. *In:* WINKEL, G. (ed.) *Towards a sustainable European forest based bioeconomy assessment and the way forward.* European Forest Institute.
- ALFARO, R. I., FADY, B., VENDRAMIN, G. G., DAWSON, I. K., FLEMING, R. A., SÁENZ-ROMERO, C., LINDIG-CISNEROS, R. A., MURDOCK, T., VINCETI, B., NAVARRO, C. M., SKRØPPA, T., BALDINELLI, G., EL-KASSABY, Y. A. & LOO, J. 2014. The role of forest genetic resources in responding to biotic and abiotic factors in the context of anthropogenic climate change. *Forest Ecology and Management*, 333, 76-87.
- ARTS, B., APPELSTRAND, M., KLEINSCHMIT, D., PÜLZL, H. & VISSEREN-HAMAKERS, I. 2010. Discourses, actors and instruments in international forest governance. *In:* RAYNER, J., BUCK, A. & KATILA, P. (eds.) *Embracing complexity: Meeting the challeneges of international forest governance.* Vienna: IUFRO World Series Volume 28.
- BOUILLON, P., HUBERT, J., BAKKEBØ FJELLSTAD, K., RUSANEN, M., ZAVRL BOGATAJ, A., OLRIK, D. C., BORDÁCS, S., LONGAUER, R., PAITARIDOU, D., KÕIV, K., KOSKELA, J., ORLOVIC, S., BLACK-SAMUELSSON, S. & WOLTER, F. 2015. The implications of global, European and national policies for the conservation and use of forest genetic resources in Europe. *European Forest Genetic Resources Programme (EUFORGEN)*. Italy, Rome: Bioversity International.
- DIRECTIVE 92/43/EEC. The conservation of natural habitats and wild fauna and flora. *L 206/7*. Official Journal of the European Union: European Council.
- DIRECTIVE 2009/28/EC. Promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC. *L 140/17*. Official Journal of the European Union: European Parliament abd Council.
- DIRECTIVE 2009/147/EC. Conservation of wild birds. *In:* COUNCIL, E. P. A. O. T. (ed.). Brussels: Official Journal of the European Union.
- EDWARDS, P. & KLEINSCHMIT, D. 2013. Towards a European Forest Policy: conflicting goals. *Forest Policy and Economics*, 33, 87-91.
- EEA 2015. The European environment state and outlook 2015. European Environment Agency, Copenhagen.
- EEA 2016. European forest ecosystems State and trends. Denmark: Copenhagen: European Environment Agency.
- EUROPEAN COMMISSION 2011. Our life insurance, our natural capital: an EU biodiversity strategy to 2020. *In:* COMMISSION, E. (ed.) *COM(2011) 244 final* Brussels.
- EUROPEAN COMMISSION 2013a. A new EU Forest Strategy: for forests and the forest-based sector. *In:* COMMISSION, E. (ed.) *COM(2013) 659 final.* Brussels: European Commisson.
- EUROPEAN COMMISSION 2013b. Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the production and making available on the market of plant reproductive material (plant reproductive material law) *COM(2013) 262 final.* Brussels: European Commission.
- EUROPEAN COMMISSION 2017. Evaluation study of the forestry measures under Rural Development.

  Belgium: Brussels: Directorate-General for Agriculture and Rural Development
- FAO 2014. State of the World's Forest Genetic Resources. Food and Agriculture Organization of the United Nations, Rome.
- FOREST EUROPE 2015. State of Europe's Forests 2015. Madrid: Ministerial Conference on the Protection of Forests in Europe.





- GOLLATA, A. M. J. & NEWIG, J. 2017. Policy implementation through multi-level governance: analysing practical implementation of EU air quality directives in Germany. *Journal of European Public Policy*, 24, 1308-1327.
- GOTOR, E. & SCHEERER, L. 2017. External evaluation of the European Forest Genetic Resources Programme (EUFORGEN). <a href="http://www.euforgen.org/publications/publication/external-evaluation-of-the-european-forest-genetic-resources-programmenbsp/">http://www.euforgen.org/publications/publication/external-evaluation-of-the-european-forest-genetic-resources-programmenbsp/</a>: EUFORGEN.
- HOWLETT, M., RAYNER, J., GOEHLER, D., HEIDBREDER, E., PERRON-WELCH, F., RUKUNDO, O., VERKOOIJEN, P. & C., W. 2010. Overcoming the challenges to integration: embracing complexity in forest policy design through multi-level governance. *In:* RAYNER, J., BUCK, A. & KATILA, P. (eds.) *EMBRACING COMPLEXITY MEETING THE CHALLENGES OF INTERNATIONAL FOREST GOVERNANCE*. Vienna: International Union of Forest Research Organisations (IUFRO).
- KELLEHER, C. T., DE VRIES, S. M. G., BALIUCKAS, V., BOZZANO, M., FRÝDL, J., GONZALEZ GOICOECHEA, P., IVANKOVIC, M., KANDEMIR, G., KOSKELA, J., KOZIOŁ, C., LIESEBACH, M., RUDOW, A., VIETTO, L. & P., Z. S. 2015. Approaches to the Conservation of Forest Genetic Resources in Europe in the Context of Climate Change. European Forest Genetic Resources Programme (EUFORGEN): Bioversity International, Rome, Italy.
- KONNERT, M., FADY, B., GÖMÖRY, D., A'HARA, S., WOLTER, F., DUCCI, F., KOSKELA, J., BOZZANO, M., MAATEN, T. & KOWALCZYK, J. 2015. Use and transfer of forest reproductive material in Europe in the context of climate change. *European Forest Genetic Resources Programme* (EUFORGEN). Italy: Rome: Bioversity International.
- KOSKELA, J., VINCETI, B., DVORAK, W., BUSH, D., DAWSON, I. K., LOO, J., KJAER, E. D., NAVARRO, C., PADOLINA, C., BORDÁCS, S., JAMNADASS, R., GRAUDAL, L. & RAMAMONJISOA, L. 2014. Utilization and transfer of forest genetic resources: A global review. *Forest Ecology and Management*, 333, 22-34.
- LAZDINIS, M., ANGELSTAM, P. & LAZDINIS, I. 2009. Governing Forests of the European Union: Institutional Framework for Interest Representation at the European Community Level. *Environmental Policy and Governance*, 19, 44–56.
- NILSSON, M., ZAMPARUTTI, T., PETERSEN, J. E., NYKVIST, B., RUDBERG, P. & MCGUINN, J. 2012. Understanding Policy Coherence: Analytical Framework and Examples of Sector—Environment Policy Interactions in the EU. *Env. Pol. Gov.*, 22, 395–423.
- PELLI, P., AGGESTAM, F., WEISS, G., INHAIZER, H., KEENLEYSIDE, C., GANTIOLER, S., BOGLIO, D. & POLÁKOVÁ, J. 2012. Ex-post Evaluation of the EU Forest Action Plan.

  <a href="http://ec.europa.eu/agriculture/evaluation/market-and-income-reports/forest-action-plan-2012">http://ec.europa.eu/agriculture/evaluation/market-and-income-reports/forest-action-plan-2012</a> en.htm.
- PÉREZ-ESPONA, S. 2017. Conservation genetics in the European Union Biases, gaps and future directions. *Biological Conservation*, 209, 130-136.
- PÜLZL, H. & DOMINGUEZ, G. 2013. Interrelations of Actors and Organisations in the European Union and pan-Europe with regards to Forest Policy-Making *In:* PÜLZL, H., HOGL, K., KLEINSCHMIT, D., WYDRA, D., ARTS, B., MAYER, P., PALAHI, M., WINKEL, G. & WOLFSLEHNER, B. (eds.) *European Forest Governance: Issues at Stake and the Way Forward.* What Science Can Tell Us 2: European Forest Institute.
- PÜLZL, H., HOGL, K., KLEINSCHMIT, D., WYDRA, D., ARTS, B., MAYER, P., PALAHI, M., WINKEL, G. & WOLFSLEHNER, B. 2013. European Forest Governance: Issues at Stake and the Way Forward. EFI Series: What Science can tell us 2: European Forest Institute.
- PÜLZL, H. & LAZDINIS, M. 2011. May the Open Method of Coordination be a new instrument for forest policy deliberations in the European Union? *Forest Policy and Economics*, 13, 411-418.





- RATNAM, W., RAJORA, O. P., FINKELDEY, R., ARAVANOPOULOS, F., BOUVET, J.-M., VAILLANCOURT, R. E., KANASHIRO, M., FADY, B., TOMITA, M. & VINSON, C. 2014. Genetic effects of forest management practices: Global synthesis and perspectives. *Forest Ecology and Management*, 333, 52-65.
- REGULATION 1143/2014. Regulation on the prevention and management of the introduction and spread of invasive alien species. *In:* COUNCIL, E. P. A. O. T. (ed.) *L317/35*. Brussels: Official Journal of the European Union.
- REGULATION 1303/2013. Laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006. *L* 347/320. Official Journal of the European Union: European Parliament and Council.
- REGULATION 1305/2013. Support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005. *L* 347/487. Official Journal of the European Union: European Parliament and Council.
- REGULATION 1306/2013. Financing, management and monitoring of the common agricultural policy and repealing Council Regulations (EEC) No 352/78, (EC) No 165/94, (EC) No 2799/98, (EC) No 814/2000, (EC) No 1290/2005 and (EC) No 485/2008. *L* 347/549. Official Journal of the European Union: European Parliament and Council.
- REGULATION 1307/2013. Establishing rules for direct payments to farmers under support schemes within the framework of the common agricultural policy and repealing Council Regulation (EC) No 637/2008 and Council Regulation (EC) No 73/2009. *L* 347/608. Official Journal of the European Union: European Parliament and Council.
- REGULATION 1308/2013. Establishing a common organisation of the markets in agricultural products and repealing Council Regulations (EEC) No 922/72, (EEC) No 234/79, (EC) No 1037/2001 and (EC) No 1234/2007. *L* 347/671. Official Journal of the European Union: European Parliament and Council.
- SARVAŠOVÁ, Z., CIENCIALA, E., BERANOVÁ, J., VANČO, M., FICKO, A. & PARDOS, M. 2014. Analysis of governance systems applied in multifunctional forest management in selected European mountain ranges *ARANGE Deliverable D3.3*. <a href="http://www.arange-project.eu/wp-content/uploads/ARANGE-D3.3">http://www.arange-project.eu/wp-content/uploads/ARANGE-D3.3</a> Governance-systems.pdf.
- SECCO, L., WALLIN, I., SERGENT, A., PÜLZL, H. & KLEINSCHMIT, D. 2016. Orchestrating forest policy-making: involvement of scientists & stakeholders in political processes in Europe *Natural resources and bioeconomy studies*, 41, 72-74.
- SOTIROV, M., STORCH, S., AGGESTAM, F., GIURCA, A., SELTER, A., BAYCHEVA, T., ERIKSSON, L. O., SALLNÄS, O., TRUBINS, R., SCHÜLL, E., BORGES, J., MCDERMOTT, C. L., HOOGSTRA-KLEIN, M., HENGEVELD, G. & PETTENELLA, D. 2015. Forest Policy Integration in Europe: Lessons Learnt, Challenges Ahead, and Strategies to Support Sustainable Forest Management and Multifunctional Forestry in the Future. *INTEGRAL EU Policy Paper*.
- TAYLOR, H. R., DUSSEX, N. & VAN HEEZIK, Y. 2017. Bridging the conservation genetics gap by identifying barriers to implementation for conservation practitioners. *Global Ecology and Conservation*, 10, 231-242.
- UNITED NATIONS ENVIRONMENT PROGRAMME 1992. Convention on Biological Diversity. Rio de Janeiro.





- VOGELPOHL, T. & AGGESTAM, F. 2011. Public policies as institutions for sustainability: potentials of the concept and findings from assessing sustainability in the European forest-based sector. *European Journal of Forest Research*, 131, 57-71.
- WINKEL, G., AGGESTAM, F., SOTIROV, M. & WEISS, G. 2013. Forest Policy in the European Union. *In:* PÜLZL, H., HOGL, K., KLEINSCHMIT, D., WYDRA, D., ARTS, B., MAYER, P., PALAHÍ, M., WINKEL, G. & WOLFSLEHNER, B. (eds.) *European Forest Governance: Issues at Stake and the Way Forward*.
- WINKEL, G. & SOTIROV, M. 2016. Whose integration is this? European forest policy between the gospel of coordination, institutional competition, and a new spirit of integration. *Environment and Planning C: Government and Policy,* 34, 496-514.
- ŽIVOJINOVIC, I., LIDESTAV, G., FELICIANO, D., HUJALA, T., LAWRENCE, A. & WEISS, G. 2015. Concepts, methods and findings in forest ownership research in Europe. Forest Land Ownership Changes in Europe: Significance for Management And Policy (FACESMAP) COST Action FP1201. Austria: Vlenna: European Forest Institute Central-East and South-East European Regional Office, Vienna.