



# FunDivEUROPE

Functional significance of forest biodiversity

Introducing a new FP7 project



FACTsheet 1/2011

## AT A GLANCE

**Titel:** Functional Significance of Forest Biodiversity in Europe.

**Aim:** To quantify the role of forest biodiversity for ecosystem functioning and the delivery of goods and services in major European forest types.

**Instrument:** Collaborative project, FP7

**Total Cost:** 9,255,430 €

**EC Contribution:** 6,989,407 €

**Duration:** 48 months

**Start Date:** 01/10/2010

**Consortium:** 24 partners from 15 countries

**Project Coordinator:** Faculty of Biology - Geobotany, University of Freiburg, Germany.

**Project Web Site:** [www.fundiveurope.eu](http://www.fundiveurope.eu)

**Key Words:** forest biodiversity, ecosystem services, multi-functionality, stakeholder interaction



## RATIONALE

*"We have done the easy stuff, working experimentally with herbaceous communities, and have learned a great deal about the diversity/functioning/stability relationship. However, we now must move on to the next level and address those ecosystems that control a good portion of the carbon, nutrient and water balances of the earth - the forests".*

Prof. Dr. Harold Mooney,  
Foreword to *Forest Diversity and Function* (2005), edited by Scherer-Lorenzen, Körner & Schulze.

Ongoing biodiversity loss has prompted concerns that the functioning of ecosystems and the services humans derive from the environment may be compromised. While there is ample evidence supporting a significant role of biodiversity for ecosystem functioning in simple model systems, this role is less clear for forests.

*FunDivEUROPE* answers the need for a new generation of research that brings functional biodiversity research into the complex world of the forest realm and examines ecosystem processes that provide important goods and services to humanity.

## PROJECT OBJECTIVES

The overall scientific goal of *FunDivEUROPE* is to quantify the effects of forest biodiversity on ecosystem functions and services in major European forest types. A major aim is to understand and quantify how tree species diversity can be used to foster the provision of ecosystem services such as timber production, carbon sequestration and freshwater provisioning. Additionally, the implications of tree species diversity for the vulnerability of ecosystem services under climate change will be assessed by integrating field and modelling data on the performance of pure versus mixed species stands under different climates. The policy relevant objective is to strengthen the science-policy interface by delivering timely, relevant and understandable information to policymakers and stakeholders about the relationship of forest biodiversity and ecosystem services within the framework of multifunctional forestry. This will help forest owners and forestry organizations to adapt

## PROJECT PARTNERS

1. Albert Ludwigs Universität Freiburg, DE
2. Alterra Wageningen, NL
3. Universität für Bodenkultur Wien, AT
4. Centre National de la Recherche Scientifique, Montpellier, FR
5. Agencia Estatal Consejo Superior de Investigaciones, Madrid, ES
6. Forstliche Versuchs- und Forschungsanstalt, Freiburg, DE
7. Institut National de la Recherche Agronomique, Nancy, FR
8. Katholieke Universiteit Leuven, BE
9. Metsantutkimuslaitos, Joensuu, FI
10. Martin-Luther-Universität, Halle-Wittenberg, DE
11. National Agricultural Research Foundation, Thessaloniki, GR
12. Royal Holloway and Bedford New College, Egham, UK
13. Sveriges Lantbruksuniversitet, Uppsala, SE
14. Universidad de Alcalá, Madrid, ES
15. Universitaet Bern, CH
16. University of Cambridge, UK
17. Københavns Universitet, DK
18. Università Degli Studi di Firenze, IT
19. Helmholtz-Zentrum für Umweltforschung, Halle, DE
20. Universiteit Gent, BE
21. Universität Leipzig, DE
22. University Stefan cel Mare Suceava, RO
23. Uniwersytet Warszawski, PL
24. Universitaet Zuerich, CH

## SCIENTIFIC ADVISORY BOARD

Prof. Dr. Rudolf de Groot, Wageningen University, The Netherlands

Prof. Dr. Bengt Gunnar Jonsson, Mid Sweden University, Sweden

Prof. Dr. Peter Reich, University of Minnesota, USA

Prof. Dr. Ernst-Detlef Schulze (em.), Max-Planck-Institute of Biogeochemistry, Germany

management strategies to better utilize benefits of mixed species forests and ecosystem services.

## INFRASTRUCTURE

*FunDivEUROPE* combines the strengths of experimental, observational and modelling approaches, implementing three Research Platforms:

**Experimental Platform:** The European sites of the world largest infrastructure of functional biodiversity research, the global network of tree diversity experiments (TreeDiv\_Net), where new forest stands differing in tree species diversity were established since 1999.

**Exploratory Platform:** A specifically designed network of approx. 300 plots in natural mature forests in 6 different focal regions in Europe, replicated across wide gradients of tree diversity, enabling a strong statistical evaluation of potential biodiversity effects on ecosystem functioning.

**Inventory Platform:** Datasets from national forest inventories and existing monitoring networks that are analysed for potential diversity signals, extending the scope to larger spatial and temporal scales.

In addition, *FunDivEUROPE* operates a **Knowledge Transfer Platform** to foster synthesis of project findings and communication with stakeholders, policy makers and the wider public both during project life and after completion.

## STAKEHOLDER INVOLVEMENT

A supra-national stakeholder advisory board will give advise on strategic directions of the project and on dissemination activities. Furthermore, in each focal region regional stakeholder groups will be established and provide insights to stakeholder views and preferences. The regional stakeholder groups will play a key role to ensure the creation of useful knowledge.

## METHODOLOGY

The basic philosophy of *FunDivEUROPE* with its focus on forest multifunctionality is the “all measurements on all plots”-approach, to gain the statistical power to quantify diversity effects on ecosystem functioning against a background of confounding covariates. The high number of plots puts constraints on the type and the number of measurements. Thus, as a novel screening method to assess ecosystem functioning, various fast proxy measurements characterizing a wide array of ecosystem properties, processes, functions and related services are done.

Individual-based modelling approaches at stand and landscape level are employed to extrapolate patterns and mechanisms of diversity-functioning relationships to larger spatial and temporal scales and to study the likely impacts of climate change on biodiversity-ecosystem function/services relationships.

*For news and details visit us. The project web site >[www.fundiveurope.eu](http://www.fundiveurope.eu)< will be active soon.*