



SILVA SLOVENICA PUBLISHING CENTRE

● *Silva Slovenica* Publishing Centre

The *Silva Slovenica* Publishing Centre is one of three supportive transversal actions in increasing the scientific excellence at the Slovenian Forestry Institute. For this reason the *Silva Slovenica* Publishing Centre is also deeply involved in and supported by EUFORINNO throughout the duration of the project.

The *Studia Forestalia Slovenica* monograph series published three works in 2014:

- Collection of articles from the "Smart specialization in forestry and wood product chain : book of abstract of the Scientific Meeting Forest and Wood" meeting (April 2014)
- Specialized monograph "Monitoring of Forests and Forest Ecosystems – Field Manual" (June 2014)
- Photo-monograph on forests and forestry in Slovenia "Pragozd – Virgin Forest" (October 2014)

All three publications serve as national and international references and are part of the process of internationalizing the *Silva Slovenica* Publishing Centre. The works published will represent *Silva Slovenica* at meetings to be organized in several international publishing centres such as Edinburgh, Paris, Cambridge, Munich and London.



● The SciVie Open Access Repository

As part of an ambitious plan to start up an open access repository as a dissemination tool within the project, the SciVie repository became fully operational in 2013 and is currently being upgraded with over 650 past publication entries published by researchers from the Slovenian Forestry Institute and other institutions in the field of forestry and natural sciences.



● *Acta Silvae et Ligni*

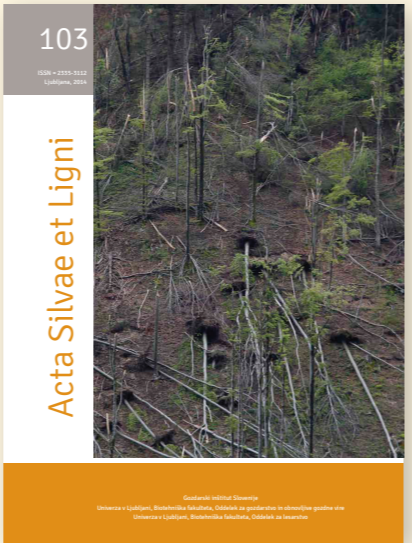
http://www.forestry.bf.uni-lj.si/about_asl.html

Acta Silvae et Ligni is the main scientific journal dedicated to original or review articles from the fields of forests, forestry, wood science and technology, forest landscapes, and nature and the environment, and supports the development of specialized terminology in the Slovene language. The EUFORINNO project strongly supports strengthening the visibility and scientific excellence of the main Slovenian forestry and wood technology journal *Acta Silvae et Ligni*.

In 2014 the journal initiated an online system for submission of manuscripts and for organizing the editorial work and communication among authors and reviewers in order to speed up the communication process and reduce the use of paper.

See <http://www.editorialsystem.com/asl/login/>.

As part of the EUFORINNO project goal to acquire and support the international recognition of *Acta Silvae et Ligni* the journal was submitted for evaluation by Thompson Reuters and the SCOPUS database and other international databases, such as EBSCO and the Universal Impact Factor. For this purpose the Ethics in Publishing and Copyright Issues was revised to follow the guidelines on publishing ethics prepared by Elsevier and the Committee on Publication Ethics.



● Intellectual property (IP) management

Clarification of the intellectual property obligations of authors and institutions (including the SciVie Open Access Repository) was required. For this reason we launched the obligatory use of the "PERMISSION FOR PUBLISHING IN ACTA SILVAE ET LIGNI" as well as for other publications submitted to the repository.

An IP (intellectual property) and innovation manager was recruited and an IP management office established. The IP office monitors the research activities of scientists and groups involved in EUFORINNO to learn of research results which are likely to provide patentable knowledge of interest to potential users. The IP manager can make available a draft report on IP strategy for internal discussion in EUFORINNO and to interested scientists so as to improve the draft IP strategy based on these discussions, and present it to the EUFORINNO AB meeting.

The IP manager compared the IP protection policies of various institutions in order to assess possible problems, with the aim of establishing and/or improving regulation in institutions.

The IP management office was included in several cases concerning intellectual property protection, to recognize problems appearing in practice. The office is prepared to organize training within SFI on law and IP management.

The Slovenian Forestry Institute together with eight excellent partners within the EUFORINNO project (EUropean Forest Research and INNOvation) is pleased to announce the final conference: **EUFORIA - European Forest Research and Innovation Area.** The conference will bring together internationally recognized scientists to present current topics in forest science and to stimulate exchange of ideas on the main EUFORINNO topics.

- Conference scientific sessions:
- Climate change and biodiversity
 - Forest genetic diversity
 - Carbon dynamics in time and space
 - Modeling in forests and forestry
 - Forest disturbance and management

European Forest Research Area - EUFORIA (The final EUFORINNO conference) 31st August - 4th September 2015, Slovenia

● PROGRAMME

Monday, August 31st

- 14:00 - 18:00 arrival and registration
- 19:00 - 21:00 Welcome mixer

Tuesday, September 1st

- 08:00 - 09:00 arrival and registration
- 09:00 - 10:00 Opening of the conference
- 10:00 - 13:00 Climate change and biodiversity
- 13:00 - 14:00 lunch
- 14:00 - 18:00 Forest genetic diversity
- 18:00 - 21:00 Posters with pizza and beverages

Wednesday, September 2nd

- 09:00 - 13:00 Carbon dynamics in time and space
- 13:00 - 14:00 lunch
- 14:00 - 18:00 Excursion to a forest reserve/research plot
- 18:00 - 21:00 local tourism with wine tasting

Thursday, September 3rd

- 09:00 - 13:00 Modeling in forests and forestry
- 13:00 - 14:00 lunch
- 14:00 - 15:30 Forest disturbance and management
- 16:00 - 18:00 EUFORINNO impacts
- 19:00 - 22:00 Conference dinner and awards ceremony

Friday, September 4th

- 09:00 - 11:00 Round table: Forest science and innovation
- 11:00 - 12:00 Press conference
- 12:00 - 12:30 Closure of the conference
- 12:30 - 14:00 lunch

Please note that the schedule of scientific sessions may change!

At the same time, the EUFORINNO Advisory Board meeting will be organised on Sunday, Monday and Friday afternoon.

We expect 10 invited speakers and additional 10 renowned speakers from the eight EUFORINNO partners with up to 200 participants from Europe and overseas.

For details on the conference please visit the EUFORINNO homepage: <http://euforinno.gozdis.si/>



European Forest Research and Innovation

7th FP EU Capacities - Regional Potential Programme, RegPot, Coordination and Support Action, RegPot No. 315982, 100% financing from EU

Project coordinator: Prof. Dr. Hojka Kraigher

Project budget: 2,910,724.93 €

European Forest Research Area - EUFORIA (the final EUFORINNO conference) Slovenia, 31st August - 4th September 2015

The Slovenian Forestry Institute together with eight excellent partners is pleased to announce the final EUFORINNO conference: EUFORIA - European Forest Research and Innovation Area.

For details on the European Forest Research & Innovation Area – EUFORIA (the final EUFORINNO conference) please visit the EUFORINNO homepage:

<http://euforinno.gozdis.si/>



This project is funded by the European Union

● Key contacts:

- Prof. Dr. Hojka Kraigher**
Project Coordinator
Leader of WP4:
Project Management and Evaluation
E mail: hojka.kraigher@gozdis.si
- Dr. Primož Simončič**
Director of the Slovenian Forestry Institute and Project vice coordinator
E mail: info@gozdis.si
- Robert Robek, MSc**
Leader of WP1:
Modern Laboratories and Field Stations
E mail: robert.robek@gozdis.si
- Dr. Tine Grebenc**
Leader of WP2:
Scientific Excellence
E mail: tine.grebenc@gozdis.si
- Dr. Tomislav Levanič**
Leader of WP3:
Exploitation and Visibility
E mail: tom.levanic@gozdis.si
- Tjaša Baloh**
Financial Manager
E mail: tjasa.baloh@gozdis.si

● Recruitments within project:

- Dr. Nate McDowell**
Senior Scientist
E mail: nate.mcdowell@gozdis.si
- Dr. Tanja Mrak**
Microscopy & Laser Microdissection Unit
E mail: tanja.mrak@gozdis.si
- Dr. Saša Zavadlav**
Stable Isotopes
E mail: tjasa.zavadlav@gozdis.si
- Prof. Dr. Ivan Kreft**
IP Manager
E mail: ivan.kreft@gozdis.si
- Tina Drolc**
Technical Editor at the *Silva Slovenica* Publishing Centre
E mail: tina.drolc@gozdis.si
- Irena Rebov**
SciVie Open Access Repository
E mail: irena.rebov@gozdis.si

The EUFORINNO - European Forest Research and Innovation project goal is to support research on climate change and biodiversity in forests to support their resilience to rapidly changing environmental conditions and encourage the adoption of sustainable management practices.

The EUFORINNO project has already fully met the expectations for the first half of the project duration, and provided the means for the long-term continuation of support for not only the research potential of Slovenian Forestry Institute (SFI), but also for strengthening the competitiveness, visibility and growth of the entire forestry sector in the region and on a broader scale.

Within the first year of the project five new scientists and dissemination experts were employed, new research

equipment was installed at SFI (at 30% of the project budget), and one third of secondments abroad and one third of training sessions at SFI were completed.

In the first half of its duration the project has finalized the upgrading of laboratory facilities and research equipment, including a fully functional Isotope Ratio Mass Spectrometer Unit, new microscopy facilities with a Laser Microdissection Unit, walk-in growth chambers in a clean pressurised environment, etc. The secondments and training

sessions have contributed to the Institute's scientific excellence, as well as to the preparation of standard operating procedures, protocols standardized with the help of project partners, and to five positions for renowned scientists or specialists in different methodologies. Slovenian Forestry Institute has moved well forward in increasing the level of its involvement in addressing forest-related ecological, economic and social issues, particularly in Slovenia and in countries of SE Europe.

The overall goals of the EUFORINNO project are: to increase excellence of the Slovenian Forestry Institute by developing the means to understand and quantify the structure and function of forests in Slovenia; to extend the same principles in south-eastern Europe and on a broader scale; and to provide the means and practices for the international recognition of SFI as an innovative forest research centre. The research aims to explore the rich and understudied natural environment of south-eastern European forests through a rigorous research, innovation and exploitation strategy. Besides the overall goal, important aims of the project are a deeper integration within the ERA (European Research Area) and collaboration with end-users, the recognition of the SFI as a research entity of major excellence, and an increase in

forestry research excellence and awareness in Europe. The European Forest Research and Innovation Area (EUFORIA) is preparing today the answers to questions that will arise with climate change and extreme weather conditions tomorrow.

The project focuses on 4 RID objectives through the development of research infrastructure, scientific excellence, visibility and raising targeted research potential in the fields of forest genetic monitoring, biodiversity research and conservation, belowground complexity in time and space, and net ecosystem carbon exchange in time and space:

a) Development and standardization of a system for genetic monitoring of forest trees

Genetic diversity ensures the survival and adaptability of forest trees under changing environmental conditions, and is needed to maintain the vitality of forests to cope with pests and diseases. Forest genetic resources face a large number of increasing threats. The introduction of genetic monitoring into conservation programmes and sustainable forest management provides a practical tool to assess information on relevant changes of a species' and/or populations' adaptive and neutral genetic variation over time. Based on indicators and their verifiers, it can serve as an early warning system to aid the assessment of a species' response to environmental change on a long-term temporal scale (see LIFE GEN MON description).

The goal is to develop and standardize a system for the genetic monitoring of forest trees in order to facilitate the certification of forest reproductive material and the implementation of concepts of dynamic conservation of forest genetic resources. The expected outputs comprise developed measures for adaptive forest management based on genetic forest protection.

b) Biodiversity and functional diversity at gene, species and community level

Higher biodiversity at gene, species and ecosystem level leads to the increased productivity (functioning) and resilience of a forest ecosystem in relation to climate change effects. To understand the functioning and resilience of a forest ecosystem in response to environmental changes, the concept of functional biodiversity (i.e. what

and how different species in the diverse complexity of the forests contribute to the functioning of that ecosystem), and defining the specific organisms that the ecosystem functioning relies on, is of utmost importance.

Within EUFORINNO we have already enlarged the microscopy instrumentation, with the aim of developing standardized microscopy techniques as an essential prerequisite to visualize, compare and define taxa in combination with microdissection and genomic and transcriptomic high throughput sequencing approaches adapted to forest tree (roots, wood), fungal (mycorrhiza, pathogens) and soil (bacteria, insects, etc.) samples.

c) Belowground complexity and carbon dynamics

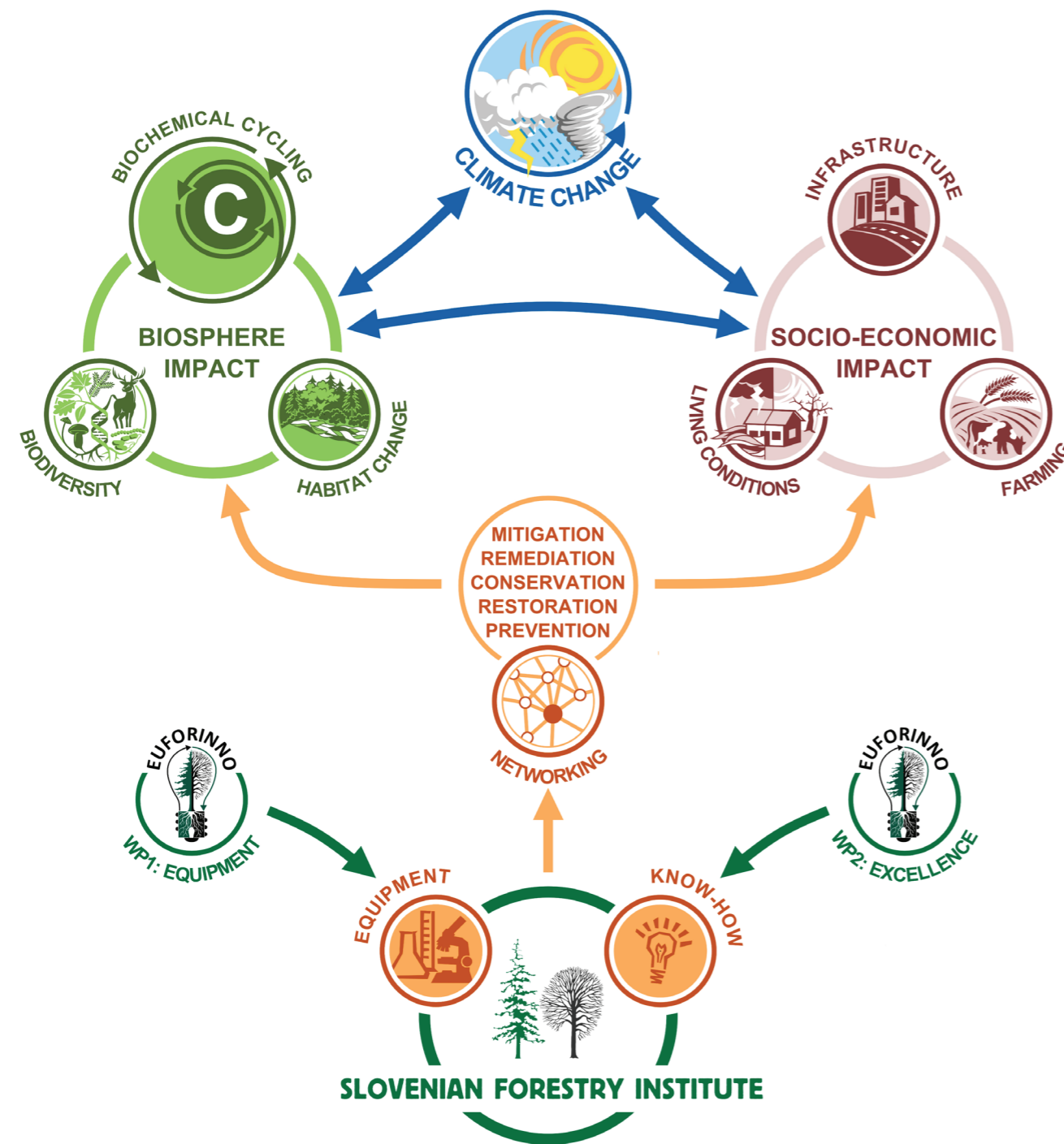
The importance of soil as a major carbon (C) sink is acknowledged as paramount among ecosystem services. The belowground C processes involved, in particular the dynamics of soil C stocks, are neither easy to monitor nor well investigated and understood. A number of processes based on belowground complexity of interactions are neglected in the ecosystem models, in particular the C input through turnover of fine roots and mycelia of root symbionts – mycorrhizal fungi.

The expected outputs include the development of protocols to quantify C fluxes in the soil, including mycelial and fine root turnover, and the development of C dynamics models, including the complex belowground diversity.

d) Net ecosystem carbon exchange in time and space

The main goal is development of a laboratory for stable isotopes analysis, including laser-based in situ methodologies for forestry development of NEE (net ecosystem exchange) models. High frequency approaches, enabling higher throughput sampling at a fraction of the cost of traditional mass spectrometry, are now available to allow rapid measurements of the isotopic composition of stocks and fluxes, such as CO₂, H₂O, N₂O and CH₄. They provide novel understanding of the function of plants and ecosystems, the carbon and water cycles, and the interactions of climate and the biosphere.

The expected outputs include a standardization of trace gas stable isotopes monitoring and a fully established laboratory for stable isotopes analysis.



LIFEGENMON: LIFE for European Forest Genetic Monitoring

The EUFORINNO team has obtained an implementation project for the development and standardization of a system for genetic monitoring of forest trees, called LIFEGENMON (LIFE for European forest GENetic MONitoring system; LIFE13 ENV/SI/000148), lasting from July 2014 till June 2020.

The LIFEGENMON project will form a regional baseline for the future pan-European forest genetic monitoring (FGM) programme.

The aims of the project are:

- To define optimal indicators and verifiers for monitoring of genetic diversity changes in time across a transect from Bavaria to Greece for two selected target species: a stand formed by broadleaf species (*Fagus sylvatica*) and a stand formed by coniferous species (*Abies alba/Abies borisii-regis* complex);
- To prepare guidelines for forest genetic monitoring for these two and an additional five forest trees species (*Populus nigra*, *Fraxinus excelsior*, *Pinus nigra*, *Prunus avium*, *Quercus petraea/robur* complex), which differ in their biology and distribution, for the implementation of FGM at a national, regional and EU scale;
- To prepare a manual on forest genetic monitoring for implementation at the EU level;
- To prepare a decision support system for an optimal choice of the level of FGM based on needs and means;
- To organize a series of workshops/training sessions for the forestry sector so that it will be capable of implementing FGM following standardized procedures in particular territories;
- To prepare background professional documents/guidelines (for policy makers at the national, regional and the EU level) for supporting the development of possible new regulations at the national level, the Forest Europe process and future European forestry and biodiversity conservation policies and strategies;
- To discuss and disseminate FGM among different target audiences and stakeholders to promote the use and results of this early warning system as a tool for sustainable forest management; and
- To establish a well-functioning, internationally-linked team of forestry professionals working in and for FGM.

The project outputs shall lead to the development of measures for adaptive forest management based on genetic forest protection, and based on a long-term forest genetic monitoring system implemented possibly at the pan-European level.



Impresum / Impressum
NEWSLETTER EUFORINNO
 European Forest Research and Innovation No. 4
 ISSN 2232-6677

Izdajatelj: Založba *Silva Slovenica*, Gozdarski inštitut Slovenije
 Publisher: The *Silva Slovenica* Publishing Centre, Slovenian Forestry Institute
 Glavna urednica / Editor-in-Chief: dr. Hojka Kraigher
 Tehnična urednika / Technical editors: dr. Tine Grebenc, Tina Drolc
 Lektor / Language editor: Jean McCollister
 Oblikovanje / Design: Tomaž Plečko
 Tisk / Print: Birografika Bori, d.o.o.
 Naklada / Circulation: 1000 izvodov / copies

Newsletter je v PDF-obliki objavljen na spletni strani projekta EUFORINNO
www.euforinno.gozdis.si / The newsletter is in PDF format published on web site
www.euforinno.gozdis.si

Naslov / Contact: Gozdarski inštitut Slovenije / Slovenian Forestry Institute – the EUFORINNO project, Večna pot 2, SI-1000 Ljubljana, Slovenia, e-naslov: info@gozdis.si

