NUMBER 1 | VOLUME 19 | MARCH 2011

EFI news

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Chairman's Column

As newly elected Chairman of the EFI Board I have been amazed by the diversity and dynamism of the Institute. Since EFI became an international organisation in 2005 it has grown in complexity now serving 22 Member States and almost 130 Associate and Affiliate Members in more than 30 countries. With the inauguration of EFINORD in November 2010, the number of Regional Offices is five and the newest expansion includes long term engagements with the EU Commission on facilitating the implementation of the European FLEGT and REDD strategies. EFI is rapidly developing into an international science based policy advice institution.

It is important to keep the momentum in further developing the institute. However, with this rapid growth in mind we are also entering a phase of consolidation. We have to consolidate the system of Regional Offices not merely to strengthen the contacts with the Member Countries but to further develop true partnerships and synergies with our Member Organisations. EFI should first of all be known for its collaborative strength! With the fast development of the FLEGT and recently REDD engagement it is paramount to reinforce links to research – to develop and implement forest governance research strategy. Here our Associate and Affiliate Members should play a crucial role. The funding structure of EFI is another important issue to be addressed. The core funding and in-kind contributions at present are less than 25 %. Hence, the consolidation process will also include an increase in core funding.

Finally, it is urgent to reinforce our links and connections to the European Commission in order to operate as a provider of science based policy information on the European level as well as knowledge transfer and capacity building outside Europe.

Together with my colleagues on the Board and in close cooperation with the Director, SAB, EFI staff, and all EFI members I am looking forward to assist EFI on this exciting passage.

Prof. J. Bo Larsen,
Denmark, Chairman of the Board

INTERNATIONAL YEAR OF FORESTS • 2011

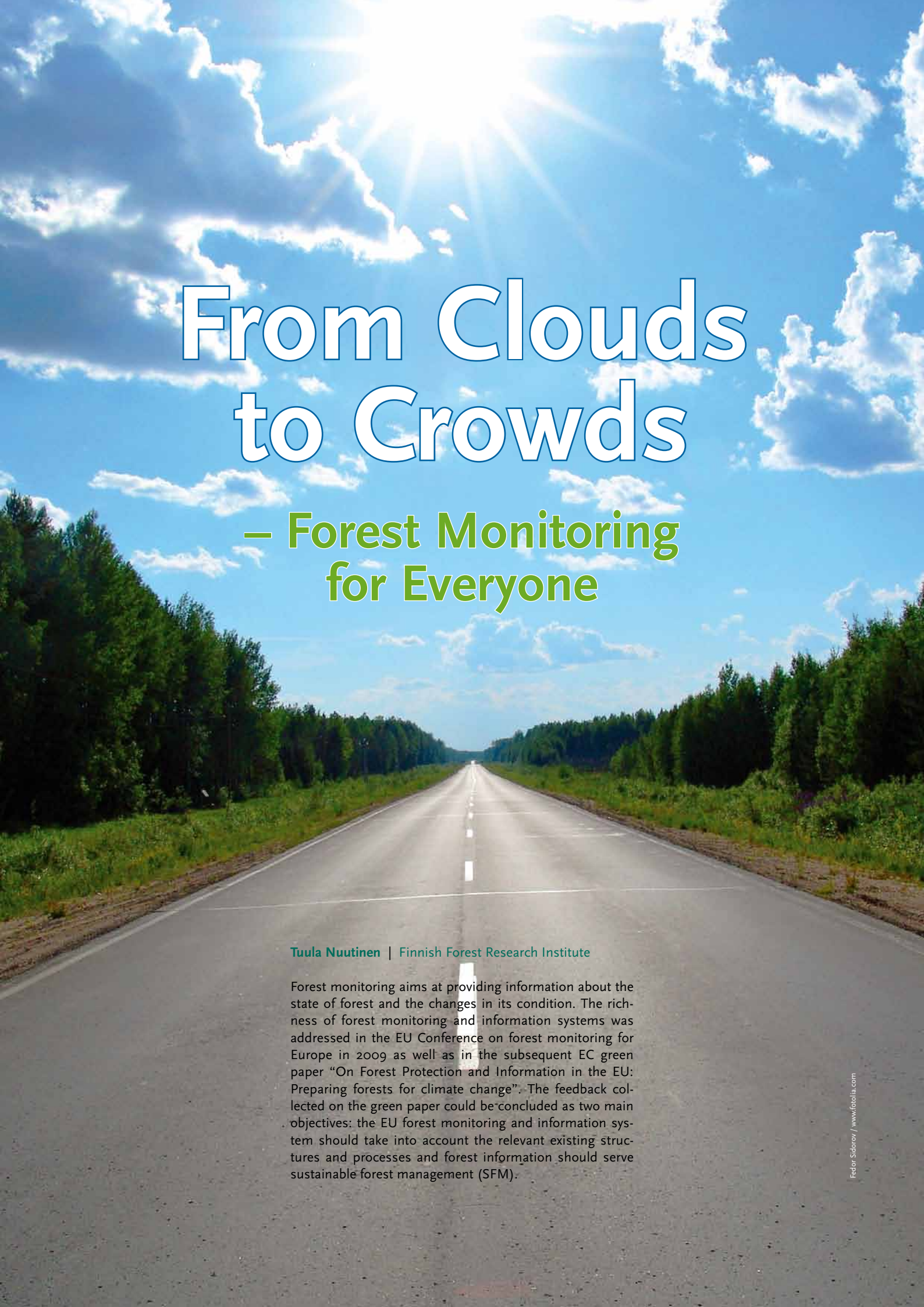
Our forests – photo competition

Whether photography is your passion, your hobby, or just an occasional pastime, we invite you to participate in our photo contest, celebrating the beauty and unique characters of our forests.

Winning photos will be displayed on the www.efi.int home page and EFI news; and they will be also made into an EFI's our forests 2012 wall calendar.

The contest is open to all EFI Member organisations (amateur photographers), EFI staff members or their family are not eligible to enter. Winners will be notified approximately 2–3 weeks after the contest deadline by phone or email using the information on the entry form. Winners will also be announced during the 2011 Annual Conference in Uppsala, Sweden and will be published in the EFI News. No financial compensation is provided to winners.

More info and rules:
http://www.efi.int/portal/members/membership_service/our_forests_photo_competition/



From Clouds to Crowds

– Forest Monitoring for Everyone

Tuula Nuutinen | Finnish Forest Research Institute

Forest monitoring aims at providing information about the state of forest and the changes in its condition. The richness of forest monitoring and information systems was addressed in the EU Conference on forest monitoring for Europe in 2009 as well as in the subsequent EC green paper "On Forest Protection and Information in the EU: Preparing forests for climate change". The feedback collected on the green paper could be concluded as two main objectives: the EU forest monitoring and information system should take into account the relevant existing structures and processes and forest information should serve sustainable forest management (SFM).

Kostiantyn Khvan / www.fotolia.com

In recent years, EC has strongly supported the implementation of the first objective through the INSPIRE directive, which establishes an infrastructure for spatial information in Europe to support Community environmental policies, and policies or activities which may have an impact on the environment; the Shared Environmental Information System (SEIS) which is a collaborative initiative of the European Commission and the European Environment Agency (EEA), GMES (Global Monitoring for Environment and Security) Programme, and the ENFIN Cost Action E43. These all aim at interoperability of data and information systems as well as collaboration through partnership and networking.

The second objective is more challenging, especially due to the new paradigm in governance. The real actors in the implementation of SFM are not only the policymakers and government agencies but also forest owners, operators, consumers – in practice everyone who makes decisions affecting the use or management of forest resources. Examples of new forest information demands include certification systems and measures used to combat illegal logging (FLEGT) or to protect forest carbon reservoirs (REDD+).

Up to date forest information, detection of changes and tracking the trends are becoming ever more important in changing business conditions and adaptation in forest management. Forest owners and other stakeholders in the forest-based sector generally obtain information concerning or supporting their own activities from national research and statistics organizations or from the private sector. Both in private and public sectors, real-time information systems, self-surveillance, crowdsourcing and other types of decentralized data collection techniques, complementing both field and earth observation from space, are becoming more and more common, thanks to innovations in ICT-technology such as web, mobile and cloud services.

We all can have a role as a consumer and producer of forest information. To utilize these roles effectively for SFM, EC support for national and private operators and the collection of forest information and its harmonisation should be strengthened.

There are various approaches for Pan-European forest monitoring systems. The Life+ project FutMon, a successor of the Forest Focus Community Scheme, supports ICP Forest in monitoring based on a European network of field sample plots. The ENFIN network has developed a platform called e-Forest to provide harmonized information on European forests based on different National Forest Inventories (NFIs). ENFIN also supports the European Forest Data Centre (EFDAC) hosted by the Joint Research Centre (JRC) of the European commission (EC). In addition, the NFI outputs are used for various monitoring purposes such as FAO Forest Resource Assessment (FRA) and Forest Europe (former MCPFE) where FAO/UNECE is involved. Furthermore, the forest maps of Europe based on Earth Observation, in-situ and reference data have become popular tools for monitoring. For example, the Forest tasks of the FP7 project geoland2 aim to develop and demonstrate pan-European mapping services intended especially for international organizations such as the European Environment Agency (EEA).

Göran Ståhl and **Tor-Björn Larsson** | Swedish Agricultural University

Forest monitoring for sustainable forest management

Forest monitoring is a prerequisite for sustainable forest management. It is needed for an increased number of political commitments and demands on forests related to markets and trade, climate, bioenergy, biodiversity, ecosystem services, forest fires etc. This topic was discussed in Uppsala, Sweden in 2009 in a conference organized during the Swedish EU Presidency to promote a European forest monitoring capable of delivering the necessary information in support of policies of relevance for the European forest ecosystems.

The key messages of the conference coincided with the subsequent 'Valsaín Declaration' from the Spanish EU Presidency conference on 'Protection of Forests in Europe' 6–7 April 2010, a part of the feedback process on European Community (EC) green paper "On Forest Protection and Information in the EU: Preparing forests for climate change".

More information about the conference 'Future forest monitoring in the European Union. Providing information for multi-functional forest management" including conclusions and all presentations: http://www.efi.int/portal/news___events/events/extra/2009/Future_forest_monitoring/

Key messages from the Uppsala Conference on future forest monitoring in Europe

1. Forest monitoring is a prerequisite for a Sustainable Forest Management and needed for an increased number of political commitments and demands on forests related to markets and trade, climate, bioenergy, biodiversity, ecosystem services, forest fires etc.
2. The existing or newly established national forest inventories (NFIs) of each European country, ICP Forests, ICP Integrated Monitoring (IM) and the European forest fire information system (EFFIS) should be the core of a future European forest monitoring programme, building on the strength of the respective programmes. Also other data sources like administrative/statistical records, user surveys etc. should be taken into account.
3. Forest monitoring should be carried out in close cooperation with research and more intense long-term measurements to establish cause-effect relations and understanding of forest ecosystem processes such as the protective role of forests in soils and waters. This includes making monitoring data suitable and accessible for research projects.
4. A cost-efficient forest monitoring should use an optimal technology for data collection, e.g. comprise not only field data but also data collected by remote sensing. The advantages of Earth Observation for European-level monitoring should thus be fully explored.
5. Continued support should be given to harmonising activities of existing networks such as the European National Forest Inventory Network (ENFIN) within the framework of existing global and regional standards and processes.
6. The existing international bodies involved in standardization of definitions, data handling, reporting and assessment – UNECE/FAO, ICP Forests, ICP IM, the European Forest Institute, the European Commission (including the Joint Research Centre responsible for the European Forest Data Center (EFDAC)), the European Environment Agency etc. – all have a vital role to play and should continue to work together in a successful future European forest monitoring programme.

Tinka / www.fotolia.com

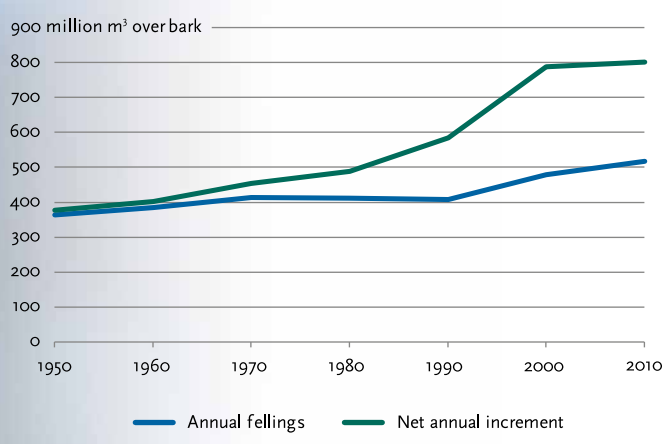
Roman Michalak | UNECE/FAO Forestry and Timber Section, Geneva

Partnership in forest resource assessment – a tale of development and cooperation

The past sixty years of global and regional reporting on forests led by FAO (Rome) and UNECE/FAO (Geneva) have witnessed the history of a flexible and responsive process, adapting to evolving needs. This is also a story of close cooperation between these two organizations and with an increasing list of international and national partners.

Since the start, forest resources assessments mirrored and addressed the concerns of the time and related national forest policies. The first report "Forest Inventory 1947"(Forest resources of the world. FAO, 1948. Unasylva II(4)) focused on the status and availability of industrial wood – a strategic resource for the reconstruction of post-war economies. With time, the scope included other aspects related to the state of forests and forest management. Further reports provided more detailed descriptions of the management and uses of the forest resources, including non-wood goods and services. Subsequent work in the last twenty years within the Criteria and Indicators framework resulted in reports covering all major aspects of state of forests and forest management.

Since the first session of the FAO Conference in the autumn of 1945, and the European Timber Conference held in 1948 in Marianske Lazne (former Czechoslovakia), the UNECE and FAO reporting has had a participatory character. The process has been steered by the countries participating in the FAO European Forestry Commission and the UNECE Timber Committee. The growing scope of reporting, and of the interest in state of forests and their management, was reflected in the establishment of new forms of cooperation within and among countries and organizations. Since 1987, five expert consultations took place in Finland jointly organized by FAO, UNECE and the Finnish Forest Research Institute. The inaugural meeting of the Team of Special-



Annual fellings and net annual increment (NAI) on forest available for wood supply in Europe.Source: Kuusela, 1994 and SoEF 2011(manuscript). Data presented does not cover the territory of the former USSR. Due to methodological conditions the NAI increase, especially between 1990 and 2000, was partly due to changes in reporting and measurement methodologies.

ist on Forest Resources Assessment was held in 1995, the Advisory Group of global Forest Resources Assessment was established in 2002 and the opening meeting of the Advisory Group on the State of Europe's Forests was organized in 2005.

The close and effective cooperation between UNECE (Geneva) and FAO (Rome) has evolved over time, and has supported institutional arrangements (UNECE/FAO Forestry and Timber Section) as well as the mutual participation and support of joint activities (e.g. global Forest Resources Assessment and regional reports on forests in the UNECE region). More recently, cooperation at the regional level was enhanced with the Ministerial Conference on the Protection of Forest in Europe – Forest Europe, for which UNECE, FAO and Liaison Units manage the preparation of the State of Europe's Forests report.

The UNECE/FAO/Forest Europe reporting has worked side by side with other forest reporting organizations and processes. The pan-European forest reporting community is open to the participation of relevant organizations and experts. This extended partnership covers different elements of reporting, including work on reporting formats and definitions, data collection, processing, analysis and dissemination.

Undoubtedly, the growing partnerships have improved the efficiency of reporting in the region and, most importantly, helped reducing the burden of national reporting. Increased participation and cooperation also contributed to the harmonization of activities related to data collection in the region. Building on the successes of these cooperative actions on forest reporting, UNECE/FAO would like to provide an opportunity to discuss and identify common solutions and approaches to data collection at the March 2011 meeting of the FAO/UNECE Joint Working Party on Forest Economics and Statistics (http://timber.unece.org/index.php?id=33-jwpfes).

Sebastian Kaulitzki / www.fotolia.com

Annemarie Bastrup-Birk | University of Copenhagen, Forest & Landscape Denmark
Klemens Schadauer | Bundesamt und Forschungszentrum für Wald, Austria

USEWOOD works with national forest inventory experts to help decision making

The European National Forest Inventory Network (ENFIN) is a network, which aims at promoting the national forest inventories (NFIs) as comprehensive monitoring systems to collect harmonised information on forest ecosystems, landscapes with tree and/or shrub cover, and all land use/cover changes, thus serving a broad spectrum of forest related policies. ENFIN enhances cooperation between NFIs of Europe and strengthens their capacities to meet both national requirements for forest information and needs for harmonised and timely forest information at European and international level. ENFIN promotes knowledge-sharing, enhanced methods, and new ideas, thereby maintaining updated forest information systems and ensuring continuous improvement of methods, data collection and data analysis within the national forests inventories.

Recently ENFIN succeeded in applying for a new COST Action: USEWOOD FP1001. This Action will give an improved overview of the available data and information on wood resources and possible wood uses in Europe. This Action will consider the actual extent and building scenarios of forest indicators (forest area, growing stock, biomass, increment and harvest) in light of perspectives of long term trends for supply and demand of forest products. Future wood supply is expected to come from all types of wood from forests, other wooded land, trees outside forest and residues. USEWOOD will gather the knowledge and expertise available with NFI experts in the fields of harmonisation of forest data to reach the comparability, detailed national wood supply studies to reach comprehensiveness, multisource forest inventory to incorporate remote sensing data for mapping and small area estimation and economic modelling to incorporate different competitive market conditions. This high quality information will be used for future scenario modelling and help political decision making for the renewable energy sector. The action is mainly aimed at the economic/ecological needs in Europe, but it will be based on the development of sound scientific work in the fields of forest statistics, remote sensing and scenario modelling.

The process of harmonisation of forest information is ongoing, still step by step, based on bottom-up approach, using the specific information acquired at national level and harmonising the output of the core national variables towards agreed-upon the reference definitions. Relevant information at European level will also be produced. Through this work, the ENFIN will be able to maintain a forum for sharing experiences and ideas among the NFIs and continue to build capacities on sample-based NFIs. By its continuing work, the ENFIN will also increase its potential to support European level processes as it is demonstrated with its work for the European Forest Data Center (EFDAC). USEWOOD outcomes will also demonstrate potential linkages to existing European information tools and models requiring information on forest ecosystems and their sustainable use.

Tuomo Kauranne, Jarno Hämäläinen, Basanta Gautam and **Martin Gunia** | Arbonaut Ltd.

Improving resolution in remote sensing for REDD+

The new REDD+ programme has just been approved in the global COP16 climate conference in Cancun. Although the details of its implementation are still to be worked out, there was an almost unanimous agreement on the principles proposed for the REDD+ Programme. While the REDD part stands for Reduced Emissions from Deforestation and forest Degradation, the plus adds a number of co-benefits, such as sustainable forest management, conservation and respect for sovereignty of countries receiving REDD+ credits.

However, the REDD+ Programme will only be as effective as its implementation in each country. Principal causes of forest loss in developing countries are often related to desperate poverty and unpredictable law enforcement. Local people collect firewood, or earn a meagre livelihood from illegal logging activities, because of lack of viable alternatives. REDD+ aims to change this situation by providing financial incentives to local people for keeping their forests intact, or using them in a sustainable fashion. But this will happen only if the benefits reach the very people, on whose daily actions the survival of forests depends on. This means, in particular, that REDD+ credits must be calculated with such high spatial resolution that they can be attributed to individual villages, or even families.

Traditional methods for Forest Resource Assessment (FRA) seldom attain a spatial resolution finer than hundreds or thousands of hectares, if the FRA is based on field plots and low- to medium-resolution satellite imagery. Recently, airborne laser-scanning – or LiDAR – has emerged as a viable method to complement traditional FRA. In the so-called Integrated Approach, a nested sequence of estimates is produced that results in accurate and affordable high-resolution REDD+ credits.

In the integrated approach, field sample plots are used to teach a Bayesian regression model on laser-scanned forest transects. The above-ground biomass on these transects is estimated accurately by this regression, since it follows the same principle as the area based laser scanning method developed e.g. by Naesset et al. The next step is a second application of Bayesian regression from laser-interpreted transects to the remaining area that is only covered by medium-resolution satellite imagery. Laser-interpreted transects are used to create a large collection of surrogate sample plots that are used as a teaching set for a Bayesian regression model on features extracted from satellite images.

The integrated approach was first tested in Lao PDR. The results were accurate to an acceptable level of error on areas of one hectare, or even smaller. It is now being implemented on a larger area in Nepal, with other countries to join in later on. This is the first time that such high spatial resolution has been attained in tropical FRA. There is considerable hope that the integrated approach will provide a keystone for the implementation of Monitoring, Reporting and Verification (MRV) in REDD+ projects.

Barry Gardiner, Mariella Marzano and **Bruce Nicoll** | Forest Research, UK
Kristina Blennow | Swedish University of Agricultural Sciences, Sweden
Jean-Michel Carnus | INRA, France
Peter Fleischer | Slovak National Forests TANAP, Slovak Republic
Frederik Ingemarson | The Royal Swedish Academy of Agriculture and Forestry, Sweden
Marcus Lindner | EFI
Christophe Orazio and **Marie-Pierre Reviron** | EFIATLANTIC
Guy Landmann and **Jean-Luc Peyron** | GIP-ECOFOR, France
Mart-Jan Schelhaas | Alterra, the Netherlands
Andreas Schuck and **Michaela Spielmann** | EFICENT-OEF
Tilo Usbeck | Swiss Federal Institute for Forest, Snow and Landscape Research WSL and EFICENT-OEF

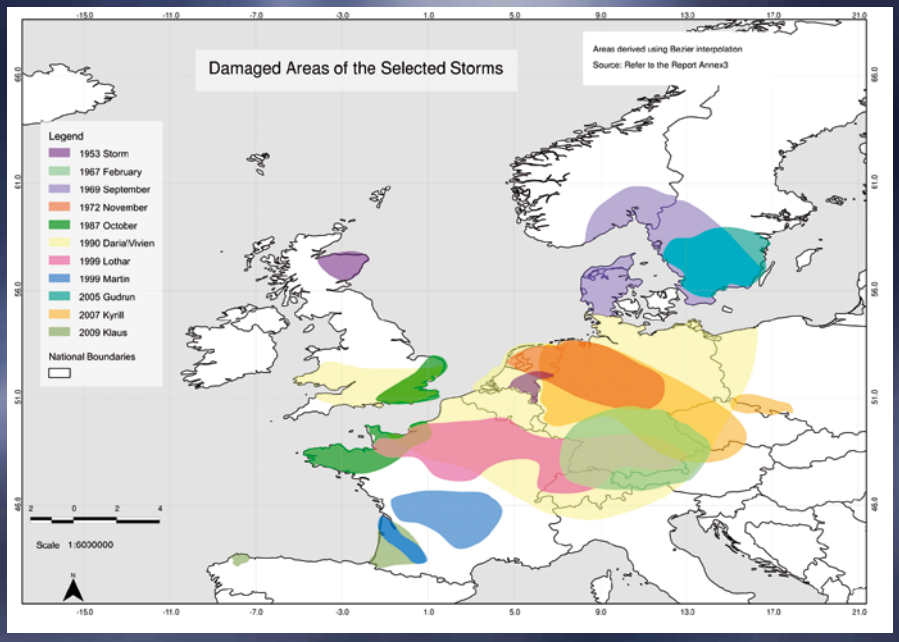
Storms – an Increasing Threat to Europe's Forests

Storms are one of the major damaging agents in Europe's forests. They can have severe social, environmental and economic impacts in those regions affected by storms and can cause strong disruption to wood markets. A recent study suggests that storm damage in forests may continue to increase in Europe by between 2 to 4 times the present level by the end of the century, assuming that current management practices continue. Sharing best practice, facilitating a rapid response following storms and building on adaptive forest management strategies are measures that can mitigate the impacts of storms.

Storms cause more than 50% of all catastrophic damage to European forests with an average of two destructive storms each year. As part of the study, all storms causing notable damage to European forests since 1950 were catalogued and a classification system developed, which is based on the growing stock damaged. It was observed that over the past 60 years, damage levels have increased markedly. This appears to be primarily due to an increase in the growing stock of European forests rather than any change to date in storm intensity or frequency. Based on the extensive information collected eleven representative storms since 1950 were selected for more detailed analysis of their social, environmental and economic effects, and for policy implications.

Far reaching damages

Storms can have a major impact on timber prices in the short term and on timber availability in the longer term. They also affect water quality, carbon sequestration and



Estimated areas affected by 11 selected storms based on the results of the study.

Sandra Zuerlein / www.fotolia.com

biodiversity. The reduction of carbon sequestration is due to soil disturbance and reduced rotation lengths. Currently this amounts to a loss of around 2% in carbon sequestration by European forests but could exceed 5% by the end of the century. Secondary damage after the initial storm, primarily caused by bark beetles, can continue for many years if not effectively dealt with and add substantially to the initial damage.

Damaging factors

It was found that the maximum damage levels in individual storms can be predicted as a function of gust peak wind speeds, with no appreciable damage for wind speeds below 30 ms^{-1}, rising to more than 4% of the national growing stock for speeds above 45 ms^{-1}. The dominant factors which determine damage levels within forests and stands are tree height, soil condition (e.g. waterlogging and rooting restrictions) and recent thinning. There is also evidence that some species are more susceptible to damage with spruce and poplar being amongst the most vulnerable and silver fir and oak the least vulnerable respectively of conifer and broadleaves. However, the vulnerability of forest stands is a complex interaction between meteorological conditions and stand location, soil type, stand composition, and past forest management and taking any site or stand factor in isolation as a way of assessing the vulnerability of a forest can be very misleading.

Research suggests that forest storm damage will continue to increase in Europe, with damage increasing by between 2 to 4 times the present levels by the end of the century, if current management practices continue. This increase is primarily due to a predicted increase in growing stock but is also due to a forecast increase in storm intensity, a reduction in the period of frozen soils and heavier rainfall leading to more saturated soils. In addition, the area affected by individual storms is predicted to increase and storms will penetrate further across the continent increasing damage in Eastern Europe.

Gina Sanders / www.fotolia.com

Forest storm risk management plans needed

A project workshop took place in Brussels in June 2010, bringing together researchers, policy makers and forest practitioners. Outcomes of the study were presented and complemented by experiences from the different stakeholder groups. Based on the study findings and the workshop results a range of practice and policy measures are recommended to help mitigate the effects of storms on the European forest industry and forest owners and to prepare for future storm events. These include encouraging Member States to develop forest storm risk management plans, the provision of a central source of up-to-date information and data prior to and immediately after storms, and coordination between affected countries following storm damage to facilitate a rapid response to minimise the impact. In addition there is a need to promote an equitable and harmonised insurance system for storm damage, to standardise the monitoring and reporting of all forest damage (abiotic and biotic) and to make available best practice information and guidelines as well as risk modelling tools in the languages of affected Member States.

This article is based on the outcomes of a study entitled 'Past and future impacts of storms to European forests'. It was commissioned by the Directorate-General for the Environment of the European Commission and implemented as a collaborative effort by two of EFI's Regional Offices, EFIATLANTIC (co-ordinator) and EFICENT-OEF, together with EFI Headquarters and scientists from Finland, Sweden, the Netherlands, Germany, France, Switzerland, Slovakia and the UK.

The final report of the study is available at: ec.europa.eu/environment/forests/fprotection.htm and www.efiatlantic.efi.int/portal/research/storm_european_study/

Detailed information on all the storms can be found at the online database: www.efiatlantic.efi.int/portal/databases/European_storms_catalogue

EFI to host the EU REDD Facility

EFI hosts the newly established EU REDD Facility. The EU REDD Facility aims at assisting developing countries by providing effective support to the emergence of REDD national frameworks, assisting the European Commission and the EU Member States in providing such an effective support, and helping developing countries in building their capacity and improving forest governance so as to help them meet their REDD objectives.

The EU REDD Facility will provide support to targeted developing countries in building their capacity and improving forest governance in support of both REDD and FLEGT objectives, as well as guide the development of EU financed REDD actions.

A contribution of €3 million has been pledged by the European Commission to start the EU REDD Facility. The EU REDD Facility will be under the EFI's Policy Advice Group and it will implement the institute's policy advice strategy approved by the EFI Annual Conference in September 2010.

CO2FIX holds its popularity

CO2FIX V 3.1 is a stand level model framework – a tool which quantifies the C stocks and fluxes in the forest biomass, the soil organic matter and the wood products chain. It also includes modules for bioenergy, finances and carbon accounting. CO2FIX is applicable to many different situations: mono- and mixed species stands, even-aged and uneven-aged forests, afforestation projects, agroforestry systems, and selective logging systems. Mart-Jan Schelhaas (Alterra), one of the developers of the model says: "The charm of the model is in its versatility, its easy-to-use features and its ability to work with relatively little data. After all these years, it is still downloaded 2–3 times per day. Users regularly give positive feedback and the model has found its way to quite a number of projects, MSc and PhD theses. With the recent agreement on REDD, we even expect an increased interest in the model in the near future."

The CO2FIX model is freely available, please visit www.efi.int/projects/casfor/models.htm for further details.

EFINORD collaborates with Nordic-Baltic Forest Research Communicators on new portal

EFI's North European Regional Office – EFINORD – is developing a new information service, comprising forest research related information from the Nordic-Baltic region. The work is carried out in cooperation with the Nordic Forest Research Co-operation Committee (SNS).

The service aims to give visitors one entry to research related information published by research organisations in the Nordic and Baltic countries. The target group for the service is decision makers, politicians, official bodies, organisations, and anyone with an interest in the forest sector. The first information providers will be the forest research institutions participating in the SNS-EFINORD network Nordic Baltic Forest Research Communicators. The network met in January 2011 in Copenhagen, Denmark to discuss the contents and development of the site. *Mika Mustonen,* Head of EFINORD, says: "To have the input and support of such a group of communication professionals from forest research institutes in the region makes me confident that the service will become successful".

ulga / www.fotolia.com

EU Timber Regulation study kicks off

Given the major scale and urgency of the problem of deforestation, it was necessary to complement and reinforce the FLEGT Action Plan with additional measures and for that reason in October 2008 the European Commission presented a legislative proposal aimed at minimising the risk of illegally harvested timber entering the EU. In October 2010, the European Parliament and the Council adopted the new Regulation which stipulates the obligations of operators who place timber and timber products on the market. The regulation will enter into force on 3 March 2013. It requires operators within the EU for the first time to exercise "due diligence" with supplied timber and timber products to and within the EU market.

The due diligence system should contain the following 3 elements:

- measures and procedures providing access to information concerning the operator's supply of timber;
- risk assessment procedures; and
- risk mitigation procedures.

DG Environment of the European Commission has contracted EFI to carry out a study which provides information of the status quo of these systems in Europe. The direct contract was awarded to EFI, who undertakes the assignment with two associate members, University of Padova, Italy, and Indufor, Finland.

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Towards Prosperous Forest Networking in Central-Eastern Europe

Bernhard Wolfslehner | EFICEEC

EFI's Central-European Regional Office – EFICEEC, looks back on an intensive year 2010. Following the launch in Vienna in April 2010, and the appointment of the Head of Office in May, it was imperative to become operational as quickly as possible. Committing the 11 core partners and ensuring their in-kind contributions to EFICEEC was first on the agenda. Welcoming among others the Faculty of Forestry of the University of Istanbul as new network, the EFICEEC network had 30 partners in 17 European countries by end of 2010.

Managing such a large network and its pool of competences is complex, and sets high demands on communication. Therefore, focus was given on the development of the EFICEEC website (www.eficeec.efi.int) and the electronic newsletter to be shared within the network. Both secure up-to-date communication and sharing communication on news, open calls or achievements such as the successful end of COST Action E 51 on Integrating Innovation and Development Policies for the Forest Sector.

A network cannot flourish without personal contact. The University of Forestry in Sofia hosted 20 participants to discuss EFICEEC strategy and organisation, and to present their current work and contribution to EFICEEC. It was also discussed how to bundle the expertise in coppice and mountain forests, which are the two key strategic assets of EFICEEC.

In line with EFI's foresight activities, an internal exercise was done anticipating future developments in the forest sector in the Central and Eastern European (CEE) region until 2020. The CEE region is particularly interesting in this respect because we see a heterogeneous state of the transition processes in CEE countries (e.g. the status of land restitution) joint by recent EU accessions. New policy making processes and new decision-making habits in forest management will be needed in order to clarify forest ownership issues (both private and state forests), satisfy novel societal demands on forests, and to strengthen rural development and the better use of natural resources (e.g. bioenergy).

The EFICEEC foresight activity is designed to raise awareness for relevant forest-related topics in the CEE region and to proactively advocate for CEE topics in Europe. It will be followed up at the EFICEEC annual meeting in Brno in May 2011.

EFICEEC core partners

- BOKU – University of Natural Resources and Life Sciences, Vienna, Austria (hosting institution)
- University of Forestry, Sofia, Bulgaria
- Czech University of Life Sciences, Prague, Czech Republic
- Mendel University of Agriculture and Forestry, Brno, Czech Republic
- Estonian University of Life Sciences, Tartu, Estonia
- Lithuanian Forest Institute, Kaunas, Lithuania
- Forest Research Institute, Krakow Unit, Poland
- University Stefan cel Mare, Suceava, Romania
- Forest Research and Management Institute, Voluntari, Romania
- National Forest Centre, Zvolen, Slovakia
- Technical University, Zvolen, Slovakia

Foresight on Future Demand for Forest-based Products and Services: first findings

COST Strategic Workshop series 2010–2011 on Foresight on Future Demand for Forest-based Products and Services continued with a Scenario Building session in February 2011.

The first findings of the workshop series underline that there are several development pathways – demand for forests and their products and services can develop towards increasing conflicts between different uses, but there are also pathways providing more solutions for the global challenges.

The futures tools and methods already developed in the forest sector concentrate mainly on the supply side developments, but there are also ways of exploring the futures beyond extrapolating the past trends and development patterns. Foresight is about "what if" questions, gathering intelligence for identifying emerging issues, uncertainties and possible change factors, and building up capacities for flexibility in responding to new challenges.

The internet survey carried out in the foresight exercise illustrated some strongly shared views on the global trends and their influence on the forest-based sector by 2050. These include a strong belief in technology solutions and an expectation that increasing globalisation will develop towards free trade and global markets, as well as increasing uncertainties and disparities in the economic development. Role of forests for the national wealth is expected to become more recognized.

The Barcelona workshop tested one scenario building method for involving differing viewpoints in the futures exercises. The workshop results will be analysed together with the material already collected, and the outcome will be opened for feedback in a second round of internet-based sessions in March-April 2011 (see: www.edelphi.fi/en/groups/costforesight).

Project will result definition of future research orientations, and the results will be disseminated to policy and decision makers in two conferences in the autumn 2011: final conference in Poland (tentatively September 13) and an information event in Brussels (date to be confirmed later). Also needs and possibilities for new foresight investigations will be discussed.

30-year re-analysis of CARBON fluxES and pools over Europe and the globe

CARBONES proposes a new approach for quantifying and understanding CO_2 surface fluxes. It will deliver the first ever consistent, high space- and time-resolution history of the carbon cycle, with associated uncertainties and attribution to controlling processes. The products and diagnostics will be publicly disseminated thanks to a tailored user-friendly interface, allowing climate modellers, other science communities, and the general public to understand and easily visualize the living carbon cycle over the past 30 years. The project will lay the foundation of a future global operational verification system of CO_2 fluxes.

EFI team is involved in the forest related DataStream development to provide information on Carbon stock and fluxes of European forest. DataStream is used for CARBONES models initialization and verification.

Further information:
www.carbones.eu

Pau Costa Alcubierre Foundation on Fire Ecology and Management inaugurated

"There is a need to establish a common platform in Europe, capitalizing on knowledge and experience attained by specialists in fire ecology and management and sharing it with others at national and international level", says *Marc Castellnou* from the GRAF units of the Catalonian Fire Service. So far experiences have been shared amongst fire management groups and research institutes through cross border training courses and exchanges. In order to enhance the communication of experiences and scientific knowledge gained, the Pau Costa Foundation was inaugurated in January 2011 and will be starting its activities later this year. The Foundation carries the name of *Pau Costa*, a fire analyst at GRAF, who tragically died in the Horta de Sant Joan Fire on 24 July, 2009.

Further information:
fundaciopaucosta@gmail.com

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Forest Values and Compliance with Forestry Legislation in Ghana

Sabaheta Ramcilovic-Suominen | EFI

One of the main objectives of the EFI Policy and Governance programme is to provide decision makers with policy relevant research results. To this end, the ongoing PhD research on livelihoods, forest values and forest law compliance in Ghana, is making a significant contribution, especially in terms of the implementation of FLEGT VPA (Forest Law Enforcement, Governance and Trade/Voluntary Partnership Agreement) in Ghana. By signing the VPA, Ghana has agreed to develop a transparent forest governance system and to ensure legal compliance in the forestry sector.

VPA impacts on the livelihood of forest dependent communities

The first part of the study (published in International Forestry Review Vol.12/4, 2010) analyses how the concept of livelihoods is understood in the Ghanaian FLEGT VPA, and assess the potential impacts of the VPA implementation on the forest dependent communities. The results suggest that the policies and institutions are the key elements in the concept of livelihoods in the Ghanaian VPA. The VPA impacts on the forest dependent communities will depend on whether or not the VPA addresses and ensures the following: retention of forest resource and environmental services, reforms of land and tree tenure system, transparency and accountability, and participation at local levels.

Forest values and compliance with forestry legislation

Next, the study looks at the communities' forest values and their compliance with forestry legislation. To this end, a survey was conducted with 226 individual farmers, living in the fringes of forest reserves in Dormaa,

Elena Gorriz

Sabaheta Ramcilovic-Suominen

Begoro and Juaso forest districts, in the High Forest Zone of Ghana. The survey focused on the constitutional forestry legislation, and included the following forestry rules: illegal felling, illegal farming and illegalities related to the bushfire management.

Applying the value theory and the compliance theory, the survey explored the farmers' forest values, and their compliance with the forestry legislation. Early analysis of the data shows that environmental, subsistence, future and economic forest values are the most important for the farmers. It also shows that economic, religion-related and learning forest values positively influence the farmers' compliance with the forestry legislation.

Finally, the study will focus on different dimensions of forest law compliance, including frequency of violation, fairness and legitimacy of the forestry legislation, sanctions and deterrence. Looking at the different perspectives of compliance (instrumental and normative), the study will enhance the understanding about the factors which determine the ultimate forest law compliance behaviour.

New insights in theory and practice of the forest illegalities and the forest law compliance

The key challenges related to illegal forest activities, and to implementation of FLEGT VPA in Ghana, have to do with the lack of forest law compliance and the consequent weak forest law enforcement. Currently, much research has focused on the assessment of forest illegalities and their impacts, as well as the economic and political perspectives of forest law compliance and enforcement. However, considerably less research has dealt with the factors determining compliance, let alone the value system of those who are to comply with the forestry legislation. In this respect, by bringing the concept of forest values in the framework of forest law compliance, and by exploring the factors that influence the compliance behaviour, the study brings in a new insight in theory and practice of the forest illegalities and the forest law compliance.

Further information:
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http://www.euflegt.efi.int/portal/home/vpa_countries/in_africa/ghana/ghana_material/?did=144

Welcome to Uppsala!

EFI Annual Conference 2011

Uppsala is Sweden's fourth largest city with a population of 190 000 inhabitants. Unique cultural treasures and an exciting history are to be found in the city of knowledge and inspiration. Uppsala has retained its small-town charm while offering a big city's selection of shops, restaurants and other entertainment. Uppsala has many historical attractions. Among the most famous are Uppsala cathedral, the largest cathedral in Scandinavia, one of Sweden's eldest botanical gardens, a unique anatomical theatre built in the 1600s, Uppsala Castle from the mid-1500s and the Linnaeus Garden. The city is located only 30 minutes from Stockholm-Arlanda international airport.

The EFI Annual Conference on 28 September and scientific seminar on 29 September will take place at the Swedish University of Agricultural Sciences (SLU). SLU offers a broad spectrum of educational programmes and single subject courses. About 3300 undergraduates and 800 postgraduate students are enrolled at SLU. Main campuses are located at Alnarp, Skara, Ultuna and Umeå. Research and teaching activities are carried out throughout the country.

The field trip on September 30 will show us parts of the area surrounding Uppsala, with a land use heritage marked by iron production. Today the land use is influenced by a diverse forestry with the purpose of extracting many goods from the forest. The delegates will be presented to the challenge of planning and accomplishment of forestry where the harvesting of pulp wood and saw logs, are intermingled with forest fuel extraction and environmental concern. We will see examples how forestry research solve current problems and we will meet researchers and the forestry companies and the people who get the job done.

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Active forestry with responsibility

Scientific Seminar in the connection to the EFI Annual Conference

Thursday 29 September

This seminar will focus on the rapidly evolving scientific development of forest genetics and sustainability and forest management. We will hear about the first genome maps of coniferous trees and the development both within molecular genetics and quantitative genetics to understand the adaption of trees to climate change. As forest management faces big challenges related to sustainability, issues such as climate, carbon and biodiversity will also be on the programme.

Future framework for EFI on EFI Council agenda

The EFI Council will hold its meeting in June 2011. All issues on the agenda are central for the future direction of the institute – policy framework, for example. This meeting gathers representatives of EFI Member Countries every three years, and is the highest decision making body in the institute. The chairing country of the Council is Croatia for the years 2011–2014. We welcome new Chairman *Hrovje Mestric* and vice-chairman *Diana Vuletic* to steer the Council for these three years. We also bid our sincere thanks to previous chairing country Spain, and Chairman *Ricardo Alia* for the successful work in 2008–2011.

Event Calendar

EFI Events

Joensuu Forestry Networking Week 2011: Forests and Energy
22–27 May 2011
Joensuu, Finland

Global Change and Forest Diseases: New Threats, New Strategies
23–28 May 2011
Montesclaros, Cantabria, Spain

Northern Forests Leading the Way to Sustainability – Northern ToSIA Final Conference
18–19 August 2011
Rovaniemi, Finland

9th International Beech Symposium: Ecology and Silviculture of Beech
12–17 September 2011
Dresden, Germany

CarboForest Conference
21–23 September 2011
Sekocin Stary, Poland

EFI 2011 Annual Conference
28 September 2011
Uppsala, Sweden

Scientific Seminar in the connection to the EFI Annual Conference: Active Forestry with Responsibility
29 September 2011
Uppsala, Sweden

EFI Associated Events

Floodplain Forest Ecosystems in Europe – ecosystem of high priority for protection
2–5 May 2011
Zidlochovice, Czech Republic

Boreal Forests in Eurasia – Ecosystem Design for Multiple Services
9–11 November 2011
St. Petersburg, Russia

Further information
Ms. Ulla Vänttinen
Email: ulla.vanttinen@efi.int
www.efi.int, under News & Events

Boreal Forests in Eurasia – Ecosystem Design for Multiple Services

9–11 November 2011
St. Petersburg, Russia

This conference aims to bring together expertise relating to the sustainable use of the Eurasian Boreal Forest Resource. The central theme of the conference is ecosystem design for multiple services.

Fossil reserves may provide short-term financial benefits, forest ecosystems are essential for long-term human survival and well-being. The area covered by Russia's forests extends over one thousand million hectares representing more than one fifth of the world's forest cover. International meetings with professional input from Russian and foreign experts, have the potential to make a significant contribution to technical and policy development in this globally important region.

Further information:
http://www.iufro.org/download/file/6724/1816/petersburg11-1st-announcement.pdf/

Northern Forests Leading the Way to Sustainability – Northern ToSIA Final Conference

18–19 August 2011
Rovaniemi, Finland

Over the last three years, the Northern ToSIA project has developed new ways to assess the sustainability of forest based activities in Northern Europe with intensive stakeholder interaction in the cases. Drawing on case studies in Finland (North Karelia), Sweden (Malå Sami Village), Norway (Indre Helgeland) and Scotland (Cairngorms National Park), the final conference will demonstrate how the results of the project can help managers balance the demands of different aspects of forestry, for example bio-energy and timber production, reindeer husbandry, wildlife management and recreation. A key focus for discussion will be on using ToSIA – the Tool for Sustainability Impact Assessment – as a scenario and decision support tool, which has been developed and applied across the region with funding from the EU Northern Periphery Programme. The results are applicable for forest and land use policymakers, planners, managers and researchers; representatives of national, regional and local authorities; forest industry representatives; Sámi representatives and other forest users.

Further information:
www.northerntosia.org

otisthewolf / www.fotolia.com

EFI Kicks off a Concerted Action on 'Profitability of European Forests'

The economic changes on the European forests and forest sector have never been so great as today. The economic crisis is still affecting the society and industries and will continue to have an impact on public funds as governments have to reduce the negative balances. This will seriously affect the research done at national research institutes.

However, the demands for goods and services provided by forests continue to increase, and the sector is looking for innovative ways of developing new products, and competitive ways of putting them in the market. Still, the ownership and management of forests is distributed over millions of owners, often interested in a multitude of services provided by the forest, and these owners are the ones creating the richness in diversity of the forest. However, these owners are almost never paid for the services and the often low income per hectare or even negative balance hampers innovation.

Forest economics research in Europe is done by a relatively small number of groups where some are concentrating on the classical economics of supply, demand and prices, and some are developing new models concerning services, and new ways of looking at interest rates like in the Stern review. Few of the forest economics groups are part of global economics initiatives like The Economics of Ecosystems and Biodiversity (TEEB) initiative (www.teebweb.org). There is an urgent need to pool and strengthen the forest economics research in Europe as less than 10% of all forest research capacity in Europe is related to economics.

EFI is launching a concerted action in this field in Europe to pool both classical economics and new ways of regarding economic profitability in Europe. The aim of this is to deal with current market and non market values, and new ways forward in putting a value on forests. Regional comparisons and analyses of grey literature are part of the exercise as well.

The concerted action is kicked off with a winter- and summer school in 2011 in which both more advanced researchers and upcoming PhD students work together on these topics.

Further information on the winter and summer school: http://www.eficent.efi.int/portal/events/efi_winter___summer_school/

Further information on the concerted action: Gert-Jan Nabuurs, firstname.lastname@efi.int

EFI news

EFI News is the newsletter of the European Forest Institute.

Editor-in-Chief: Risto Päivinen
Managing Editors: Minna Korhonen, Anu Ruusila and Satu Ikonen-Williams
Layout: Jouni Halonen / Kopijyvä Oy
Cover photo: Saku Ruusila
ISSN: 1236-7850
1458-4255 (online)

Contributions and Announcements
Article ideas, letters to the editor and requests for advertising information should be sent to publications@efi.int

Subscription
EFI News is free of charge. In order to receive a copy, please send your full address to the European Forest Institute. The electronic version, as well as back issues, can be downloaded from www.efi.int

The European Forest Institute (EFI) is an international organisation established by European States. EFI conducts research and provides policy advice on forest related issues. It facilitates and stimulates forest related networking as well as promotes the supply of unbiased and policy relevant information on forests and forestry. It also advocates for forest research and for scientifically sound information as a basis for policy-making on forests.