

IUFRO Annual Report 2020

Interconnecting
Forests, Science and People



IUFRO



*International Union of Forest Research Organizations
Union Internationale des Instituts de Recherche Forestière
Internationaler Verband Forstlicher Forschungsanstalten
Unión Internacional de Organizaciones de Investigación Forestal*



Photo collage for 2020 Earth Day presentation by John Parrotta

Cork oak seeds (Viterbo, Italy). Photo by Giovanbattista de Dato

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All texts in this Annual Report have either been provided by IUFRO officeholders or have been taken from IUFRO conference information web sites and reports for IUFRO News.

Please note that in the IUFRO context the term “to sponsor” a meeting does not imply any financial assistance. It means that IUFRO officeholders are prominently involved in the meeting and that IUFRO supports the promotion of the event in its media.



*IUFRO President John Parrotta.
Photo by Jennifer Hayes*



*Blue Ridge Mountains, Virginia, USA.
Photo by John Parrotta*

Foreword

By IUFRO President John Parrotta

2020 was a year like no other. While the COVID-19 pandemic has had a profound impact on our daily lives and the work of our organizations, challenging each of us in so many ways, it has also served as a powerful reminder of the importance of sound scientific knowledge and international scientific collaboration for solving global challenges. This is as true for the many forest-related issues we are all working to find solutions for as it is for coping with the pandemic and its economic and social aftershocks.

Despite the obstacles, including the need to scale back in-person meetings and other networking activities in 2020, IUFRO has maintained and in some ways even enhanced collaboration in forest science. During its first-ever virtual meeting in September, the IUFRO Board finalized our post-2020 Strategy, a comprehensive Strategy Action Plan, and a Strategic Communications Plan for 2020-2024. These initiatives represent important steps to enhance research excellence in forest science worldwide, to improve communications and embrace diversity within our network, and to increase IUFRO's visibility, outreach, and education activities.

IUFRO's leadership, from our Headquarters staff and Board, through all levels of our organization, have rapidly adopted new approaches and technologies for networking, including virtual meetings and webinars. These activities, summarized by IUFRO Divisions, Task Forces, and Special Programmes and Projects in this Annual Report, in many cases attracted many more participants from around the world than comparable in-person meetings otherwise would. Expanding the use of hybrid and virtual meeting formats and other creative online networking activities in 2021 and beyond will further enhance our flexibility and expand involvement in our activities of a larger and more diverse group of scientists and stakeholders, while reducing our collective "carbon footprint" associated with international travel to attend in-person events.

In addition to the meetings and webinars organized by IUFRO Divisional units and Task Forces, officeholders and members collaborated to produce many important publications in all fields of forest science. Among the year's most significant publications, a multi-disciplinary global assessment report, entitled *Forests, Trees and the Eradication of Poverty: Potential and Limitations*, was a major accomplishment for IUFRO's Global Forest Expert Panels (GFEP) Programme. This report, and an accompanying policy brief, were launched at a high-profile online event in October 2020 in conjunction with the International Day for the Eradication of Poverty. Similarly, IUFRO's Special Programme for Development of Capacities (IUFRO-SPDC) quickly modified and successfully implemented its ambitious schedule of networking activities in a virtual environment, including training and knowledge sharing workshops on forest landscape restoration, and systematic evidence evaluation.

In my role as President, it was my privilege to work – almost on daily basis – with IUFRO Headquarters' talented and dedicated staff led by Alexander Buck and Michael Kleine on so many of the behind-the-scenes activities that ensure that the IUFRO network remained dynamic, and engaged with our Members, partner organizations, and our generous donors. A vitally important part of this work has been our communications efforts, both within the IUFRO network, and with our stakeholders and the general public. IUFRO's social media presence and activity continued to expand in 2020, and our publications, including monthly issues of IUFRO News, and the IUFRO Spotlight series, which included a superb series of engaging pieces on the work of our nine interdisciplinary Task Forces, have helped us tremendously in our collective effort to interconnect forests, science and people.

In closing, I thank the IUFRO Board, the IUFRO Secretariat, our more than 700 officeholders, our Member Organizations and participating scientists for your dedication and contributions to forest science, as well as your perseverance and constructive engagement throughout 2020. Through your active participation in IUFRO's forest science networking activities, we will continue to provide science-based solutions to tackle the many forest-related environmental, economic and social issues facing our global society, and our shared home, Planet Earth.

Outlook

*Daniela Kleinschmit and Shirong Liu,
IUFRO Vice-Presidents*

The term “outlook” has two principal meanings: firstly, the perspective on future situations and secondly, the view from a specific place.

Despite the many path dependencies to which we are tied, since 2020 at the latest we have learned that predictions encompass many uncertainties that are unforeseeable. The pandemic situation has made 2020 a staggering year in almost every respect. IUFRO has not been spared from these consequences: well-planned activities needed to be cancelled, working and travel conditions changed having effects on collaboration and networking, and all researchers and organizations involved in IUFRO needed to find ways to adapt to the new situation.

However, as forests are still growing, IUFRO is still vigorously working. The IUFRO family has learned together, adapted to the new situation, developed new ways for collaboration and activities and with this learned to value our network even more. Although we cannot foresee the details of the future, we are certain that global collaboration and solidarity are of key importance for building a resilient forest science community.

Despite all uncertainties, environmental challenges are a part of future scenarios and will persist. Climate change, the loss of biodiversity, deforestation and soil degradation as well as their consequences for people and livelihoods will accompany us during the next year and beyond.

The post-2020 IUFRO Strategy provides an inclusive framework embracing these challenges in a proactive way. Setting out from the overarching goal of interconnecting forests, science and people, we will focus on people’s well-being, climate change, green development, biodiversity, eco-security and ecosystem services, and interaction between forests and other ecosystems.

The goals are set and 2021 will be the year when implementation (re-)starts. The goals are also very much in line with diverse global initiatives responding to global challenges, such as the UN Decade on Ecosystem Restoration to be kicked off in 2021. IUFRO supports these processes by providing scientific knowledge about the problems and about options for the future.

It has been recognized already for some time that understanding forest-related problems and presenting options for the future is not a task that can be fulfilled by a single discipline. The global challenges as well as the global goals set out in the SDGs come along with many different perspectives and needs. Consequently, interdisciplinary research comprising natural sciences, social sciences, the humanities and engineering is called upon to respond to these challenges and materialize the inherent potentials of forests in helping attain the Sustainable Development Goals (SDGs).

In 2021 IUFRO will continue to provide strong disciplinary competence as represented in the diverse units of IUFRO and



IUFRO Post-2020 Strategy



be the motor of interdisciplinary scientific activities with its Task Forces, for example.

Furthermore, IUFRO with its new strategy and its dedicated officeholders and members, will expand its networking and outreach beyond the union and pool all possible knowledge, expertise and experience to provide science-based solutions to the common challenges that humanity is facing.

Another phenomenon that will persist in 2021 is the trend of fake news, supported by the increasing scope of social media and fueled by the uncertainty of the pandemic situation. IUFRO plays an utterly important role, particularly in times when sources of information are essential, to ensure the quality of news. IUFRO is the organization that will continue to provide scientific information in an overarching and encompassing way and develop evidence-based solutions for forest-related problems globally. With this, IUFRO will counter the trend of fake news and be a reliable source for forest information also in 2021.

With this outlook we have addressed some scenarios of the future situation. However, as defined in the beginning, outlook also refers to a view from a specific place. As we are two Vice-Presidents from different parts of the world, one could assume that we might have different views. And this might be true.

In fact, we are only two out of about 15,000 forest scientists involved in IUFRO. We do not only have different disciplinary backgrounds but also different cultural and social backgrounds and knowledge about specific areas. Together, we are like pieces of a puzzle allowing to provide a bigger - a global - picture of the diverse forest situations, problems, needs and possible solutions. Being part of this global forest science network puzzle provides us with the perfect place to have a view from.

Forested areas have their boundaries, but the benefits and threats related to forests are boundless. Let us look forward to a new journey of fruitful interaction between forests, science and people in 2021!

Silviculture - Division 1

Coordinator:

Jens Peter Skovsgaard

Deputy Coordinators:

Teresa Fonseca, Pil Sun Park, Khosro Sagheb-Talebi

Major achievements in 2020

In 2020 all planned activities of IUFRO Division 1 Silviculture were essentially wiped out because of COVID-19. Several office-holders and colleagues were significantly influenced, directly as well as indirectly, by the disease and the associated restrictions, and many still are. Nevertheless, the IUFRO spirit was kept alive as we pioneered new ways of cooperation across national borders, continents and research subjects!

Many units in Division 1 soon developed online discussions in smaller or larger groups and a new and strong dynamic in the exchange of knowledge and research experience. The on-line events included research and training activities, editing of special journal issues and planning activities for the future. This resulted in a number of publications and greatly helped to keep international contacts across continents alive and thriving. Collaborative research for data exchange was also given high priority by some of our units, for example in the initiative to collect data on the endangered African rosewood (*Pterocarpus erinaceus*).

On a larger scale, we hosted or contributed to a couple of virtual conferences. These included the well-attended 'International Virtual Forum on Greening and Land Degradation Neutrality in Dryland', formally hosted by Uzbekistan, and focusing mainly on issues relating to parts of Asia. Another major virtual event were the 'International Mountain Day Talks', focusing on sustaining Himalayan ecosystems under climate change and hosted by IDP-NAHEP SKUAST-K, India.

In addition to these events, Division 1 contributed to a *webinar on EU policy priorities for the sustainability of non-wood forest products*, co-organized by the European Thematic network IN-CREdible and IUFRO Task Force 'Unlocking the Bioeconomy and Non-Timber Forest Products', to the joint *Centro Pinus-IUFRO 'PINUS webcast' Production Tables to Support Management of Maritime Pine*, and to the *4th International Conference on Global Food Security 2020*.

In 2021, we will continue pioneering new tools and new modes of operation for virtual international cooperation. In Division 1, landscape-level issues in silviculture and silviculture for non-wood forest products are two examples of emerging topics. Moreover, in 2021 we will establish a new unit focusing on the ecology and silviculture of chestnut (*Castanea spp.*).

Publications

Aldea, J., I. Barbeito, E. Holmström & M. Löff 2020 (eds.): *Program and Book of Abstracts of the cancelled IUFRO conference Mixed species forests: Risks, resilience and management*. Lund, Sweden 25-27 March 2020. Swedish University of Agricultural sciences, Southern Swedish Forest Research Centre, Report 54.

Kuneš, I., M. Baláš & P. Lánský 2020: *Structural and tree species diversification as a challenging task in forests of the air-polluted*

Jizera Mountains, Czech Republic. Mountain Research and Development 40 (2): D8–D16.

doi: <https://doi.org/10.1659/MRD-JOURNAL-D-19-00059.1>

del Rio, M., M. Löff, A. Bravo-Oviedo & H. Jactel (eds.) 2021: *Mixed species forests. Risks, resilience and management*. Forest Ecology and Management Special Issue, 24 peer-reviewed articles available online at <https://www.sciencedirect.com/journal/forest-ecology-and-management/special-issue/104SPZLN61X>

Sheppard J.P., J. Chamberlain, D. Agúndez, P. Bhattacharya, P.W. Chirwa, A. Gontcharov, W.C.J. Sagona, H.L. Shen, W. Tadesse & S. Mutke 2020: *Sustainable forest management beyond the timber-oriented status quo: transitioning to co-production of timber and non-wood forest products – a global perspective*. Current Forestry Reports, doi:10.1007/s40725-019-00107-1 open access at <https://link.springer.com/article/10.1007%2Fs40725-019-00107-1>

Vacik, H. et al. 2020: *Non-wood forest products in Europe. Ecology and management of mushrooms, tree products, understorey plants and animal products*. Outcomes of the COST Action FP1203 on European NWFPs. BoD Norderstedt. 414 pp. ISBN 978-3-7494-7546-9. <https://www.bod.de/buchshop/non-wood-forest-products-in-europe-9783752675290>



Photograph – Div. 1: Dr Aurora Monzón, Deputy Coordinator of IUFRO Working Party 1.01.12 Silviculture and Ungulates, in an informative action for hunters and students with an interest in the relationship of hunting and silviculture (workshop held on 25-27 September 2020 in Portugal). The workshop was organized to raise awareness of the importance of health surveillance of 'big game meat' / venison and to train hunters as game health observers. Photo credit: Aurora Monzón.

Meetings

<https://www.iufro.org/events/calendar/2020/>

21 July, Portugal, virtual
PINUS: Production Tables for Maritime Pine
IUFRO 1.01.10

1-2 December, Uzbekistan, virtual
Greening and Land Degradation Neutrality in Dryland
IUFRO 1.10.00, 1.06.00

11 December, India, virtual
International Mountain Day Talks
IUFRO 1.04.00

Physiology and Genetics - Division 2

Coordinator:

Santiago C. González-Martínez

Deputy Coordinators:

Janice Cook, Marjana Westergren, Dario Grattapaglia, Ilga Porth

Division 2 includes 5 Research Groups and 29 Working Parties, including a new one created in 2020 (2.04.12 – *Forest genetic monitoring*, see below), which are organized as follows:

- RG 2.01.00: Physiology (6 WPs)
- RG 2.02.00: Conifer breeding and genetic resources (8 WPs)
- RG 2.04.00: Genetics (6 WPs)
- RG 2.08.00: Hardwood improvement, culture and genetic resources (6 WPs)
- RG 2.09.00: Tree seed, physiology and biotechnology (3 WPs)

Major achievements in 2020

Several events in 2020 were postponed to 2021 or 2022 due to the travelling and meeting restrictions imposed by the COVID-19 pandemic, with only three international conferences taking place during 2020. Nevertheless, work continued through on-line conferences and webinars.

Also, this peculiar time was used to continue with the renovation of the Division structure: one new WP (2.04.12) on *Forest genetic monitoring*, coordinated by Hojka Kraigher (Slovenia), was created and 11 new Officeholders were appointed. The main scope of activity of the new WP 2.04.12 is to develop and implement forest genetic monitoring, including the following specific objectives:

- Set up or refine scientific value of monitoring indicators and verifiers through regular evaluations
- Establish cut-off values for the indicators and verifiers that will signal for the change needed in forest management and conservation practices
- Expand the geographic scope of countries where genetic monitoring is operative
- Train researchers and foresters to implement genetic monitoring

The new Officeholders include new Deputy Coordinators for RG 2.04.00 – *Genetics* (Rosane Collevatti, Brazil), RG 2.08.00 – *Hardwood improvement, culture and genetic resources* (Wickneswari Ratnam, Malaysia, and Adejoke Akinyele, Nigeria) and RG 2.09.00 – *Tree seed, physiology and biotechnology* (Mladen Ivanković, Croatia, and Dave Kolotelo, Canada).

In addition, WP 2.08.05 extended its scope to deal with other species of Fagaceae than oaks, and has been renamed to WP 2.08.05 – *Evolution and Adaptation of Fagaceae and Nothofagaceae*.

Among the Division 2 activities, it is noteworthy to highlight that WP 2.04.06 initiated a pilot mentoring program aimed at graduate students and early career scientists, who are paired



Conference group photo by P-P Giudicelli (Métaphore Production)

with a senior partner. The mentee and mentor pairs are encouraged to meet regularly via video conferencing, with an in-person meeting planned for the next IUFRO Tree Biotechnology conference. In this pilot round, 13 mentees with mentors were matched and their first meeting took place in fall 2020. We hope to extend this initiative to other Units during 2021.

Meetings

One of the events supported by Division 2 was the conference '*Genetics to the rescue: managing forests sustainably in a changing world*' (RG 2.04.00 and WP 2.02.13) on 27-31 January 2020 at Avignon University, France. This conference was attended by 180 researchers from 31 countries and highlighted that genetic diversity is a key component of resilience and adaptability. Overall, forest tree populations are genetically very diverse, with an enormous potential for genetic adaptation via processes such as gene flow and natural selection. However, new research is needed to learn more about the scale and pace at which local adaptation occurs in forest trees and whether adaptation and resilience for some traits conflicts with adaptation and resilience for others. Without this basic knowledge, innovative and science-based management and policy approaches will not keep up with the pace of environmental and societal constraints.

Another international conference supported by WP 2.02.13 and the newly created WP 2.04.12 was entitled '*Forest science for future forests: forest genetic monitoring and biodiversity in changing environments*' and took place on 21-25 September 2020 in Ljubljana, Slovenia. Among other topics, the conference put emphasis on the role of genetic diversity for climate change adaptation of forest systems. In order to reach a larger public, this hybrid (in-person/on-line) conference was broadcast via live stream. In addition, an on-site excursion to the Forest Genetic Monitoring plot Pri Studnecu and the virgin forest reserves of Rajhenavski Rog and Krakovo Forest was organized and presented virtually.

Finally, WP 2.04.10 organized the annual '*Forest Tree Workshop*' that took place during the *Plant and Animal Genome XXVIII meeting* in San Diego, California on 12 January. During the months prior to the conference, the organizers ranked and selected abstracts based on their scientific interest and relevance to the forest genomics scientific community, making sure there was a wide representation of species and geographic study areas as well as a diverse group of presenters. A group

of 15 speakers from Canada, the US and South Africa gave presentations on hardwood and conifers related to a variety of topics including genome sequencing, genome-wide association studies, landscape genomics, genomics of adaptation, functional genomics and evolutionary and developmental genomic studies.

Other activities

WP 2.02.13 works closely with the new IUFRO Task Force 'Strengthening Mediterranean Nursery Systems for Forest Reproductive Material Procurement to Adapt to the Effects of Climate Change', and its Coordinator currently serves as one of its Officeholders (see *IUFRO Spotlight #85 - Variety: the spice of life, also for future forests*, for additional information on this TF). In order to gain long-term stability for the WG 2.04.06 biannual meetings (program, attendees, budget), a planning document was produced for local organizing committees. The intent is to continue the work started at the 2019 Tree Biotechnology meeting to improve representation of previously under-represented groups in the forest genomics and biotechnology community. This document includes information ranging from planning timelines and recommendations for speaker selection criteria to potential sponsor lists.



While waiting for better conditions to organize their next meeting, WP 2.08.02 edited and published the proceedings of the previous conference that took place at Krabi, Thailand.

Finally, confronted with the impossibility of organizing international meetings, several WPs chose to strengthen national research communities and organized regional or local meetings including:

RG 2.08.00 The Inaugural Meeting of *Pinus tabulaeformis National Innovation Alliance*: Nearly 100 representatives from 37 units including Beijing Forestry University and Northwest A&F University attended the meeting. The meeting was organized to promote the in-depth integration of government, industry, university, research and application.

WP 2.08.03 *National Eucalypt Workshop*: 215 participants attended the workshop, organized by the Chinese Eucalypt Society on 11-13 November 2020.

Meetings

<https://www.iufro.org/events/calendar/2020/>

12 January, San Diego, California, USA

Forest Tree Workshop- PAG XXVIII

IUFRO 2.04.10

27-31 January, Avignon, France

GenTree 2020: Genetics to the rescue: managing forests sustainably in a changing world

IUFRO 2.04.00, 2.02.13

21-25 September, Ljubljana, Slovenia (hybrid conference)

LifeGenMon 2020: Forest science for future forests: forest genetic monitoring and biodiversity in changing environments

IUFRO 2.04.12, 2.02.13

Photo: Beech genetic monitoring plot in Slovenia. Virtual excursion:

<https://conference.lifegenmon.si/virtual-excursion/> LifeGenMon Conference

Forest Operations, Engineering and Management - Division 3

Coordinator:

Woodam Chung

Deputy Coordinators:

Ola Lindroos, Yaoxiang Li, Luc Lebel

IUFRO Division 3 consists of ten Research Groups and five Working Parties. Our research spans all aspects of forest operations and engineering, from forest nursery management and forest restoration to timber production and forest products supply chains. We develop and deliver scientific research, innovation and solutions to promote sustainable forest operations and management practices.

Undaunted Networking

Division 3 discovered new ways to connect and collaborate during the global pandemic. Although many in-person events were canceled in 2020, the pandemic neither deterred nor stopped Division 3's commitment to global cooperation. We

increased our online webinar offerings and quickly learned to conduct productive virtual meetings.

Division 3 Officeholders' Virtual Meeting

Division 3 officeholders gathered online in September during the first virtual Division meeting to share updates from the IUFRO Board and each unit, and to discuss future action items. We discussed the implementation of IUFRO strategy action plans, IUFRO publications, and the establishment of new officeholder positions. Our discussion will continue in semi-annual regular meetings.

New Research Group Discusses Operational Challenges to Landscape Restoration in Latin America

Many countries around the globe have made strong commitments to restoring approximately 170 million hectares of degraded land by the year 2030. Division 3 recognizes the importance and magnitude of these international commitments and promotes research to address operational challenges of Forest

and Landscape Restoration (FLR). FLR is a nature-based solution that positively affects a wide range of ecosystem services, including biodiversity. It is an effective approach to mitigate climate change and reverse land degradation that contributes to land-use carbon emissions.



Using Remote sensing and Collect Earth to monitor landscape restoration in Nicaragua. René Zamora Cristales, World Resources Institute

As part of this ongoing landscape restoration effort, Division 3 established a new Research Group 3.09.00 *Sustainable Forest Operations for Forest Landscape Restoration* in 2019. The Research Group hosted a webinar to discuss operational challenges in forest restoration in Latin America. Ongoing operational challenges include seedling production, forest operations and management, wildfire resilience and community engagement. Innovative strategies were discussed for achieving a successful implementation and management of landscape restoration.

Key take-away messages include the importance of cost-effective forest operations, development of seed supply systems for native species, restoration of forest structure for fire resilience, and the importance of community support and technical assistance. The webinar conducted on October 28, 2020 was a great success, drawing 220 live participants and receiving more than 400 registrants from around the globe.

Regional Perspectives and Knowledge on Forest Roads

IUFRO Working Party 3.01.02 *Road Engineering and Management* initiated a webinar series to share regional perspectives on the design, construction and management of forest road sys-

tems. The series started with an overview of road construction practices in western North America (September), followed by a second presentation for European perspectives (December). The webinar series will continue through 2021 with presentations from Asia, Africa and Oceania. The forest roads series will



Photo from webinar flyer: Forest Roads in western North America; provided by Kevin Lyons

provide opportunities to share information and diverse perspectives from many regions, while promoting global scientific and engineering collaboration.

Meetings/Webinars

<https://www.iufro.org/events/calendar/2020/>

29 September, Webinar Series – Forest Roads
Regional perspective from around the world – Series #1 Forest Roads in Western North America
IUFRO 3.01.02

28 October, Webinar
Operational Challenges to Landscape Restoration in Latin America
IUFRO 3.09.00

1 December, Webinar Series – Forest Roads
Regional perspective from around the world – Series #2 Forest Roads in Europe
IUFRO 3.01.02

Forest Assessment, Modelling and Management - Division 4

Coordinator:
Don Hodges

Deputy Coordinators:
Bianca Eskelson, Temesgen Hailemariam, Arne Pommerening

This Division is comprised of 5 Research Groups with 27 Working Parties:

- RG 4.01.00: Forest mensuration and modelling (6 WPs)
- RG 4.02.00: Forest resources inventory and monitoring (7 WPs)
- RG 4.03.00: Informatics, modelling and statistics (3 WPs)
- RG 4.04.00: Forest management planning (6 WPs)
- RG 4.05.00: Managerial economics and accounting (5 WPs)

This Division addresses research on growth and yield (including mensuration); forest resource inventory (collection and analysis of resource data); forest management planning and managerial economics; remote sensing; management sciences of forest enterprises; statistical methods, mathematics and computer technology.

The focus of Division 4 continues to be on innovations in data collection and monitoring, modelling, evaluation methods, products, and markets to cope with sustainable forest management challenges brought about by the impacts of human activities and changes in social demands for forest goods and services.

Due to the pandemic, the Division did not conduct any meetings in person in 2020, but three very successful on-line conferences were held, several special issues were announced or published, a Division newsletter was initiated, and several on-line officer meetings were convened.

Working Party 4.02.01, *Resource Data in the Tropics*, focused on rescuing legacy or historical tropical forest datasets that are still on paper or in older digital formats. They also want to help develop appropriate metadata standards and policies for the equitable use of these data. These legacy datasets are invaluable for understanding how tropical forests, biodiversity and carbon storage change through time, including the cumulative impacts of land use and climate changes. Historical data can also help instruct current and future forest management.

Research Group 4.05.00 and the associated Working Parties participated in several activities with other IUFRO units and the Task Force on *Unlocking the Bioeconomy and Non-Timber Forest Products*. This included collaborating on manuscripts with other IUFRO units; developing web-based seminar series focused on forest economics, forest management, and productive chains; and hosting successful on-line conferences within the Division and in collaboration with other IUFRO units and scientific organizations. The work of WP 4.05.05 was highlighted in Issue 5 of the 2020 IUFRO News on *"Social Innovations in Forest Dependent Communities and New Challenges Posed by COVID-19"*.

Meetings

<https://www.iufro.org/events/calendar/2020/>

14-16 June, online

2020 Western Mensurationists' Conference – Forestry at the Crossroads: Advancements in the Natural and Artificial Intelligence

IUFRO 4.03.02 Machine Learning and Computational Ecology

The advancements in computer sciences and material sciences that occurred in the last two decades have changed the ways how forest measurements and modeling are perceived. Computational methods are now dominating not only the world of modeling, but also the world of measurements. Thus, the 2020 Western Mensurationists' Conference placed emphasis on the use of artificial intelligence in the fields of forestry measurements, modeling, inventory, growth and yield, and planning.

The *Canadian Journal of Forest Research* has scheduled a special issue related to the event theme: *Forestry Advancements in the Natural and Artificial Intelligence Era*.

7-8 October, online (EURAC Research, Bolzano, Italy)

The Social and Ecological Value Added of Small-Scale Forestry to the Bioeconomy

IUFRO Units 4.05.00, 3.08.00, 5.11.00, 9.05.03, and Task Force on *Unlocking the Bioeconomy and Non-Timber Forest Products*

Because of COVID, two IUFRO events were merged into one on-line conference of Unit 4.05.00, which was jointly organized by the University of Padua and the European Academy of Bolza-



no, EURAC Research (see picture). The conference targeted researchers and practitioners engaged in managerial, social, and environmental forest economics and accounting, managing forest enterprises, specifically small-scale enterprises, forest ecosystem services, land-use, natural resource policy, decision support making, and related fields under the bio-economy paradigm. The focus was on interpreting and promoting the impact of forest bio-economy on the development of quality product markets and nature-based services and the concepts behind them: social innovation, product diversification, multifunctionality, and the value-added network of vertically and horizontally integrated economic stakeholders. The conference involved 73 participants from 23 countries and included 41 presentations and 5 keynote addresses.

The book of abstracts is available for download on the Unit's webpage and a special issue of the *Austrian Journal of Forest Science* (<https://www.forestscience.at/>) will publish a selected number of peer-reviewed papers presented at the conference.

16-17 October, online (Transilvania Univ. of Brasov, Romania)

9th International Symposium on Forest and Sustainable Development

IUFRO 4.03.00, 4.03.02

The conference aim was to facilitate the exchange of ideas between scientists from different disciplines of forest sciences, present the latest advances, and stimulate future research in forestry and related fields. The plenary talks and thematic sessions covered a wide range of topics including forest ecosystem management; forest engineering; wildlife management; geomatics; and informatics, modelling, and statistics. The conference gathered approximately 124 participants from 26 countries. The [book of abstracts](#) is available for download on the conference website.

Publications

Róbert Marušák, editor. Forthcoming. *Decision support to address multiple ecosystem services in forest management planning*. *Forests*. IUFRO 4.04.00, 4.03.00, and 4.03.03.

Emin Z. Başkent, José G. Borges, Davide M. Pettenella, Yu Wei. Forthcoming. *Non-wood forest products management: inventory, planning, governance, marketing, and trade*. *Forests*. IUFRO 4.04.04, 5.11.00, and Task Force on *Unlocking the Bioeconomy and Non-Timber Forest Products*.

Pete Bettinger. Forthcoming. *Natural resources management in tropical, temperate and boreal forests*. *Forests*. IUFRO 4.04.00.

Keith M. Reynolds, Jose G. Borges, Harald Vacik, Paul F. Hessburg. Forthcoming. *Spatial decision support for forest management and policy formulation*. *Forests*. IUFRO 4.03.00, 4.03.03, and 4.04.04.

Jose G. Borges, Jose Ramon Gonzalez-Olabarria, Yu Wei. Forthcoming. *Sustainable forest management scheduling, on wildfire management and decision support*. *Frontiers in Forests and Global Change*. IUFRO 4.04.04.

Bogdan Strimbu, Lucian Curtu. Forthcoming. *Forest and Sustainable Development (9th International Symposium on Forest and Sustainable Development)*. *Forests*. IUFRO 4.03.00 and 4.03.02



Forest Products - Division 5

Coordinator:
Pekka Saranpää

Deputy Coordinators:
Franka Brüchert, Roger Meder, Andrew Wong, Eric Hansen

Division 5 has 10 Research Groups (RGs) including 21 Working Parties (WPs) that address all aspects ranging from timber identification and processing to forest products culture. Sustainable use of biomass, future wood-based products, biorefining, life cycle analysis, cascade use of wood are in the focus of forest products research. Forest products culture and traditional use of wood promote the visibility of Division 5 and IUFRO to wider audiences than scientific community and decision makers.

- RG 5.01.00: Wood and fibre quality (5 WPs)
- RG 5.03.00: Wood protection (1 WP)
- RG 5.04.00: Wood processing (3 WPs)
- RG 5.05.00: Composites and reconstituted products
- RG 5.06.00: Properties and utilization of plantation wood (2 WPs)
- RG 5.07.00: Biorefinery (2 WPs)
- RG 5.10.00: Forest products marketing and business management
- RG 5.11.00: Non-wood forest products (1 WP)
- RG 5.12.00: Sustainable utilization of forest products (2 WPs)
- RG 5.15.00: Forest products culture (2 WPs)
- RG 5.16.00: Wood identification (3 WPs)

Many of the unit meetings planned to be held in 2020 were either cancelled or postponed to the near future because of the situation caused by the pandemic. The bidding for the next All-Division conference was organized in early 2020. All-Division 5 conferences have taken place every five years with the first one in 1973. The next one was scheduled for 2022, but it was decided to postpone it by one year to 2023. The bid has been won by The University of the Sunshine Coast and the Queensland Government Department of Agriculture and Fisheries, Australia. The conference will be held at the Cairns Convention Centre, Australia, on 4-8 June 2023. Call for sessions and conference planning will start in early 2021.

Division 5 and the International Association of Wood Anatomists (IAWA) have had a long-term collaboration and organized many meetings and sessions together. The use of wood anatomy for identification has been well-established for more than 100 years, and its ability to separate to genus or species groups is adequate for most purposes. However, today also the determination of provenance is important for enforcement of legal logging. Therefore, new methods, such as DNA, computer vision, chemical fingerprint, stable isotope etc., are needed to supplement wood anatomy-based identifications, which are under development with varying degrees of success. Thus, a new Research Group 5.16.00 "Wood identification" was established under Division 5. It is coordinated by Yafang Yin, China, and the RG has three Working Parties.

Participants of the 7th Annual Meeting of the IAWA-China Group



The new unit of Division 5 contributes to academic exchange and cooperation among global wood identification scientists in the fields of collection and exchange of wood specimens, and development of new wood identification methods. As an important part of Division 5, it is significant to promote the sustainable utilization of forest products and legal timber trade. This new Unit of IUFRO will also play a key role to strengthen the cooperation with IAWA on the research development of wood identification.

IUFRO RG 5.10.00 *“Forest products marketing and business management”* held an online conference *“Pathways of forest bioeconomy – past, present and future”* integrated with the Biannual Conference of Scandinavian Society of Forest Economists on 29-30 September 2020. With this approach, the Unit was able to reach a group of over 80 scientists from 17 countries and to also attract some industry and international organization representation. The five thematic sessions were well attended and covered a diverse set of topical issues: forest products markets, servitization, sustainable consumption, wooden multi-story construction business and sustainability transition.

Since the fully online event was technically quite attractive and easy to organize and offered inclusive participation with minimal carbon footprint and travel costs, the Unit will explore this option in the future group meetings.

IUFRO RG 5.16.00 *“Properties and utilization of plantation wood”* and RG 5.06.00 *“Wood identification”* were involved in the 7th Annual Meeting of the IAWA-China Group: *Strengthening the protection and utilization of forestry resources, broadening research field of wood anatomy and wood science* in Lin-an, Zhejiang, China on 28-29 November 2020.

Meetings

<https://www.iufro.org/events/calendar/2020/>

29-30 September, online

Pathways of forest bioeconomy – past, present and future
IUFRO 5.10.00

28-29 November, Lin-an, Zhejiang, China

7th Annual Meeting of the IAWA-China Group
IUFRO 5.16.00

Social Aspects of Forests and Forestry - Division 6

Coordinator:

Cecil C. Konijnendijk van den Bosch

Deputy Coordinators:

Taylor Stein, Purabi Bose, Ellyn Kathalina Damayanti,
Liisa Tyrväinen

In 2020, the work in Division 6 - as in other Divisions - was strongly impacted by the global COVID-19 pandemic, which resulted in the cancellation or postponement of several conferences, events and other activities. The activity level in the Division's Research Groups and Working Parties was therefore much lower than usual. However, towards the end of the year a transition had been made to online activities, and the Division held a well-attended online officeholder meeting to plan for future events and encourage more virtual conferences and seminars in 2021. The Division also started planning an online all-Division webinar series, with a first webinar on the importance of forests and urban nature during the COVID-19 pandemic scheduled for March 2021. The Division also launched a new e-newsletter, with the first issue published in September. The newsletter will appear three times per year.

Throughout the year, many experts active in Division 6, for example in its recreation and urban forestry Research Groups, were involved in studies on the use and importance of urban forests, in particular, and forests and nature in general during the global pandemic. This work had looked at, for example, increasing recreation as well as the positive health impacts of having access to nearby green space.

The Division actively contributed to the new post-2020 IUFRO Strategy. It implemented a Division-wide participatory process to compile prioritized actions and activities under the Strategy's Action Plan. Some Research Groups, and most notably RG 6.10.00 *Rural development* already started implementing

(and reporting on) various actions by developing a more comprehensive mailing list for the group, for example, and new capacity building and involvement in a research project on blue-carbon ecosystems and livelihood in the coral triangle countries. Also in this RG, a new Working Party (6.10.01) was



Green spaces became very popular during the pandemic. Cities like Vancouver, Canada, enforced physical distancing rules to limit the spread of the COVID19 virus. Photo by Cecil Konijnendijk van den Bosch

established on the topic of *Social return on investment: insights and lessons for forest governance*, with the aim to make this topic more visible within IUFRO.

The *Gender and Forestry* RG (6.08) continued to make major contributions to the IUFRO Task Force on *Gender Equality*. A survey among IUFRO officeholders on issues related to gender equality and a gender balance analysis of IUFRO was carried out on the basis of which an organizational analysis of IUFRO was initiated. Several reporting and dissemination activities are planned for 2021. Working Party 6.08.02 started a new capacity building project on gender, education and forestry in Kazakhstan.

Research Groups such as 6.07.00 *Urban Forestry* and 6.01.00 *Forest Recreation* saw some of their planned events postponed, but they will host online or hybrid events during 2021. These will include a series of events under the umbrella of the annual *European Forum on Urban Forestry*, and the 10th edition of the *International Conference on Monitoring and Management of Visitors in Recreational and Protected Areas*. RG 6.06.00 *Forests, Trees, Human Health and Wellbeing* will co-organize the 2nd edition of the *World Conference on Forests for Public Health*. This event is planned to take place in Korea in October 2021.

Meetings

Division 6 officeholder meeting (online), in two sessions (December 2020).

Selected Publications

10 New Insights in Climate Science 2020 report (with contributions from e.g. RG 6.06.00)
<https://10nics2020.futureearth.org/>

One of the focus areas was mental health - as part of this the importance of green spaces was noted.

Derks, J., et al. (2020). *COVID-19-induced visitors boom reveals the importance of forests as critical infrastructure*. *Forest Policy and Economics* 118(2020).

FAO (2020). *Forests for human health and well-being – Strengthening the forest–health–nutrition nexus*. Forestry Working Paper No. 18. Rome. 84 p. ISBN: 978-92-5-133444-7. <http://www.fao.org/documents/card/en/c/cb1468en/> (With key contributions from Division 6 officeholders Prof. Liisa Tyrväinen and Prof. Won Sop Shin)

Fredman, P. & Margaryan, L. (2020). *Nature-based tourism - A Nordic and international outlook*, *Scandinavian Journal of Hospitality and Tourism*, DOI: [10.1080/15022250.2020.1823247](https://doi.org/10.1080/15022250.2020.1823247)

Honey-Rosés, J., Anguelovski, I., Chireh, V.K., Daher, C., Konijnendijk, C., Litt, J., Mawani, V., McCall, M., Orellana, A., Oscilowicz, E., Sánchez, U., Senbel, M., Tan, X., Villagomez, E., Zapata, O., Nieuwenhuijsen, M. (2020). *The Impact of COVID-19 on Public Space: An Early Review of the Emerging Questions – Design, Perceptions and Inequities*. *Cities & Health*. DOI: [10.1080/23748834.2020.1780074](https://doi.org/10.1080/23748834.2020.1780074).

IUFRO Division 6 Newsletter. Issue 1, September 2020. <https://www.iufro.org/fileadmin/material/science/divisions/div6/60000/iufro-division-6-newsletter-issue-1-2020-09.pdf>

IUFRO Spotlight #79 (June 2020) *A Focus on Gender Equality in Forestry*
<https://www.iufro.org/uploads/media/spotlight79-task-force-gender.pdf>

Forest Health - Division 7

Coordinator:

Eckehard Brockerhoff

Deputy Coordinators:

Tod Ramsfield, Maartje Klapwijk

News and activities

Sadly, almost all planned conferences and meetings had to be cancelled or postponed due to the COVID-19 pandemic.

One of the few exceptions was an online meeting of most Division 7 coordinators and deputies which took place on 3-4 September. The meeting was held over two days at different times to allow participants in different time zones to join in. The main objectives of the meeting were to allow coordinators and deputies to exchange and to explore online meeting options including Zoom break-out rooms (smaller sub-groups meeting within the same larger meeting) and polls (the opinion poll feature in Zoom to facilitate information gathering, decisions, etc.). This was part of a suggestion to plan more online meetings instead of physical meetings.

The real highlight of the year was the Webinar series on 'Behavioural and Chemical Ecology of Forest Insects' which took place between 17 September and 12 November 2020, and which was well attended. The webinar series was an initiative of the coordinators of new Working Party 7.03.16 *Behavioural and Chemical Ecology of Forest Insects*, Jeremy Allison (Natural Resources Canada), Andres Gonzalez Ritzel (Universidad de la República, Uruguay) and Sigrid Netherer (BOKU University of Natural Resources and Life Sciences, Austria). Each of the webinars consisted of an introductory presentation by the organizer, followed by three presentations on the topic of the day. The organizers and titles of the six webinars were:



Participants of the Zoom meeting of Division 7 coordinators and deputies

Bill Hansson - *Insect olfaction in the forest*,
Peter Biedermann - *Ecology of bark and ambrosia beetle fungus symbioses*,
Manuela Branco - *Predator-prey and host-parasitoid interactions*,
Almuth Hammerbacher - *Chemically mediated plant-herbivore-microbe interactions in forests*, and
Bernard Slippers - *Behavioral and chemical ecology of Sirex noctilio*.

The webinar series was a great success with attendances usually exceeding 150 participants. The format of the webinars consisted of an hour of presentations, followed by 30 minutes of discussion.

For 2021, a new webinar series has been planned, this time combining efforts from Working Party 7.03.16 and Working Party 7.03.05 (*Ecology and management of bark and wood boring insects*), and it is entitled "*Behavioral and chemical ecology of bark and woodboring insects*" (see further details below in the 'List of Activities and Meetings'). Additional organizers are Juan Corley (INTA, Argentina), Dimitrios Avtzis (Forest Research Institute, Greece), and Jess Hartshorn (Clemson University, United States).

Planning of an All-Division 7 Conference, 6-9 September 2022

Since the IUFRO World Congress in Brazil, there have been ongoing discussions about the next all-Division 7 conference, including both the pathology and the entomology Research Groups). Manuela Branco volunteered to organize the conference in Lisbon, Portugal. Then the planning was put on hold to see how the COVID-19 pandemic would develop. Now, with vaccination programmes progressing, there is hope that plans can go ahead for this conference to take place in September 2022. This date would suit the local organizers and there should not be too many clashes with other events.

The plan is to hold the conference from Tuesday 6 to Friday 9 September, with a one-day field visit in the middle of the meeting. In addition, a post-congress tour will be offered from 9-11 September.

We will welcome contributions to the program (session proposals, etc.), and we look forward to seeing many of you at this conference! *On behalf of the preliminary conference committee: Ecki Brockerhoff, Manuela Branco, Tod Ramsfield, Maartje Klapwijk, Hervé Jactel, Julio Diez*

As there were no physical meetings in 2020, we decided to reuse a picture from a meeting in 2019 as a way to keep the good memories alive: Participants of the Meeting of WP 7.03.10, 'Methodology of forest insect and disease survey' in Suceava, Romania, in September 2019.



Publications Produced with Input of Division 7

Luiza Teixeira-Costa, David Shaw and Simon Francis Shamoun of WP 7.02.11 *Parasitic Flowering Plants in Forests* coordinated a special Issue of the journal *Botany* entitled "*Complex Interactions of Mistletoe, Ecosystems, and People*". This was based on contributions to Session D7d at the XXV IUFRO World Congress in Curitiba, Brazil. The special issue can be accessed via <https://www.nrcresearchpress.com/toc/cjb/98/9>

WP 7.02.09 *Phytophthora diseases on forest trees* produced a special issue of the journal *Forests* on "*Phytophthora Infestations in Forest Ecosystems*". Guest editors: Bruno Scanu and Thomas Jung
See: https://www.mdpi.com/journal/forests/special_issues/Phytophthora *Phytophthora* (published between June 2018 and September 2020)

WP 7.03.15 *Social dimensions of forest health* coordinated a special issue of the journal *Forests* entitled "*Understanding Forest Health under Increasing Climate and Trade Challenges: Social System Considerations*". Guest editors: Eva Carina Helena Keskitalo, Mariella Marzano, Tom P. Holmes, Julie Urquhart. The special issue can be viewed at https://www.mdpi.com/journal/forests/special_issues/climate_health (published between July 2019 and September 2020)

Carmen Büttner and Risto Jalkanen of IUFRO WP 7.02.04 *Phytoplasma and virus diseases of forest trees* along with four other guest editors are producing a special issue "*Viruses in Forest and Urban Trees and Shrubs*" in the journal *Forests*. Submissions are welcome until 10 August 2021.
See: https://www.mdpi.com/journal/forests/special_issues/Plant_Viruses_Forest

Mariella Marzano and Julie Urquhart of WP 7.03.15 *Social dimensions of forest health* are coordinating yet another special issue of *Forests* entitled "*Global Forest Health and Climate Change: Social, Economic and Environmental Implications*". The special issue will focus on the complex interrelationships between climate, globalisation and forest health. They are seeking both theoretical and empirical papers from across environmental, social and economic sciences that present new evidence or illustrate the possibilities and challenges of managing the impacts of increasing risks to forest health. Submissions will close on 30 September 2021, and contributors are invited to submit an abstract to the guest editors via email to: mariella.marzano(at)forestresearch.gov.uk jurquhart1(at)glos.ac.uk
For more details, see: https://www.mdpi.com/journal/forests/special_issues/forest_health_management

Forest Environment - Division 8

Coordinator:

Sandra Luque

Deputy Coordinators:

Alexia Stokes, Anna Barbati, Elena Paoletti

Division 8 concerns research on conservation of forested areas, management and adaptive management practices. Activities in the Division rely on a sound ecological basis, provided by biological and ecological sciences, including wildlife, soil sciences, landscape ecology, conservation biology, biodiversity and physical environment. Other key interest areas include a deeper understanding of hazards and disturbances which could affect forest dynamics such as fire, climate change, pollution and winds.

Already in September 2019 Division 8 added a new Research Group entitled *Impacts of air pollution and climate change on forest ecosystems*. With this latest addition Division 8 now has 4 vibrant Research Groups and 27 Working Parties. The new structure of Division 8 and the reorganization embrace new challenges and integrate a wider perspective towards forest environment coupling strong synergies in relation to the SDGs.

With the addition of 12 female officeholders important progress was made to improve gender balance in the Division. Also, Division 8 is the first Division lead by women only in the history of IUFRO. Division 8 has a particularly strong presence in Europe, North America and Latin America but needs to improve activities in Africa. One important strength of Division 8 is the social media presence targeting at present more than 5,000 followers. In association with the International Association for Landscape Ecology (IALE) there are two Facebook sites targeting Brazil, in particular, and also Latin America in general.

Meetings

<https://www.iufro.org/events/calendar/2020/>

23-28 February, Rotorua, New Zealand

9th IUFRO International Wind and Trees Conference

Theme: "Planning for an uncertain future: wind risk to forests and trees in a changing climate"

The 9th International Wind and Trees Conference was hosted by IUFRO Working Party 8.03.06 in Rotorua, New Zealand. The theme recognized that climate change would affect the



frequency and magnitude of extreme wind events, as well as the state of the underlying forests. Scientists from a range of disciplines had the opportunity to share advances in knowledge on topics including wind flow over complex forested terrain; wind loading on trees and their responses, tree biomechanics, wind disturbance as an ecosystem process, forest management approaches to minimize wind damage.

The IUFRO *Landscape Ecology* Working Party 8.01.02 held two webinars in 2020:

24 June

Landscape ecology and the COVID-19 pandemic

Basically, it was concluded that landscape ecology today offers a conceptual framework and many tools that are very useful to address zoonoses at several scales, to avoid zoonotic spillover and to increase resistance and resilience to pandemics, particularly in urban areas, where most of the transmission takes place.

17 November

Urban Green Infrastructure: How can urban green infrastructure contribute to pandemic and climate resilience?

In this webinar, it was concluded that landscape ecology researchers and practitioners have a particular role to play in designing, planning, implementing, monitoring and communicating sustainable cities. These rely on a green (often blue, too) infrastructure responsible for numerous ecological processes and functions (e.g. biodiversity, water regulation, flood control, air quality regulation, recreation).

27-30 October 2020, online and Moscow, Russia

Session at the 4th All-Russia Scientific Conference with International Participation: Scientific Basis for Sustainable Forest Management

IUFRO 8.01.06

Photo: Damage by wind, Austria, Photo G. Wolfrum

Forest Policy and Economics - Division 9

Coordinator:

Mónica Gabay

Deputy Coordinators:

Mercy Afua Adutwumwaa Derkyi, Shashi Kant, Jinlong Liu, Ahmad Maryudi

Forests are no longer seen simply as a source for timber supply, but rather as ecosystems that sustain livelihoods and provide a range of products and environmental services. Also, the economic dimension of forestry providing societies with the renewable raw material timber has proven to become more and more important. The resulting tensions at the different political levels need to be regulated by forest policy processes.

The research of Division 9 investigates this social dimension of forests. It includes research areas such as the historical perspective, the economic and political analysis, or the regulative dimension. Areas like management, information and communication support the strong relation to the needs and opportunities of the forest sector in relation with this social dimension.

In light of this, Division 9 also contributed substantially to the preparation of a major assessment report on forests, trees and the eradication of poverty (IUFRO World Series 39, see GFEP section of this Annual Report); based on this assessment a special issue will be published in *Forest Policy and Economics*.

Meetings

<https://www.iufro.org/events/calendar/2020/>

The COVID-19 pandemic impacted the activities of Division 9, of course. Thus, there was only one physical meeting and one online meeting; other scheduled events had to be postponed.

26-28 February, Bonn, Germany

Governing and managing forests for multiple ecosystem services across the globe

IUFRO 9.00.00 and 9.05.07 - Science policy interactions

Governing and managing forests for multiple ecosystem services (ES) remains an important paradigm. Various forest management concepts have been developed to accommodate distinct social demands for different contexts and spatial scales. They are embedded in a large variety of policies and initiatives. Major global challenges and trends such as climate change and biodiversity loss impact on how forests are governed and

Photo: Kottenforst field trip (by Maria Schlossmacher)



managed, and how these approaches are implemented. The objective of the conference was to compile and synthesize the scientific evidence related to the current state of integrated forest management approaches worldwide. A Book of Abstracts was published by the European Forest Institute: ISBN 978-952-5980-82-0.

16-17 October 2020, online/Florence, Italy

UNISCAPE International Conference - 20th Anniversary Celebration of the European Landscape Convention: Special Sessions on Agriculture and Forest Heritage Systems

IUFRO 9.03.00 Forest history and traditional knowledge

Themes discussed at this conference included the importance of cultural heritage and its recognition, in conservation and sustainability, and of the importance of cross-disciplinary or interdisciplinary research. Both tangible and intangible cultural heritage contribute immensely to knowledge and perceptions of 'landscape' but are often overlooked and easily lost. The event brought together colleagues who have collaborated on these issues over many years and demonstrated that even in times of adversity and COVID-19 lockdown, the barriers can still be broken down by a shared passion for landscape. Interest in the event was high with around 100 participants.

Members of Working Party 9.05.08 *Forest and natural resources policy and governance in Latin America and the Caribbean* were involved in the first edition of virtual conferences of ALECIF (Latin American Association of Students in Forest Sciences) in Spanish (*Challenges of the forest chain in the Northeast region of Uruguay* by Virginia Morales Olmos). Virginia Morales Olmos (CUT-UdelaR) also gave a similar presentation about *Challenges for the forest chain in the Northeast of Uruguay. Changes due to COVID-19* in a Spanish-language webinar organized by the Economics Institute IECON of the University of the Republic of Uruguay. Furthermore, a call for submissions for a special issue in *Forest Policy and Economics* titled *Forest policy & economics in Latin America* was started and is still open.

Selected Publications

The *3rd International Forest Policy Meeting* (9.05.00, 9.05.04) had to be postponed to April 2021, but a special section in *Forest Policy and Economics* was initiated already in 2020: <https://www.sciencedirect.com/science/journal/13899341/vsi/10B2RLMVRVSV>

Members of Working Party 9.01.05 *Research and Development of Indicators for SFM* contributed to various reports and papers most of which are listed on the webpages of the Unit.

COVID-19-induced visitor boom reveals the importance of forests as critical infrastructure by Jakob Derks, Lukas Giessen, Georg Winkel. *Forest Policy and Economics*, Volume 118, September 2020, also published as a guest blog on the IUFRO blog.

Special Issue in *Ambio - A Journal of the Human Environment* titled *Socio-political dimensions of forest-based bioeconomies in Europe: competing perspectives and regional disparities of bioeconomy policies*. Issue editors: Lea Ranacher, Ida Wallin, Lauri Valsta, Daniela Kleinschmit. An outcome of the PERFORM Project (see 9.05.01 - *Bioeconomy policy* webpages)

The Joint IUFRO–IFSA Task Force on Forest Education

Coordinators:

Sandra Rodríguez Piñeros (IUFRO), Alex Onatunji (IFSA)

Deputy Coordinators:

Mika Rekola (IUFRO, until June 2020, vacant since then)
Juliet Achieng Owuor (IFSA)

The aim of the JTF is to contribute to the achievement of Sustainable Development Goals (SDGs) 4 and 15 in line with the IUFRO Strategy. The activities of the Task Force are organized in three work packages:

- Work Package 1: Growing the Forest Education Online Community of Practice
- Work Package 2: Research and Publications
- Work Package 3: Capacity Building and Emerging Skills

These three work packages aim to foster quality education and encourage discussion and capacity building on forest education internationally by bringing together perspectives and knowledge of students, educators and other stakeholders.

The COVID-19 pandemic affected capacity building activities in 2020 since many of them are linked to the organization of in-person meetings. However, the move to a more digital life also helped the JTF team to actively contribute to planning various webinars with IFSA. It also made it possible to attend important IUFRO and IFSA meetings at no cost, e.g. the IUFRO Task Force Coordinators' meeting, the IUFRO Enlarged Board meeting and the first IFSA online International Forestry Students Symposium (IFSS 2020). The team also used the lockdown periods to actively engage in the Young Africa Forestry Professionals Publications project.

WORK PACKAGE 1

The JTF contributed to the proposal of a project in forest education, which later developed to a full project titled "Creation of a Global Forest Education Platform and Launch of a Joint Initiative under the Aegis of the Collaborative Partnership on Forests" that is funded by the German Federal Ministry of Food and Agriculture (BMEL). This project is comprised of three major activities: 1) Global assessment on forest education; 2) An international conference on forest education; and 3) Online resources for forest education.

WORK PACKAGE 2

In a bid to increase knowledge and understanding in forest education, the JTF team developed two articles based on the *Global Competition on Best Practices in Forest Education* that was organized by the JTF in 2019:



Journal "Innovations in forest education: Insights from the Best Practices Global Competition" to *Forest Policy and Economics*
<https://www.sciencedirect.com/science/article/abs/pii/S1389934120302033>

Manuscript on "Lessons for Europe from the global best practices competition by the IUFRO-IFSA Joint Task Force on Forest Education". The manuscript was submitted to the Editor-in-Chief of the Proceedings of the Silva Network Conference 2019 and will be published in 2021.

Guidelines on how to teach forest entrepreneurship

This publication builds on the experiences from the Youth Forest Entrepreneurship program led by Reforestamos Mexico and the discussions at the International Forest Student Symposium where the JTF has actively participated for the past 5 years.



Cover page of the Spanish version of Forest Entrepreneurship Guidelines

The guideline is available in Spanish here: <https://www.iufro.org/fileadmin/material/science/task-forces/tf-forest-education/Guia-Emprendimiento-Forestal.pdf>

Young African Forestry Professionals Publication Project (YAFP)

This project was started in reaction to the declining interest among African youth in considering forestry as a profession they can pursue despite the need for building a critical mass of young and talented individuals needed for transforming Africa's forest sector. The JTF in collaboration with IFSA and IUFRO developed the YAFP Project to motivate and inspire young people to pursue forest-related studies and careers in Africa by increasing the visibility of career options and young African role models working in forest-related fields. Project webpage: <https://ifsa.net/ifsa-iufro-africa-book-project/>

Stepping up the global discussion on forest education

The JTF was exclusively featured in the *IUFRO Spotlight #77*, discussing the work done and the relevance to the global forest education, research and development landscapes. <https://blog.iufro.org/2020/05/14/stepping-up-the-global-discussion-on-forest-education/>

WORK PACKAGE 3

This work package is anchored in the need for increasing collaboration between IUFRO and IFSA to create opportunities for networking, sharing of scientific information, and training.

Face-to-face mentorship session for IFSA delegates at the European Forest Institute (EFI) Conference in Bonn

From 26-28 February 2020, researchers, policy makers and practitioners from different disciplines such as policy analysis, ecology, economics, forest (ecosystem) management and conservation converged in Bonn, Germany, for the "Governing and

managing forests for multiple ecosystem services across the globe conference” in Bonn, Germany.

IFSA had a delegation of six students participating in the conference organized by EFI. IFSA in collaboration with the joint IUFRO-IFSA Task Force on *Forest Education* and EFI organized a face-to-face mentorship program for the IFSA delegates. The mentees and mentors expressed their satisfaction with the program, because they were actively engaged throughout the conference period and were eagerly looking forward to collaborating in the future. An article was published in IFSA’s April Newsletter: <https://ifsa.net/face-to-face-mentorship-for-ifsa-delegates-at-the-efi-conference-in-bonn/>

Participation in the 22nd Session and 6th African Forestry and Wildlife Week, Skukuza, Mpumalanga, South Africa, March

Providing an opportunity for forestry students to participate in international events allows them to learn by doing through the application of the essential skills and competencies to real life situations, hence improving their leadership skills. From 9-13 March 2020, different stakeholders convened at Skukuza, Mpumalanga, to participate in the biennial event organized by the African Forestry and Wildlife Commission (AFWC), which is one of six Regional Forestry Commissions established by FAO to provide a policy and technical forum for countries to discuss and address forest and wildlife issues on a regional basis.

An article on “Youth Engagement at the African Forestry and Wildlife Week” written by Ms. Ama Acheampomaa Asiedu from Ghana, IFSA Regional Representative for Northern Africa, was published in IUFRO News Vol. 49, Issue 4/2020 (<https://www.iufro.org/uploads/media/news20-4.pdf>)

Another article written by Mr. Amos Amanubo from Uganda, former IFSA President, was published in IFSA’s April Newsletter: <https://ifsa.net/ifsa-at-the-22nd-session-of-the-african-forestry-and-wildlife-commission/>



Participants of IFSA side event on 10 March, 2020
Photo Credit: Stipan Cupic

Other activities and news

- The JTF coordinator (IFSA) participated in the virtual International Day of Forests 2020 celebration organized by IFSA
- The JTF Coordinators participated in two IUFRO virtual Pre-Board meetings
- The JTF Coordinator (IUFRO) was a guest speaker in a Spanish event *El forestal y la investigación*; The JTF Coordinator (IFSA) directly supported the organization of a monthly “Nigeria Forestry Students and Graduates Roundtable Session”
- JTF members also supported an initiative - “Young African Women in Forestry (YAFW)” which organized its first webinar in September 2020,
- Online event “Global status and needs for strengthening forest education - charting a path forward” - 12 October 2020, held as a part of the 7th World Forest Week
- The JTF Coordinator (IFSA) was one of the youth speakers at an IFSA side-session at the Youth Daily Show titled “Let’s tune in with nature! Cultures around the world connecting back to their roots” during the GLF Bonn 2020 Conference: One World One health October 2020.

Find the full report on the Task Force website: <https://www.iufro.org/science/task-forces/forest-education/publications/>

Task Force Transforming Forest Landscapes for Future Climates and Human Well-being

Coordinator:
Andreas Bolte

Deputy Coordinators:
Mercy Afua Adutwumwaa Derkyi, Palle Madsen, John Stanturf, Stephanie Mansourian

Forest landscapes (FLs), with dominating forest area and embedded other land uses, provide essential multiple ecosystem services (ES) including manifold provisioning, regulating, supporting, and cultural services. For rural populations, in particular, FLs are often the basis for the local economy and social identity. However, FLs are under pressure by the loss and degradation of forest area and conversion to other land uses, as well as environmental and climate change. With this, societies worldwide may face diminishing levels of ecosystem services of

FLs. For preventing a significant loss of FL ecosystem services on a global scale, combined FL preservation, restoration and adaptive management activities are needed.

In the face of these challenges, the IUFRO TF is dedicated to providing the scientific basis for transforming FL to climate-resilient land use systems that fulfil the complete spectrum of ES requirements of current and future societies. This includes (1) the establishment of scenarios for future FL development referring to climate change and varying societal requirements, (2) the development of FL management and restoration standards, and (3) the elaboration of guidelines for the implementation of FL restoration and adaptive management

During the year 2020 TF activities were limited by the COVID-19 pandemic. However, the TF started a sequence of video con-

ferences within the coordination team to begin with the work in three activity areas: *Activity 1* - Establishing scenarios and projections for future FL development; *Activity 2* - Analysing towards best practice approaches (BPA) for FL preservation, restoration and adaptive management, and *Activity 3* - Developing suitable outreach and education as well as R & D schemes on FL issues for different stakeholder groups. Moreover, the first comprehensive analysis of the global survey on FL restoration and Adaptive Forest Management (AFM) and the accompanying IUFRO Spotlight #82 was published. In an additional IUFRO Spotlight #76 the aims and scope of the TF were highlighted.



Local stakeholder participation in FLR (Photo: John Stanturf)

Seminars, Sessions and Events

- Virtual 1st TF coordination group video conference on launching TF activities, on 15 April 2020
- Virtual Task Force Coordinators' meeting, on 28 May 2020
- Virtual Pre-Board Meeting of TF Coordinators, on 31 August 2020
- Virtual 2nd TF coordination group video conference on continuing TF activities, on 10 December 2020

Publications

- Höhl, M.; Ahimbisibwe, V.; Stanturf, J.A.; Elsasser, P.; Kleine, M.; Bolte, A. (2020). *Forest Landscape Restoration—What generates failure and success?* *Forests* 11:938, <https://doi.org/10.3390/f11090938>.
- Stanturf, J.A. and Mansourian, S. (2020). *Forest Landscape Restoration: State of Play*. *Royal Society Open Science* 7: 201218. <https://doi.org/10.1098/rsos.201218>
- International Society of Tropical Foresters - ISTF - Newsletter October 2020: <https://www.iufro.org/fileadmin/material/science/task-forces/tf-transforming-forests-landscapes/istf-newsletter-october-2020.pdf>
- IUFRO (2020a). *Transforming Forest Landscapes to Meet Current and Future Needs and Challenges*. IUFRO Spotlight #76, March 2020. Online: <https://www.iufro.org/publications/iufro-spotlights/article/2020/03/23/iufro-spotlight-76-transforming-forest-landscapes-to-meet-current-and-future-needs-and-challenges/>
- IUFRO (2020b). *More local involvement one key to FLR success*. IUFRO Spotlight #82, September 2020. Online:

<https://www.iufro.org/publications/iufro-spotlights/article/2020/09/28/spotlight-82-more-local-involvement-one-key-to-flr-success/>

- Stanturf, J.A., Mansourian, S., Darabant, A., Kleine, M., Kant, P., Burns, J., Agena, A., Batkhuu, N.O., Ferreira, J., Foli, E., Guerra, A., Miah, M.D., Ranjatsan, P., Sabogal, C., Addo-Danso, S.D., Badugu, S., Brienza, S., Chandel, P.V., Chander, S., Chandra, S., Cujcuj, B., Derero, A., González, O., Gutierrez, B., Guuroh, R.T., Hossain, M.A., Juárez, M. A., Kometter, R., Lokesh, J., López, F.L., Pereira, C., Rajendra, K., Randrianasolo, R., Razafimbelo, N.T., Reddy, M.C., Reddy, G.C.S., Sharma, D.S., Sukhbaatar, G., Thakur, S.K., Tavares, P.A., Tewari, V.P., Verma, R.K., 2020. *Forest Landscape Restoration Implementation: Lessons learned from selected landscapes in Africa, Asia and Latin America*. Occasional Paper No. 33. IUFRO, Vienna, Austria, p. 63-available on the SPDC website at: <https://www.iufro.org/publications/series/occasional-papers/article/2020/02/14/occasional-paper-no-33-forest-landscape-restoration-implementation-lessons-learned-from-selected/>

Task Force Gender Equality in Forestry

Coordinator:

Gun Lidestav

Deputy Coordinators:

Elias Andersson, Alice Ludvig

During 2020, the TF group met virtually three times (12 June, 1 September and 3 December) to discuss how to carry out the different tasks, including interpretation of results from the IUFRO organizational analysis, and the dissemination of the results. The group expanded with seven new members. It was also decided to appoint two Deputy Coordinators (Elias Andersson and Alice Ludvig).

In line with the TF plan (<https://www.iufro.org/science/task-forces/gender-equality-in-forestry/activities/>), our work focused on tasks #1 and #2, i.e. mapping the gender balance within the IUFRO network, and the compilation and analysis of gender equality initiatives within the forest sector in selected countries.

More specifically, the mapping involved a compilation and analysis of records of IUFRO officeholders within the official structure at different levels (IC, Board, Secretariat, Divisions/Task Forces/Special Programs). Furthermore, an online survey was sent to all IUFRO Coordinators and Deputy Coordinators with questions on their perceptions and experiences of gender (im)balance and inclusion in the IUFRO Network. In addition, an

analysis of the three latest IUFRO World Congresses (2010, 2014 and 2019) in terms of basic patterns, such as number of women and men by positions, visibility, research topics and regions, was completed. These first results will be presented and discussed at a number of upcoming conferences organized/co-organized by different IUFRO units. So far, participation in four online activities has been prepared and scheduled:

- 1) Video presentation at a kick-off conference for the Interreg project Equality in Forestry, 22 January 2021.
- 2) Keynote and panel discussion at the 3.08 Small-scale Forestry "Keeping in touch" conference, 9th to 11th February 2021,
- 3) A panel presentation/discussion at 3rd International Forest Policy Meeting (co-organized with IUFRO Division 9) on the 17-18th of March, 2021. At this meeting, first results from an analysis of gender equality initiatives in selected countries, i.e. task #2, will also be presented and discussed.
- 4) Keynote, panel discussion and world café activities at the Forests in Women's Hands hybrid conference, 12-14 April 2021 (co-organized with IUFRO). Inputs from these conferences will contribute to the ongoing analysis on IUFRO in general.

Regarding task #2 - country case descriptions on gender equality initiatives within the forest sector in Austria, Sweden and Oregon/US are completed and ready for publishing at the IUFRO website as soon as the issue of a Task Force logo is solved. Contributions from Canada on the *Gender Equity in Canada's Forest Sector National Action Plan Initiative* is underway, as well as the joint Nordic (SNS) initiative (<https://nordicforestry-research.org/blog/2019/06/14/sns-is-mapping-gender-inequalities-in-nordic-forestry/>) and a Finnish initiative. Promised case descriptions on equality initiatives in Bolivia, Columbia, Ethiopia, India and New Zealand are still pending.



By Shane Rounce on Unsplash

Outreach activities

IUFRO Spotlight #79 - *A Focus on Gender Equality in Forestry* – was published on 18 June 2020.

Related to task #5, Gun Lidestav made a presentation at a virtual meeting about the IUFRO World Congress 2024 organized by the World Congress Secretariat targeting researchers and students at the Swedish University of Agricultural Sciences 10 December 2020.

Prominent Research and Discussion Topics

Forestry has always been about people as much as it is about trees and the biophysical conditions of this particular land use. However, forest research worldwide leans heavily toward the latter aspects. But now, forestry-related processes will be guided by the 17 Sustainable Development Goals (SDGs) of which the

5th SDG deals with gender equality. Therefore, gender perspectives and gender equality is a cross-cutting issue related to forest governance, forest policies, and organizational strategies for forest(ry) at different levels. For IUFRO as a global network of researchers and research organizations, it is important to understand the interaction/relation between gender and context, e.g. how gender impacts forest(ry) and how forest(ry) impacts gender. However, there are different cultures and different forest issues in different parts of the world, so addressing the gender equality issue does not lend itself to a one-size-fits-all solution. This means that gender and gendering processes play out differently in different contexts. Therefore, the Task Force has a broad geographic and topic representation, and a broad range of different competencies in science, in research and in practitioners. Integrating gender as a cross-cutting issue in the implementation of the IUFRO Strategy as well as strengthening the participation of scientists on equal terms, are the main objectives of the TF. This work will then provide a basis for gender mainstreaming processes within the IUFRO network, and hopefully beyond - i.e. advancing gender equality in forestry worldwide. By examining selected gender equality initiatives in different parts of the world, it will provide examples of research and policy interaction.

Task Force Monitoring Global Tree Mortality Patterns and Trends

Coordinator:

Henrik Hartmann

Deputy Coordinators:

Aster Gebrekirstos Afwork, Nadine Ruehr, Adriane Esquivel Mulbert, Bernhard Schuldt

The Task Force Network has currently 107 members; 58 new members joined in 2020.

Prominent research/discussion topics and challenges

The TF is developing methods to merge datasets from different sources both within disciplines (e.g. different forest inventories, different remote sensing products) and across disciplines (e.g. combining information from remote sensing with field data) to derive intercomparable and coherent estimates of tree mortality rates at a global scale. Results will be communicated within IUFRO in order to quantify the number of existing plot networks suited to monitor tree mortality events caused by natural disturbances.



Mortality of Scots pine (*Pinus sylvestris*) near the city of Jena, Germany. Large tracks of pine stands have died following the 2018 drought in Central Europe despite the high drought tolerance of the species. Photo by Henrik Hartmann

The TF is currently improving internal communication within IUFRO to seek more active interactions with other TFs and Divisions 4 & 7, aiming to engage with practitioners to get feedback on TF activities and missions.

Activities, Presentations and Publications

(i) Survey on forest health

The TF has organized online surveys aiming to understand which data sources (ground-based and remote sensing) could generate a global picture of tree mortality. Additionally, this survey provided the first overview on the different methods used to estimate tree mortality. The survey was announced in IUFRO News 6 (30 June 2020). The TF received 149 survey entries covering all continents.

(ii) Meetings and Workshops

- Virtual meeting on progress and future directions of the Task Force Network, 13 July 2020.
- Workshop on data harmonization, Würzburg, 31 Mar to 2 Apr 2020 (~30 participants). Cancelled due to COVID-19 restrictions. The workshop was replaced by the online survey.

(iii) Webinar series

The TF launched a successful online seminar series. Seminars are open-access and are announced via the IUFRO distribution lists of Divisions 4, 7 and 8.

1. Matt Hansen, Department of Geographical Sciences, USA. 17 November 2020, 400 registrations.
2. Flavia Costa, Instituto Nacional de Pesquisas da Amazônia, Brazil. 19 January 2021, 302 registrations.
3. Belinda Medlyn, Western Sydney University, Australia. 22 February 2021.

Webinars are usually recorded and the recordings are hosted on the IUFRO YouTube channel (<https://www.youtube.com/user/IUFRO>).

(iv) Task Force presentations

- Pugh *et al.* *Towards a consistent global picture of tree mortality trends and drivers*. American Geophysical Union Fall Meeting, Online Everywhere, 1-17 December 2020.

- Hartmann *et al.* *The International Tree Mortality Network - an initiative of the IUFRO Task Force on monitoring global tree mortality patterns and trends*. European Forest Reserve Workshop, 14 Jul 2020.
- Ruehr N. *Tree and forest functioning in a changing world. International conference on "Managing Forests in the 21st century"*. Potsdam, 3–5 March 2020.

(v) Publications directly linked to the TF work or by TF members referring to the TF scope

- Dalagnol *et al.* (2021). *Large-scale variations in the dynamics of Amazon forest canopy gaps from airborne lidar data and opportunities for tree mortality estimates*. Scientific reports 11: 1388.
- Esquivel-Muelbert *et al.* (2020). *Tree mode of death and mortality risk factors across Amazon forests*. Nature Communications 11: 5515.
- Senf *et al.* (2020). *Excess forest mortality is consistently linked to drought across Europe*. Nature Communication 11: 6200.
- Send & Seidl (2020). *Mapping the forest disturbance regimes of Europe*. Nature Sustainability 4: 63-70.
- McDowell *et al.* (2020). *Pervasive shifts in forest dynamics in a changing world*. Science 29: eaaz9463.
- Schuldt *et al.* (2020). *A first assessment of the impact of the extreme 2018 summer drought on Central European forests*. Basic and Applied Ecology 45: 86-103.
- Etzold *et al.* (2019). *One Century of Forest Monitoring Data in Switzerland Reveals Species- and Site-Specific Trends of Climate-Induced Tree Mortality*. Frontiers in Plant Science 10.
- DeSoto *et al.* (2020). *Low growth resilience to drought is related to future mortality risk in trees*. Nature Communication 11: 545.
- Forzieri *et al.* (in press) *Emergent vulnerability to climate-driven disturbances in European forests*. Nature Communications.

(vi) Other Activities

- The visibility of the TF is increasing and the twitter account opened in 2019 @Tree_mortality has now 174 tweets and 1030 followers (as of 12 February 2021).
- Outreach to other networks: e.g. the European Forest Reserves and the GWD - Global woody demography, part of the iDiv Plant Hub.

(vii) Upcoming events: Meetings and Workshops

The TF is planning a workshop on merging of datasets from different sources. Given the current pandemic situation, the workshop will be held online, sometime in early summer 2021.



Task Force Resilient Planted Forests Serving Society and Bioeconomy

Coordinator:

Christophe Orazio

Deputy Coordinators:

Peter Hamilton Freer-Smith, Tim Payn, Margarida Tomé

Main aim

Considering increased pressure on forest resources induced by the emergence of bio-economy, and the increasing number of afforestation schemes to mitigate climate changes (Bonn challenge, etc.), the Task Force focuses on key issues related to the intensification of planted forest production in order to meet the increasing need for forest products from a growing population and doing this sustainably to reflect the changing global environment (Sustainable Intensification) and the need for resilience.

Overall outcomes of the Task Force are:

- An enduring network for international and pan-IUFRO scientific collaborations based on the Task Force theme;
- An improved interface between IUFRO science activities and wider society (through WWF and Future Earth and FAO) and other stakeholder organizations; and
- The preparation of a major event involving all types of actors engaging in the topic of planted forest.

Key activities and challenges in 2020

2020 started well with the preparation and dissemination of the printed copies of the book «*Plantation forests in Europe: challenges and opportunities*» and continuous virtual meetings with New Generation Plantations experts. A virtual meeting with all Task Force participants was held in June to reorganize plans and objectives for the group.

Many events involving stakeholders such as the joint event on mixed plantation and field tour of the poplar international commission were postponed to 2021, as well as mediation activities with New Generation Plantation. Publications are in preparation and the Task Force will launch a global survey on tree mixture plantations success and failures.

Despite all these challenges the Task Force could welcome 5 new members in 2020 demonstrating the relevance of the topic and the need of further collaboration: Patrícia da Silva Machado from Brazilian Tree Industry (Ibá), Brazil, Koen Kramer from Landlife COMPANY, Netherland, Nelson Thiffault from Natural



Polycyclic mixed plantation, 5 years old, in Veneto (Italy). Photo by Paolo Mori

Resources, Canada, Atebeh Uta-Rein from University of Yaoundé, Cameroun, and Klaus Kremer from Freiburg University, Germany.

Main products

- Hard copies and dissemination of Freer-Smith, Peter, Bart Muys, Michele Bozzano, Lars Drössler, Niall Farrelly, Hervé Jactel, Jaana Korhonen, Gianfranco Minotta, Maria Nijnik, et Christophe Orazio. «*Plantation forests in Europe: challenges and opportunities*». Science to policy. European Forest Institute, 10 décembre 2019. <https://doi.org/10.36333/fs09>.
- Preparation of a project to facilitate expert exchange on planted forest risk management tools - COST ACTION on adaptation to climate change CA19128 - Pan-European Network for Climate Adaptive Forest Restoration and Reforestation <http://www.pen-caforr.org/working-groups/>
- Task Force collaboration with NGP on a joint program, supporting publications, targeting priority gap areas needing further information and/or better communication. Ongoing : 6 virtual meetings of the expert group jointly with IUFRO Task Force experts.
- Tomé M, Almeida MH, Barreiro S, Branco MR, Deus E, Pinto G, Silva JS, Soares P, Rodríguez-Soalleiro R, (to be published in 2021). *Opportunities and challenges of Eucalyptus plantations in Europe: the Iberian Peninsula experience*. European Journal of Forest Research. <https://doi.org/10.1007/s10342-021-01358-z>

Task Force Forest and Water Interactions in a Changing Environment

Coordinator:

Adam Wei

Deputy Coordinators:

Richard Harper, Shirong Liu

This Task Force will build and strengthen the global and regional research networks around forests and water interactions. The key goal is to support sustainable forest management for

enhancing water-based ecosystem services and UN 2030 SDGs through developing coherent management responses that build on this improved understanding and evidence of forest and water interactions in a changing environment, as well as refining existing, and developing new forms of practices and governance to manage forests and water interactions.

Task Force activities were greatly limited in 2020 due to the COVID-19 pandemic. However, several activities were

conducted virtually among TF members including discussing emerging topics in forest-water nexus and designing a special journal issue of various review papers at the global scale for promoting forest management practices and protection of hydrological functions.

In addition, TF members are working with a team led by FAO to develop a publication on how to manage forests for water, including how to monitor, implement on-the-ground practices and build a business case. The publication: *A Guide to Forest-Water Management* will be released in 2021. The TF has obtained approval from *Forest Ecology and Management* for a special issue with a series of review articles that span the members' expertise.

Meetings

- Virtual Task Force Coordinators' meeting, on 28 May 2020
- Virtual Pre-Board Meeting of TF Coordinators, on 31 August 2020
- Virtual Task Force Members' discussion meeting (Western Group), on Nov. 2, 2020
- Virtual Task Force Members' discussion meeting (Eastern Group), on Nov. 13, 2020
- Virtual 2nd TF coordination group video conference on continuing TF activities, updated work plan, and the TF contribution to the IUFRO strategy (2019-2024), on 10 December 2020



Photo by Christo Ras on Pixabay

- Preparation for an international workshop on restoration hydrology in collaboration with the TF on Transforming Forest Landscapes for Future Climates and Human Well-being to be held in 2021, Perth, Australia, but postponed to 2022 or later.
- Preparation for the 6th IUFRO international conference on Forests and Water. The conference was planned to be held in 2021, but it is likely to be postponed to 2022 or 2023.

Task Force Forest Fire\$: Economic Drivers of Global Wildland Fire Activity

Coordinator:

François-Nicolas Robinne

The activity of the Fire\$ TF for 2020 was limited, largely due to COVID-19, as well as many personal and professional changes affecting the capacity of the coordinator to properly lead the TF.

Three members—François-Nicolas Robinne, Yeon-Su Kim, and Marcos Rodrigues—formed an editorial team leading a special issue (SI) on wildfire economics in the scientific journal *Forest Policy and Economics*. To date, manuscript submissions to this SI are closed, but the editorial work is still ongoing: the TF team faced tremendous challenges to gather a decent number of submissions and reviewers, and participation from TF members was low on both aspects and would like to see this SI accessible by spring 2021.



Photo by Theresa McGee on Pixabay

The Coordinator hopes to succeed in the publication of a short report on wildfire economics by the end of the year. However, changes to the professional situation of the Coordinator coupled to a low level of response by TF members seriously compromise this objective.

IUFRO Task Forces

<https://www.iufro.org/science/task-forces/>

Current Task Forces include:

- Forest Education
- Monitoring Global Tree Mortality Patterns and Trends
- Fire\$: Economic Drivers of Global Wildland Fire Activity
- Forests and Water Interactions in a Changing Environment

- Gender Equality in Forestry
- Resilient Planted Forests Serving Society & Bioeconomy
- Strengthening Mediterranean Nursery Systems for Forest Reproductive Material Procurement to Adapt to the Effects of Climate Change
- Unlocking the Bioeconomy and Non-Timber Forest Products
- Transforming Forest Landscapes for Futures Climates and Human Well-Being

IUFRO Special Project World Forests, Society and Environment (IUFRO-WFSE)

Coordinator:

Pia Katila, Natural Resources Institute Finland (Luke), Finland

WFSE is an open, global network of scientists and experts. It supports sustainable development, livelihoods, and inclusive growth, and the related policy processes by drawing out important lessons learned and recommendations through collating, critically analyzing, and synthesizing existing scientific knowledge on topics of international relevance in the forest, society and environment interface and by undertaking new research to fill in crucial gaps in existing knowledge.

WFSE addresses these topics in a holistic and interdisciplinary fashion encouraging innovative approaches and anticipating future developments that will influence forest-related development at different scales, from local to global.

WFSE produces science-based, future oriented, policy-relevant information. It publishes scientific publications and policy and information briefs.

In the current phase (2020-2024) WFSE is focusing on forest and forest landscape restoration. Planning for the activities in this new phase started with two editorial meetings organized during the IUFRO World Congress in Curitiba in 2019. The topic and approach were then further discussed with representatives of the Ministry for Foreign Affairs of Finland, the main WFSE donor, and in four editorial meetings, including one face-to-face meeting in connection with the International WFSE-MFA-Luke seminar in Helsinki in November 2019, and three virtual editorial meetings in January-March 2020.

The main work stream in the current phase focuses on forest restoration with the working title: *Restoring forests and trees for sustainable development - Policies, practices, impacts and ways forward*. It brings together scientists and experts from international research and development organizations and universities from different parts of the world, including e.g. CIFOR, ICRAF, IIASA, IUCN, WWF, EFI, University of Florida, University of Freiburg, University of Melbourne, Kyoto University and von Thunen Institute.

The resulting publication will provide an overview of different approaches to forest restoration, drivers of forest restoration, past efforts and achievements, assessments of restoration potentials and current commitments. It will include a comprehensive review of and contribute to the knowledge on institutional, social, economic, ecological and technical issues that influence forest restoration and the outcomes and impacts of restoration efforts at different scales. The results of the project will be published as an open access book in early 2023.

During 2020 WFSE also worked together with the Special Programme for Development of Capacities (IUFRO-SPDC) and colleagues from India and Ghana. This collaboration resulted in the report *Governance of forest landscape restoration – analyses of governance issues in cases from Ghana and India*.



Photo by Bishnu Sarangi on Pixabay

WFSE publications in 2020

The hard copy of the book *Sustainable Development Goals: Their Impacts on Forests and People* was published by Cambridge University Press in January 2020. The book discusses the conditions that influence how the different SDGs are implemented and prioritized, and provides a systematic, multidisciplinary global assessment of interlinkages among the 17 SDGs and their targets, increasing understanding of potential synergies and unavoidable trade-offs between goals from the point of view of forests and people. By January 2021, the number of views of the electronic version of the book (html and pdf) from Cambridge Core open access totaled over 34,000. The electronic version is available at: <https://www.cambridge.org/core/books/sustainable-development-goals-their-impacts-on-forests-and-people/5FA75743F80CCE33751BD2095E5754DC>.

In connection with the Global Landscapes Forum in Bonn on 23 June 2019, WFSE organized a joint event together with FAO, EFI and Luke titled *'The SDG-tenure nexus in forest landscapes: applying a rights-based approach'*. This event led to the development and publishing of the following two articles in 2020:

Katila, P., McDermott, C., Larson, A., Aggarwal, S. and Giessen, L. 2020. *Forest tenure and the Sustainable Development Goals - A critical view*. Forest Policy and Economics vol 120. Open access. <https://doi.org/10.1016/j.forpol.2020.102294>

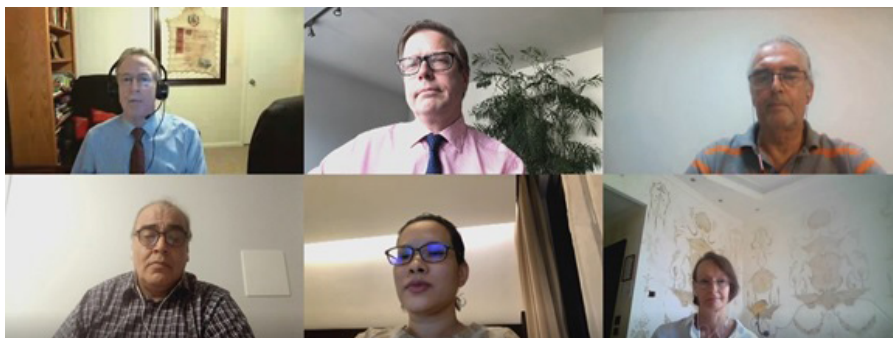
Aggarwal, S., Larson, A., McDermott, C., Katila, P., Giessen, L. 2021. *Tenure reform for better forestry: An unfinished policy agenda*. Forest Policy and Economics vol 123. <https://doi.org/10.1016/j.forpol.2020.102376>

WFSE events in 2020

Forest and Transformative Pathways to Sustainability - side event at the UN High Level Political Forum (HLPF)

During the HLPF 2020 on 9 July 2020 WFSE organized a virtual side event *Forests and Transformative Pathways to Sustainability* in collaboration with World Wildlife Fund (WWF), Minis-

try for Foreign Affairs of Finland and Natural Resources Institute Finland (Luke). The event was moderated by Glenn Galloway (University of Florida). Jukka Salovaara, Ambassador, Permanent Representative of Finland to the UN, presented the opening remarks. The panel included Wil de Jong (Kyoto University), Pablo Pacheco (WWF), Bimbika Sijapati Basnett (CIFOR) and Pia Katila (Luke).



IUFRO-WFSE side event at HLPF 2020

The panel showed how forests are linked to the main global challenges, discussed the role of forests and forestry in transformative change, the levers of change across complex systems and ways to accelerate the progress towards sustainability.

Special focus was placed on equity, gender and governance. The event also illustrated the large potential for synergies among the SDG targets that focus on sustainable land and resource use and the importance of policy and regulatory environment and capacities that support and incentivize sustainable forest-related livelihoods and development.

WFSE editorial meetings 2020

The lead authors and editors of the next publication *Restoring forests and trees for sustainable development - Policies, practices, impacts and ways forward* convened in a virtual editorial meeting on 4 and 10 June 2020 to discuss and develop the tentative outline of the publication and the contents of the different chapters. The second editorial event, a virtual WFSE workshop on 15 and 16 December 2020, brought the editors and lead authors together to discuss the first drafts of the different chapters and their further development.

Global Forest Experts Panels (GFEP) Programme

Coordinator:

Christoph Wildburger

Project Managers:

Dikshya Devkota, Nelson Grima

GFEP website:

<https://www.iufro.org/science/gfep/>

Two new team members joined the GFEP Programme as Project Managers in 2020: Dr. Nelson Grima, Spain, and Ms. Dikshya Devkota, Nepal. Based at IUFRO Headquarters in Vienna, Austria, they will work on future global assessment reports, regional activities, follow-up studies and communication.

Global Assessment Reports

In the framework of the GFEP Programme, the IUFRO-led GFEP Initiative of the Collaborative Partnership on Forests (CPF) prepares global assessment reports and accompanying policy briefs. These independent peer-reviewed scientific reports on key issues of high concern globally aim to support more informed decision-making

In 2020 the latest of these reports entitled *Forests, Trees and Eradication of Poverty: Potential and Limitations*, was launched.

Based on the outcomes of their meetings in 2019, the team of authors developed the first manuscripts of chapters in January 2020. The Global Forest Expert Panel on Forests and Poverty convened for two meetings in 2020 to refine the draft manuscript: Physically in Nairobi, Kenya, on 29-31 January 2020, and virtually, due to the COVID-19 outbreak and related travel restrictions, in April 2020. The *meeting in Nairobi* (see photo) was kindly hosted by CIFOR-ICRAF, with generous organizational

support from the ICRAF and financial support from the CGIAR Research Program on Forests, Trees, and Agroforestry (FTA). In March 2020, a thorough double-blind peer review of the draft manuscript was conducted by eleven internationally renowned scientists and experts. Subsequently, the authors produced the final draft of the assessment report in June 2020.

The final report and the accompanying policy brief were launched in a live webinar on 15 October 2020 prior to the UN's International Day for Eradication of Poverty. The Expert Panel Chair served as the keynote speaker, and several authors joined as discussants. The key messages of the report highlighted, a) the role of forests and trees in helping the poor face global changes; b) uneven distribution of benefits from forests and trees to human well-being; c) structural barriers preventing poor people from using forests and tree products to exit poverty, d) inadequate land-use policies may lead the poor to bear high costs; and e) policy and management measures that enable forests and trees to contribute to poverty alleviation must be tailored to specific contexts. This assessment substantially contributes to the 2030 Agenda for Sustainable Development by highlighting the nexus between SDG 1: Ending Poverty and SDG 15: Life on Land as well as links to other relevant SDGs.



The virtual launch of the publications targeted stakeholders, media, and the larger public, promoted the publications successfully, and achieved broad dissemination of the study outcomes. The launch was accompanied by intense social media promotion and was well attended. A press release in English, German, French, and Spanish was disseminated globally to the IUFRO community, IUFRO partners, and selected general and technical media. On 16 October 2020, an Austrian media briefing was organized in-person and live-streamed for German-speaking journalists in Austria. Due to COVID-19 related travel restrictions and postponements of relevant conferences and events, specific outreach to decision-makers in policy processes will occur in 2021.



Malawi women carrying wood. Photo by Jennifer Zavaleta Cheek

Regional Activities

Based on the outcomes of its global studies, the GFEP Programme initiated activities to promote reliable scientific information also in regional decision-making processes and regional development projects. GFEP developed the procedures for regi-

onal policy briefs of global assessments, relevant stakeholder consultations, and regional workshops disseminating outcomes with the support of the Special Programme for Development Capacities (IUFRO-SPDC)'s expertise in low-income countries.

Recognizing the interlinkages between poverty and forest dependency in Africa and the need to make decisions tailored to specific context, in October 2020, the preparation of an *Expanded Policy Brief on Forests and Poverty for Africa* was initiated. The goal of the policy brief is to reach out to African policymakers and stakeholders, raise awareness of the role of forests in poverty alleviation measures, and share a summary of state-of-the-art scientific knowledge on the topic. In November 2020, an interdisciplinary team of eight authors was established based on their expertise and work on Africa. In December 2020, the first authors' meeting was convened to commence the work and establish the policy brief's focus and outline. This regional policy brief on forests and poverty for Africa will be published in English and French, and is planned for launch at the UN High-Level Political Forum (HLPF) in July 2021.

Follow-up Studies

Another new workstream was added in 2020: Follow-up studies of global GFEP assessments. The GFEP Programme is conducting updates of previous global assessment reports depending on the needs of the international forest and development related political processes and the status of respective scientific knowledge. The procedure and rules of follow-up studies were established, and an update on the 2012 GFEP assessment report, *Understanding Relationships between Biodiversity, Carbon, Forests, and People: The Key to Achieving REDD+ Objectives*, was initiated. With the increased implementation of REDD+ mechanisms since 2012 and the continued focus of global policy processes on climate change and biodiversity issues, this study is well-timed to inform ongoing discussions in the 2030 Agenda for Sustainable Development. This updated REDD+ study is planned for launch in Spring 2022.

Special Programme for Development of Capacities (IUFRO-SPDC)

Report by Michael Kleine (Coordinator), Janice Burns (Deputy Coordinator), Ioana Grecu and Daniel Boehnke

IUFRO-SPDC's Capacity Development Activities in 2020

Thematic Networking 2020

Capacity Building for Forest Landscape Restoration Implementation in Malawi and Sri Lanka

IUFRO-SPDC is implementing a two-year project aiming to address the current shortage of trained forest landscape restoration practitioners in Malawi and Sri Lanka. To this end, a train-the-trainer program was implemented in 2020 by means of a series of online workshops titled "*Practical Capacities for Forest Landscape Restoration Facilitators*", separately for trainers in Malawi and Sri Lanka and following the structure of the *FLR Practitioner's Guide* (<https://www.iufro.org/science/special/spdc/netw/flr/flr/pract-guide/>) published by IUFRO scientists in 2017.

The project is funded by the Audemars-Watkins Foundation of Switzerland with additional financial input by the Ministry of

Foreign Affairs of Finland, as well as in-kind contributions from the local partner organizations.

Aware of the need to urgently increase efforts towards restoring forest landscapes, the Governments of Malawi and Sri Lanka have made commitments under the Bonn Challenge Global Forest Landscape Restoration Initiative to place 4.5 million hectares of degraded land in Malawi and 0.2 million hectares in Sri Lanka under active restoration by 2030. This project supports achieving these goals, by training a total of 50 land managers to become FLR facilitators in each country helping to speed up restoration progress throughout Malawi and Sri Lanka.

The course content was tailored to the local context in Malawi and Sri Lanka by using a variety of approaches adapted to the local social, cultural, economic, and ecological values. To this end, each workshop series started with an overview about land use and forest restoration needs in both countries; for Malawi



Experts on forest landscape restoration gathered online to exchange knowledge and develop training materials adapted to the local contexts in Malawi and Sri Lanka. Image: IUFRO-SPDC.

these were presented by Dr Judith Kamoto (Lilongwe University of Agriculture and Natural Resources) and for Sri Lanka by Mr A. Saturusinghe and Mr H. G. Gunawardane (Ecosystem Conservation & Management Project, Ministry of Mahaweli Development & Environment).

IUFRO's input to the workshops was provided by Dr Michael Kleine (Coordinator of IUFRO-SPDC), Dr Andras Darabant (Forestry Consultant) and Dr John Stanturf (Visiting Professor at the Estonian University of Life Sciences). Ms Janice Burns (Deputy Coordinator of IUFRO-SPDC) and Ms Ioana Grecu (IUFRO-SPDC Junior Administrator) helped with the technical coordination and facilitation of the online workshops.

Both workshops contained the following modules:

- First Module: Relevant concepts and principles to building a case for FLR implementation
- Second Module: Analysis of issues and solutions of landscape governance
- Third Module: Designing an FLR project
- Fourth Module: Technical aspects of restoring forest landscapes
- Fifth Module: Monitoring of progress made in FLR implementation
- Sixth Module: Communication needs in FLR
- Seventh Module: Financing FLR projects

The trained core group of forest landscape restoration professionals can provide long-term support and guidance to stakeholders in implementing forest landscape restoration projects. A significant multiplier effect is expected as trained trainers can now pursue local level capacity building throughout Malawi and Sri Lanka, and in the region.

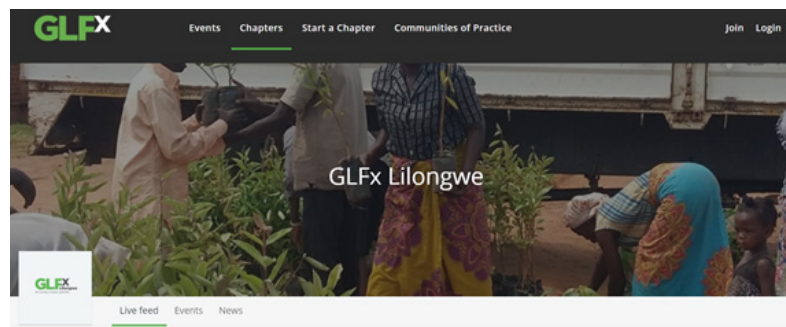
Following the online workshops, the FLR training program will move into the next project phase involving training of frontline facilitators undergoing an eighteen-month mentorship program with hands-on consultative work with local communities and initial field operations. Besides coordinating this project, IUFRO-SPDC in 2021 will expand its FLR training program by implementing online courses for forest scientists, students and landscape practitioners in India and Ethiopia.

GLFx Lilongwe Chapter

As a charter member of the Global Landscapes Forum, IUFRO is proud to support the establishment of GLFx Lilongwe in partnership with the Centre for Applied Systems Analysis (CASA) and with generous funding from the German Ministry of Environment, Nature Conservation and Nuclear Safety (BMU).

GLFx Lilongwe Chapter is an independently organized local initiative that fosters action on the ground by empowering communities with the necessary technology, knowledge, and motivation to connect, share, learn and act in their landscapes. The Chapter brings together relevant landscape actors such as farmers associations, NGOs, governmental departments, private sector and educational institutions to jointly work towards building a critical mass of trained forest landscape restoration (FLR) practitioners. These in turn are keen to share their local experience with restoring land and – at the same time - learn from the world through participating in GLFx events.

The GLFx Lilongwe chapter was officially launched during the GLF Biodiversity conference in October 2020, and the GLFx platform was established online.



The GLFx online platform hosts all information about the GLFx Lilongwe chapter, accessible at: <https://glfx.globallandscapesforum.org/>

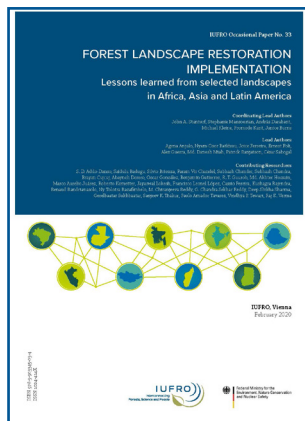
Resilient Future Forest Laboratory (RFFL): Kyrgyz Republic and Uzbekistan

SPDC initiated work on promoting science-practice interactions through the “Resilient Future Forest Development Laboratory (RFFLAB)” aiming at providing latest science for the benefits of forest practitioners and stakeholders on the ground. To this end, the establishment of pilot sites for land rehabilitation have been initiated in the Kyrgyz Republic and Uzbekistan in collaboration with local forest scientists of the National Academy of Science, Kyrgyz Republic and the Forestry Research Institute of Uzbekistan. A comprehensive review of land and forest degradation was conducted and compiled in a report in both countries based on available science and practical experiences. Major focus on mountain afforestation in these drylands to be addressed through the pilot and demonstration set-ups include reduction in soil erosion, decrease of mudflows and – in the longer term – an increase in even seasonal flow rate of rivers.

Publications and Translations

IUFRO Occasional Paper No. 33 - Forest Landscape Restoration Implementation: Lessons Learned from Selected Landscapes in Africa, Asia and Latin America was originally published in English in February 2020. The English version has also been translated into French.

A total of 17 landscapes in nine countries with Bonn Challenge commitments (three each in Africa, Asia and Latin America) were analyzed as “snapshots” of FLR implementation. Following a common methodology developed by the IUFRO team, local forest scientists selected landscapes with past and ongoing restoration activities. Local teams collected data and interviewed people on-site, according to an agreed questionnaire and reporting format.



Questions sought to determine, notably, who is involved, what actions are taken, what is working, what is not working, what has been achieved, what policies are supporting or hindering implementation, what has been learned to date, and what could be done differently.

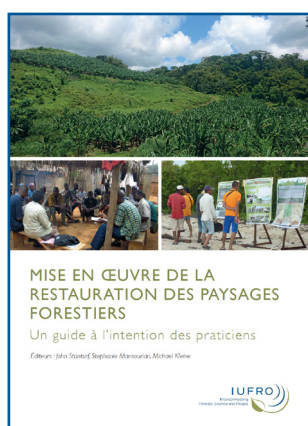
Building on this information, over 60 specific lessons learned were derived from the landscape studies. These were further distilled into the ten overarching lessons that are presented in this publication. Our results are intended to specifically inform FLR stakeholders operating in three different spaces; i.e., field implementation, FLR facilitation, and governance and policy. Through this publication IUFRO hopes that the overarching lessons can provide valuable experiences for others involved in implementing forest landscape restoration.

Available online: <https://www.iufro.org/publications/series/occasional-papers/article/2020/02/14/occasional-paper-no-33-forest-landscape-restoration-implementation-lessons-learned-from-selected/>

This publication was featured in *Restoring the Earth - The next decade*, *Unasylva* No. 252 - Vol. 71 2020/1.

Implementing Forest Landscape Restoration: A Practitioner's Guide was originally published by IUFRO in English (2017) and translated to Spanish (2019) and (French) 2020.

This French translation seeks to increase the accessibility of an existing IUFRO training resource that guides individuals through the process of forest landscape restoration (FLR) and develops their capacity to achieve long term results contributing to building resilient, more diverse landscapes that provide enhanced social, cultural, ecological and economic benefits to society including climate change mitigation and adaptation.



Available online in English, Spanish, and French: <https://www.iufro.org/science/special/spdc/netw/flr/flr/pract-guide/>

IUFRO-SPDC Training Workshops 2020

SYSTEMATIC EVIDENCE EVALUATION IN FOREST SCIENCE

In 2020 IUFRO-SPDC organized the first online training workshops on systematic evidence evaluation addressing the broad theme of “Forest Landscape Restoration”. The workshops took place from 12-16 October, in collaboration with the University of Oxford, United Kingdom. In order to accommodate participants attending in different time zones, there were two courses each day - one in the morning and one in the afternoon (relative to GMT).

The workshops introduced participants to the skills and methods required for systematic reviews of forest-related science, including framing answerable questions that address policy and practice concerns; finding the best available evidence to answer the questions; recognizing the limitations of available studies and the problem of bias; planning a systematic review process, analyzing relevant studies, and delivering an attractive and informative summary of systematic evaluations. The workshop also introduced some useful tools and software (including free tools) that can be used in systematic review.



Screenshot taken by IUFRO-SPDC

The courses were conducted by Dr Gillian Petrokofsky, Dr William J. Harvey and Mr Leo Petrokofsky of Oxford Systematic Reviews (<https://www.oxsrev.org/>) and the University of Oxford, UK. Dr Michael Kleine, Ms Janice Burns and Ms Ioana-Maria Grecu of SPDC introduced the workshops and participated in the final session, including the presentation of certificates.

The workshops covered:

- Day 1: An Introduction to Systematic Evidence Evaluation
- Day 2: Starting a Systematic Evidence Evaluation
- Day 3: Searching for Literature
- Day 4: Screening & Data Extraction
- Day 5: Presenting a Systematic Evidence Evaluation with Impact

The free online course was open to early and mid-career scientists from economically disadvantaged countries in Africa, Asia and Latin America working on research issues related to forest landscape restoration. A total of 40 candidates were accepted.

Finally, participants from 13 different countries had the opportunity to produce mini-reviews, which demonstrated their acquisition of skills during the workshop. This course communicated methods of evidence evaluation that support and encourage appropriate and accurate policy decisions and actions that can be taken about forests and forest-related land use.

Key skills developed during the workshops: question framing; literature searching; data analysis; data visualization; database design for systematic evaluation; introduction to basic Geographic Information Systems (GIS); online tools; project planning; reference management; research design; resource discovery; science/policy interface; spreadsheets; systematic evidence evaluation; teamwork; transparent reporting of research.

IUFRO-SPDC Scientist Assistance Program 2020

Due to the COVID-19 pandemic and the cancellation of all physical meetings and conferences, the scientist assistance program could not be implemented. Arrangements with SPDC donors were made to use the funds for other SPDC activities in 2020.

Young Scientists' Initiative (YSI)

YSI started as a collaboration between IUFRO and the European Forest Institute, formally established in early 2018, to make mobility grants and opportunities available to early career scientists from Africa, Asia, Latin America and Europe. Broadly, the initiative aims to provide future forestry professionals and leaders in the forestry sector with international experience to better equip them to address future global challenges and identify, create and fully utilise emerging opportunities. Since the

creation of the YSI, a total of fifteen grants have been awarded to support short scientific visits (SSV), each to various European and Asian forest-related institutions.

In the year 2020 the YSI approved ten grants, four of which are funded by the Austrian Government and hold the specific purpose of advancing the careers of women in forestry. Unfortunately, due to COVID-19 travel restrictions, all SSVs have been postponed until they can be implemented without undue risk. In total there are ten approved grants waiting to be implemented. More information on this initiative, including calls for application, is available at: <https://www.iufro.org/science/special/spdc/ysi/>.

Support by Donors

IUFRO-SPDC would like to acknowledge with thanks the generous support received in 2020 by the following donor agencies: Austrian Federal Ministry of Agriculture, Regions and Tourism (BMLRT), Austrian Federal Forest Research Centre (BFW), Forestry and Agriculture Biotechnology Institute (FABI), South Africa, German Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU), Global Environment Facility (GEF), Ministry of Foreign Affairs of Finland (MFA), Republic of Korea's National Institute of Forest Science (NIFoS), US Forest Service, German Federal Ministry of Food and Agriculture (BMEL) through the European Forest Institute (EFI), the Foundation Audemars-Watkins Switzerland, and Embrapa Forestal, Brazil, providing proceeds generated by the IUFRO World Congress in Curitiba to SPDC in support of the Scientist Assistance Program.

Welcoming New Members in 2020

Member Organizations

1043.00.00 UNITED STATES

Department of Forestry, Wildlife and Fisheries

University of Tennessee

2431 Joe Johnson Drive

37996-4563 Knoxville

1044.00.00 UNITED STATES

Department of Natural Resources & Environmental Studies

College of Agriculture

University of Illinois at Urbana-Champaign

1102 South Goadwin Avenue

61801 Urbana

1047.00.00 ZIMBABWE

Forestry & Citrus Research (FACIR)

7372 Unit K Chitungwiza

Harare

1048.00.00 TANZANIA

Population and Development Society (PDS)

P.O. Box 65

Morogoro



Photo by Gerda Wolfrum, IUFRO

1049.00.00 DENMARK

InNovaSilva ApS

Højten Tang 80

7100 Vejle

Associated Members

902	Nirmol Agarwal Ardee City India	909	Nazia Arbab Dept. of Agricultural, Food and Resource Economics Rutgers-The State University of New Jersey New Brunswick, NJ United States
904	John Devaney Dublin Ireland	910	Maria del Pilar Angulo-Sandoval Mahogany for the Future, Inc San Juan Puerto Rico
905	Christina Staudhammer Department of Biological Sciences University of Alabama Tuscaloosa United States	911	Marie Caroline Momo Solefack Department of Plant Biology Faculty of Sciences, University of Dschang Dschang Cameroon
906	Yashmita Nitin Ulman College of Horticulture & Forestry Department of Silviculture & Agroforestry Acharya Narendra Deve University of Agriculture & Technology Ayodhya, Uttar Pradesh India	912	Gillian Kabwe School of Natural Resources Copperbelt University Kitwe Zambia
907	Dan Cole Nerang, Queensland Australia	913	Judy Simon Department of Biology University of Konstanz Buchenbach Germany

Officeholders (OF), Member Organizations (MO), Associated Members (AM) in Regions

Region	OF	MO	AM
Europe	354	216	56
Northern America	162	126	26
Latin America	63	61	20
Africa	38	72	31
Asia	120	131	60
Oceania	29	22	7
Total	766	628	200

IUFRO Meetings in Regions

Africa	0
Asia	2
Europe	7
Latin America	0
Northern America	0
Oceania	1
ONLINE	20
TOTAL	30

IUFRO Scientific Structure

9 Divisions with 255 Units (63 Research Groups and 183 Working Parties):

Division 1: RG 10, WP 19
Division 2: RG 5, WP 29
Division 3: RG 10, WP 5
Division 4: RG 5, WP 27
Division 5: RG 11, WP 21
Division 6: RG 10, WP 3
Division 7: RG 2, WP 25
Division 8: RG 4, WP 27
Division 9: RG 6, WP 27

9 Task Forces (interdisciplinary)
5 Special Programmes, Projects and
IUFRO-led Initiatives

For details: <https://www.iufro.org/science/>

IUFRO Management and Administration

International Council
Board and Board Committees
IUFRO Headquarters

Find details at: <https://www.iufro.org/who-is-who/>

Finances

IUFRO Balance - as of 31 December 2020 in Euro					
ASSETS		TOTAL	EQUITY and LIABILITIES		TOTAL
A. Fixed Assets			A. Equity		
I.	Intangible property	5,564	I.	Capital as per 31 Dec 2019	482,821
II.	Tangible assets	40,676	II.	Loss actual 2020	-51,661
III.	Financial assets	428,791			
Total		475,032	Total		431,160
B. Current Assets			B. Accruals		267,668
I.	Accounts receivable	15,974	C. Liabilities		1,112,473
II.	Other receivables	15,278	D. Deferred Income and Credits		0
III.	Cash on hand & in banks	1,304,669			
Total		1,335,921	Total		1,811,300
C. Prepaid Expenses		348	TOTAL EQUITY and LIABILITIES		1,811,300
TOTAL ASSETS		1,811,300			

IUFRO International Union of Forest Research Organizations - UNION	
Profit and Loss - Overview 31 December 2020 in Euro	
Capital 31 Dec 2019	482,821
INCOME 2020:	
Membership fees received	270,747
Donations for budget year 2020	1,649,930
Other income / refunds	45,740
Interest/profit from financial result (bank)	4,341
TOTAL INCOME	1,970,759
EXPENDITURE 2020:	
Salaries and contracts	-1,596,994
Office equipment and maintenance	-26,019
Printing, postage and PR activities	-83,708
Travel	-6,317
Organization of meetings, travel support, SAP	-120,405
Legal expenses, accounting	-59,177
Equipment (deprec.), operating costs, insurances	-38,022
Bank charges, currency differences	-44,240
Others	-47,540
TOTAL EXPENDITURE	-2,022,420
Loss for the year 2020	-51,661
Capital 31 Dec 2020	431,160

Please note that the donations include the rest balances of the year 2019, but exclude the accruals of revenue into the year 2021.

Sponsorships

Grants and in-kind contributions to IUFRO in 2020

IUFRO is most grateful to all its donors for their generous contributions!

Sponsorship categories:

Gold	
Silver	
Bronze	



Photo by Gerda Wolfrum, IUFRO

Sponsorships received in 2020 in the various cost centers in Euro

(Grants and in-kind contributions)

Grantors/Contributors	In-kind contributions ¹	TOTAL
Ministry for Economic Cooperation and Development (BMZ), Germany	0	549,000
Ministry for Agriculture, Regions and Tourism (BMLRT), Austria	85,000	499,587
Ministry of Foreign Affairs (MFA), Finland	0	400,000
US Forest Service, U.S.A.	0	191,074
Fundacao Eliseu Alves for EMBRAPA, Brazil ²	0	150,414
Natural Resources Institute (LUKE), Finland	56,255	56,255
Food and Agriculture Organization (FAO)	0	107,618
Audemar Watkins Foundation, Switzerland	0	104,449
National Institute of Forest Science (NIFoS), Korea	0	102,718
Ministry for Environment, Nature Conservation and Nuclear Safety (BMU), Germany	0	59,900
Research Centre for Forests (BFW), Austria	0	30,000
European Forest Institute, Finland	0	10,000
International Tropical Timber Organizations (ITTO)	0	8,792

¹ These are all non-cash contributions such as staff time and office facilities.

² Including Income from IUFRO World Congress 2019

IUFRO Headquarters (Vienna)

Executive Director: Alexander Buck, Austria

Deputy Executive Director and IUFRO-SPDC Coordinator:

Michael Kleine, Austria

Operations Manager: Andre Purret, Estonia (GFEP Project Manager until October)

Project Coordinator: Renate Prüller, Austria (until October)

Finances and Administration: Astrid Tippel, Austria

Finances and Controlling: Judith Stöger-Goiser, Austria

Web Management, Network Communication and Social Media: Brigitte Burger, Austria

Communication, PR, Publications and Translation:

Gerda Wolfrum, Austria

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System Administrator: Heimo Schaffer, Austria

GFEP Coordinator: Christoph Wildburger, Austria

GFEP Project Manager: Lena Lackner (until October)

GFEP Project Manager: Nelson Grima, Spain

GFEP Project Manager: Dikshya Devkota, Nepal

IUFRO-SPDC Deputy Coordinator and Thematic Networking Manager:

Janice Burns, Canada

IUFRO-SPDC/GFEP Project Management, Membership and Translation

Services: Eva Schimpf, Austria

IUFRO-SPDC Project Manager: Daniel Boehnke, South Africa

IUFRO-SPDC Junior Project Administrator: Ioana Grecu, Romania

IUFRO Publications 2020

- World Series Vol. 39 - Forests, Trees and the Eradication of Poverty: Potential and Limitations. A Global Assessment Report
- Policy Brief - Forests, Trees and the Eradication of Poverty: Potential and Limitations.
- Occasional Paper 33 - Forest Landscape Restoration Implementation: Lessons Learned from Selected Landscapes in Africa, Asia and Latin America
- The Distinguished Service Award of the International Union of Forest Research Organizations: 1981–2019 (Victor Teplyakov)
- Enabling Factors to Scale Up Forest Landscape Restoration: The Roles of Governance and Economics (Stephanie Mansourian) - Full Report with Case Studies
- IUFRO News Issues 1-12 (with 3 double issues), 2020
- 2 Scientific Summaries related to IUFRO News
- 11 IUFRO Spotlight issues
- IUFRO Annual Report 2019

Editorial

IUFRO Annual Report 2020: Copyright by IUFRO, Vienna, 2021

Cover photo: Cecil C. Konijnendijk van den Bosch

IUFRO, the International Union of Forest Research Organizations, offers a global network for voluntary cooperation. The network is open to all individuals and organizations dedicated to forest and forest products research and related disciplines. IUFRO aims to contribute to achieving the Sustainable Development Goals set by the United Nations.

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Division 4: Donald Hodges, USA

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Xiao Wenfa, China

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Elena Paoletti, Italy

Kugbo Shim, Korea (Rep)

Olga Shaytarova, Russian Federation

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Alexander Buck, Austria

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Maria Patek, Austria

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Forests and Water Interactions in a Changing Environment:

Xiaohua (Adam) Wei, USA

Fire\$: Economic Drivers of Global Wildland Fire Activity:

François-Nicolas Robinne, Canada

Gender Equality in Forestry: Gun Lidestav, Sweden

Resilient Planted Forests Serving Society & Bioeconomy:

Christophe Orazio, France

Strengthening Mediterranean Nursery Systems for Forest Reproductive

Material Procurement to Adapt to the Effects of Climate Change:

Giovanbattista de Dato, Italy

Unlocking the Bioeconomy and Non-Timber Forest Products:

James Chamberlain, USA

Transforming Forest Landscapes for Future Climates and Human Well-

Being: Andreas Bolte, Germany

Joint IUFRO-IFSA Task Force on Forest Education:

Sandra Rodríguez-Pineros, Mexico, and Alex Onatunji, Nigeria

Monitoring Global Tree Mortality Patterns and Trends:

Henrik Hartmann, Germany

Special Programmes, Projects and Initiatives:

IUFRO Special Programme for Development of Capacities

(IUFRO-SPDC): Michael Kleine, Austria

Global Forest Expert Panels Programme (GFEP):

Christoph Wildburger, Austria

IUFRO World Forests, Society and Environment

(IUFRO-WFSE): Pia Katila, Finland

Global Forest Information Service (GFIS):

Eero Mikkola, Finland

Special Programme Directors' Forum (IUFRO-SPDF):

Peter Mayer, Austria

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Fredrik Ingemarson, Sweden

XXVI IUFRO World Congress Scientific Committee (CSC) Chair:

Elena Paoletti, Italy