

FINAL EUROPEAN CONFERENCE
**Towards Forest Management in line with the
Protection and Conservation of Biodiversity**
16-18 February 2022



Building better understanding for management decisions using demonstration sites

Andreas Schuck, European Forest Institute



www.lifegoprofor.eu

The European Integrate Network



- *“promotes and advances forest management approaches for the integration of nature conservation into sustainable forest management at three levels: the decision-making policy level, the level of forest practitioners/managers, and the level of research and academic knowledge”*
- Voluntary network initiated by the ‘Prague Declaration on Forests’ in 2016 and with mandate by the EU Standing Forestry Committee
- 20 member countries from forest and nature conservation policy, forestry and conservation practice as well as the research community, with the European Commission being an observer

<https://integratenetwork.org/about-us/#history>



www.integratenetwork.org

Note: Portugal joined network in May 2021 (not on map)

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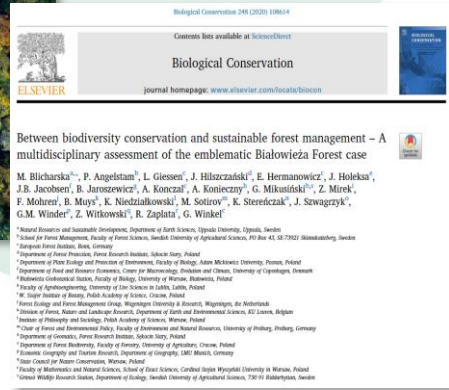
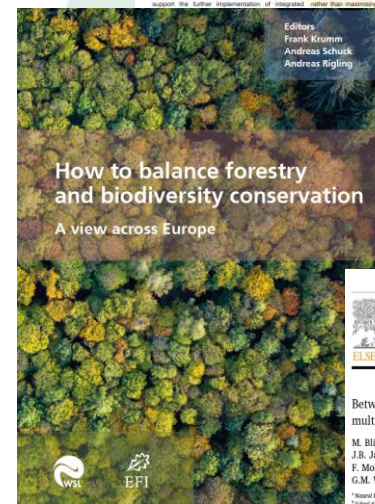
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Products



- Events
 - How to integrate segregation in sustainable forest management? The tools, scale and processes – September 2020
 - Policy challenges of integrating biodiversity conservation in forest management – the way forward – March 2021
- Publications
- Policy Briefs
- Training and education in demonstration sites



<https://integratenetwork.org/our-approach/>

<https://forbiodiv.wsl.ch/de/>

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Demonstration site network

- Marteloscopes as forest demonstration and learning sites with emphasis on integrating nature conservation in managed forests
- 160 sites in 22 countries across Europe... number is steadily growing



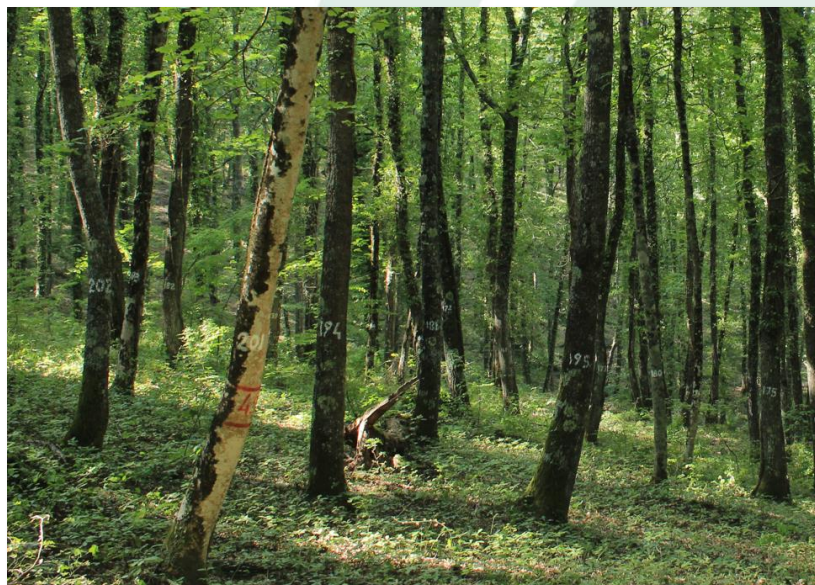
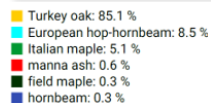
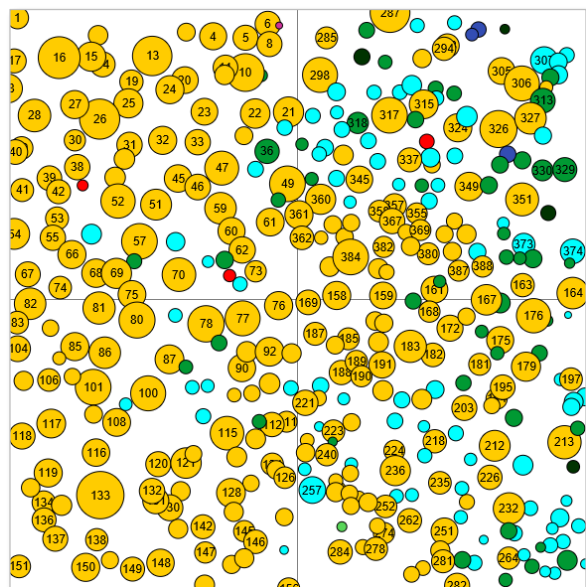
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Marteloscopes

- Term derived from French: refers to a more detailed examination of tree selections
- Usually 1 ha rectangular sites
- Trees mapped, numbered and recorded



GoProFor site: Rieti-Lazio

Photo: GoProFor

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What data is collected?

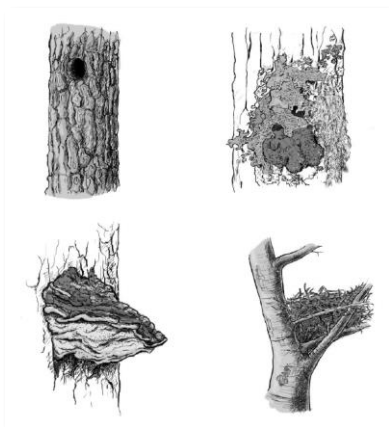
Type	Unit
Tree species	Fagus sylvatica (Fasy), Abies alba (Abal) etc.
Tree location*	polar coordinates
Tree status	dead (0), alive (1)
Diameter at breast height	dbh [cm] (>7.5 cm)
Tree height	h [m]
Crown base height	h_{cb} [m]
Timber quality	Class (A, B, C, D/IT, F for fuelwood) and section length [m]
TreMs	abundance

Integrate
Network
facilitated by EFI



Photo: Andrew Stratton

Kraus et.al., 2016



Kraus et.al., 2016



Photo: Andreas Schuck

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Wide variety of site types and management regimes



Photos: local marteloscope managers (do not use images without contacting the presenter)

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Utilising marteloscopes for training



Photo: Jakob Derks

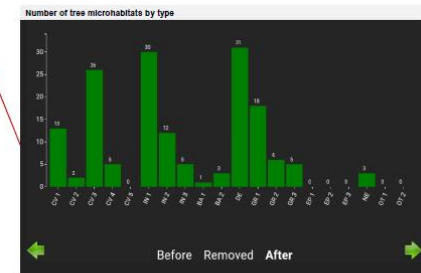
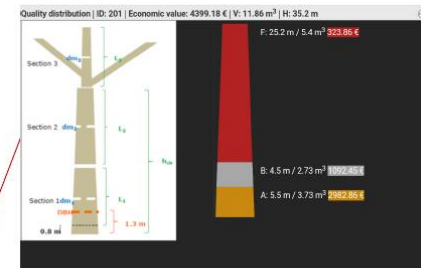
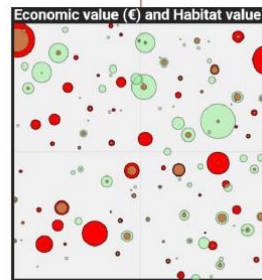
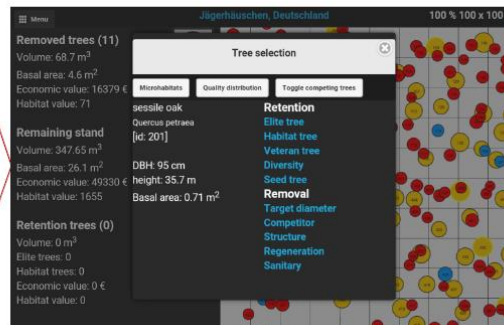
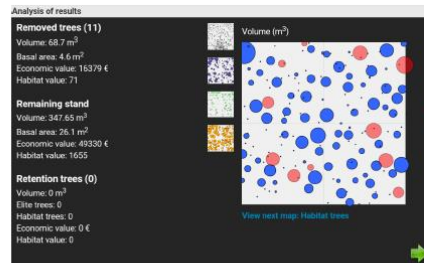
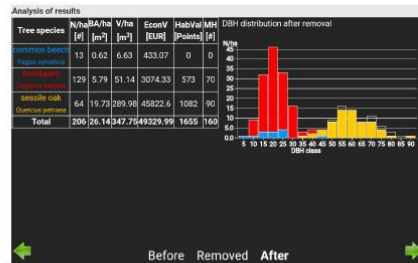
- Training exercises using software running on mobile devices can be tailored to:
 - type of exercise
 - target groups (forest / conservation managers, students, school children, interested public; mixed groups)
- Discussing virtual intervention outcomes is at the heart of training exercises
- They promote knowledge exchange and build better understanding
- Software available at: <http://iplus.efi.int/>

Examples exercises (1)

Exercise with forest and nature conservation managers (task)

Training exercise

Remove 60 m³ of wood (limit the number of trees removed while selecting 10 % high quality timber); identify 10 habitat trees.



Examples exercises (2)

Exercise with forest and nature conservation managers (weighing economic and habitat values)



Quality classification | ID: 229 | Economic value: 1943 € | V: 8.33 m³ | H: 30.7 m

Section 1: 0.0 m - 1.0 m | E: 23.2 m / 65 m³ | 200.04 €

Section 2: 1.0 m - 2.0 m | E: 3.9 m / 1.01 m³ | 200.04 €

Section 3: 2.0 m - 3.0 m | E: 2.9 m / 1.16 m³ | 200.04 €

Section 4: 3.0 m - 4.0 m | E: 2.5 m / 1.61 m³ | 200.04 €

Virtual tree selection exercise using the I+ tablet software

Manufacturers:

Tree 545 - Habitat value: 99

Woodpecker cavity

CVE: [Image of woodpecker cavity] All wood flaws in the trunk conceal woodpecker breeding cavities. If this cannot be checked, these cavity openings within tree trunks.

Dead branches and limbs / crown deadwood

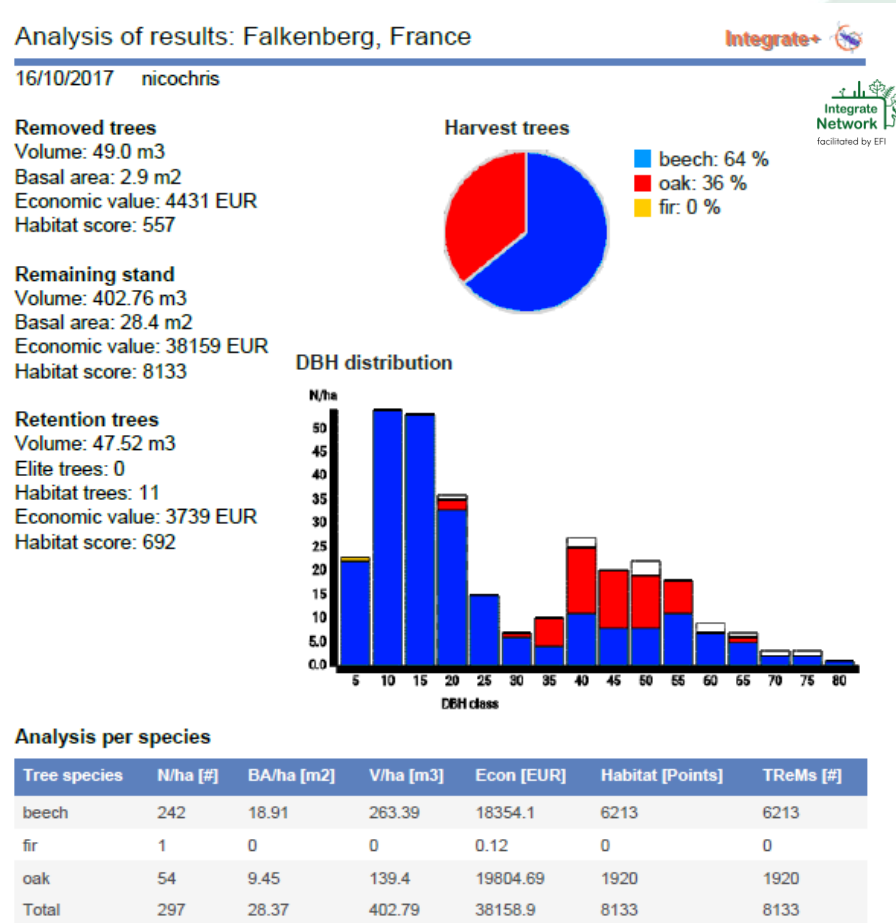
CV1: [Image of dead branch] Small dead (<10 cm diameter) decaying wood, often horizontal or at a shallow angle, often in the shade of the remaining canopy; it contact with living wood (stem and branches) (see).

Screenphoto: "I+" Software



Examples exercises (3)

Exercise results provided to each participant/group during training event (pdf)



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Training exercises (further examples)

- Removal of a predefined volume, basal area
- Maintain or reach a pre-defined diameter distribution
- Discuss trade-offs between different ecosystem services
- Identify a set number of habitat trees
- Learning about forest ecosystems and their value for society
-

Many more potential training exercises

- Instructor needs to tailor for target groups and prepare them well

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Photo: Andreas Schuck

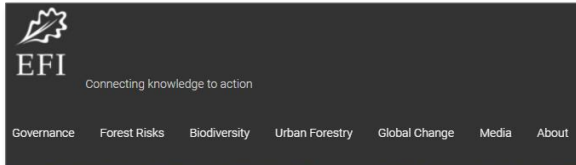


Photo: Andreas Schuck




Photo: Annette Schuck

Training and communication



EFI
Connecting knowledge to action

Governance Forest Risks Biodiversity Urban Forestry Global Change Media About




Combining silviculture and ecology to benefit our forests – the Irish way

Published July 26, 2021 by Gesche Schifferdecker

[Tweet](#)

Ireland is one of the few countries in Europe that experienced almost complete deforestation in recent history with just over 1% forest cover remaining at the beginning of the 1900s. Since then, an impressive effort has been made by the State of Ireland and other stakeholders to increase forest cover – but the Irish plan to plant forests has a




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Environment

More than 200 forest stakeholders trained in Italian marteloscope

25/06/2021 - admin



Recently over two hundred forest technicians, professionals, naturalists, biologists, public administration officials, entrepreneurs, forest workers, students and operators of protected areas met in Lazio region, within Sala State Forest (Rieti), for two days of field experience. The activities took place in the **Rieti-Lazio marteloscope** belonging to the **European Integrate Marteloscope Network**. Part of the exercises was the recognition of tree microhabitats, the application of the Potential Biodiversity Index (BPI) and the simulation of silvicultural interventions attentive to aspects related to biodiversity.




Montessori Zentrum ANGELL Freiburg

Infotermine im Herbst - Jetzt anmelden!
Die Infotermine fürs kommende Schuljahr stehen fest.

Montessori Zentrum Casa dei Bambini Grundschule Realschule Gynnasium Aus- und Weiterbildung

Gynnasium

- News
- Videos
- Pädagogisches Konzept
- Oberstufe bei Angell
- Ganztagsbetreuung
- Kollegium
- SMV
- Aufnahme
- Praktische Infos



28. Juli 2021

Ab in den Wald

Am 26.7. hat die Klasse von Annette Schuck und Arne Lehberg einen Schulausflug in den Mooswald unternommen. Mathilda aus der 6b hat dazu einen Bericht geschrieben.

„Wir, die Klasse 6b, haben in der letzten Schulwoche zwei Ausflüge unternommen. Am 26.07.2021 waren wir im Mooswald am Opfinger Baggersee. Am Morgen haben wir Schüler uns um 8 Uhr im Klassenzimmer getroffen, sind vom Angell mit der Straßenbahn bis ins Riesefeld gefahren. Von dort aus haben wir dem Bus genommen, der uns zum Opfinger Baggersee gebracht hat, wo wir dann in den Mooswald gegangen sind. Dort haben zwei Männer mit uns praktische Sachen unternommen und uns viel erklärt. Der eine Mann, Alexander Heide, beschäftigt sich mit dem Rückweg im Wald. Er hat mit uns über Gefahren im Wald geredet. Der andere, Topalichen Forest, Bäume markieren interessante Dinge stimmt. Alexander ausmisst. Zwischen Rückweg gemacht



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Biodiversity Environment Information

“Monte de Valsain” Marteloscope: challenges and opportunities within the Integrate Network.

13/10/2021 - admin



Since the First National Meeting of the Integrate Network in Spain (more details [here](#)), Spanish partners of the Network have been working in the development of the booklet of the “Monte de Valsain” Marteloscope (to be published soon). This process has led to engaging discussions about many topics, from the main challenges related to forest management to the opportunities that being part of the Network provides, and how the Network could help to face these challenges.

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Demonstration sites and their use in research

- Data available for Science via 'Global Biodiversity Information Facility'
- Scientific research (applied and social sciences)
- Other publications (e.g. practitioners journals)
- Bachelor and master theses

The collage consists of several overlapping images:

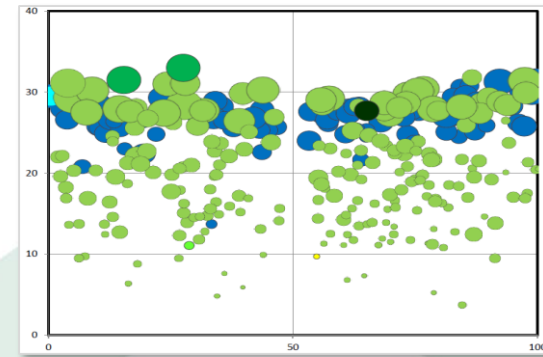
- Ecological Indicators** journal cover: Features the title "Co-occurrence patterns of tree-related microhabitats: A method to simplify routine monitoring" and lists authors like Laurent Larrieu, Alain Cabanettes, and Benoît Courbaud.
- Biodiversity and Conservation** journal cover: Features the title "Resolving the trade-off between production and biodiversity conservation in integrated forest management: comparing tree selection practices of foresters and conservationists" and lists authors like Hannes Cosyns and Bettina Joas.
- Spatially explicit database of tree related microhabitats (TreMs)** interface: A screenshot of a web portal with a search bar and navigation options.
- Schweizerische Zeitschrift für Forstwesen** journal cover: Features the title "Marteloscope als Trainingstools zur Erhaltung und Förderung von Habitatbäumen im Wald" and lists authors like Frank Krumm and Thibault Lachat.
- Thesis cover**: A white cover with a green circular logo, titled "zur Erlangung des akademischen Grades Master of Science (M.Sc.)" and "die Masterarbeit mit dem Thema Das Marteloskop Tharandter Wald: ein waldbauliches Übungsinstrument für eine nachhaltige und integrative Waldbewirtschaftung".

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Some additional information

- Work ongoing on new ‘software modules’ and ‘result display options’ including deadwood, carbon storage, regeneration, stand projections
- Educational toolbox for training exercises under preparation
- Importance of audio-visuals
 - “Wise use of our forest: the integrative approach”; „*Virtual visit to a marteloscope*“
<https://integratenetwork.org/videos/>
 - You Tube clips „tree microhabitats explained“ (WSL, CNPF, INRAE, DYNAFOR)
https://www.youtube.com/watch?v=YRwzbrAq96o&list=PLIdocYDtv7TTtTKiBAm68tXZhV51v_JVB



Concluding remarks

- Sites have shown a powerful tool for training, education and communication
- They allow for exchange on site having available results of virtual interventions
- Have found application in silvicultural training curricula
- Increased interest from secondary schools
- Continuous feedback resulting for further tool development
- Dataset is showing valuable for research
- Finding increased application and further development in projects



Thank you

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