Excursions, exchanges and training events (2017-2020)

Activity fact sheets

INFORMAR

Schuck A., 2020. Excursions, exchanges and training events – Activity fact sheets. Informar Report No. 1. 213 p.

Information on the project and its outputs:
www.informar.eu and www.iplus.efi.int

Title photo (Andreas Schuck); section photo A (Theresa Cashore); section photo B (Andreas Schuck); section photo C (Raymund Filmer); section photo D (Andreas Schuck); back page photo strip (Andreas Schuck)

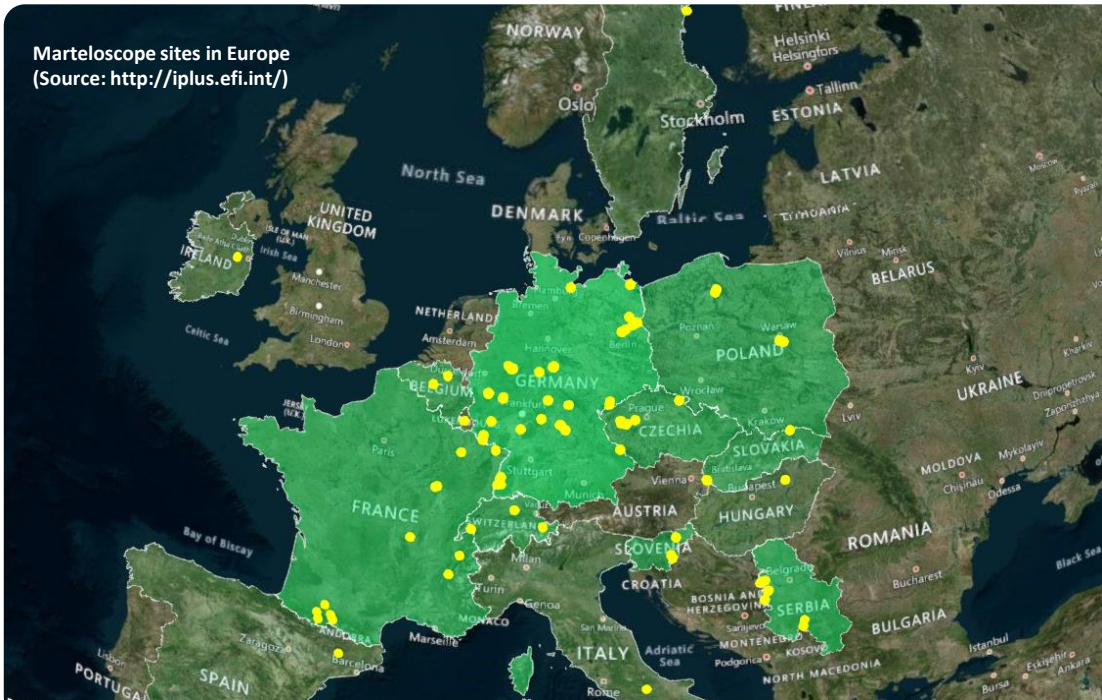
Disclaimer: The technical report lists activities implemented in the frame of the project 'Integrated Forest Management Learning Architecture (Informar)' supported by the German Federal Ministry of Food and Agriculture (BMEL). The views expressed in this publication are those of the authors and do not necessarily represent those of the European Forest Institute.

Table of contents

Introduction	Page IV
Excursions and field trips	Flag A
Training events	Flag B
Exchange of experts	Flag C
Other activities	Flag D

Introduction

The project Informar ('Integrated Forest Management Learning Architecture - April 2017 – April 2020) had as one main goal to understand what are the driving forces of integrating nature conservation in forest management and demonstrate the potential of such approaches under conditions of climate change and related risks. One crucial element to achieve this aim was to ensure maintaining and expanding collaboration and knowledge exchange between science, policy makers and practice on how such integrative forest management approaches are implemented to address both nature conservation and wood production. Identifying such good practice examples and concepts for integrative forest management was then combined with the establishment of demonstration sites, or Marteloscopes. Informar in this way continued the work of the Integrate+ project (2013-2016) which initiated the set-up of a European Marteloscope Network. The network was expanded from around 40 in 2017 to nearly 100 Marteloscope sites in 15 European countries be April 2020. The sites are mostly located on public forest but also on community and private forest land. They cover a broad range of forest types, altitudinal gradients, site conditions and management regimes and include also a few sites in unmanaged forests. Such are especially interesting when it comes to learning about tree related microhabitats and detecting them. During Informar many activities have taken place in these sites. Many of them were facilitated, organised and supported by Informar but also a large number of events was also directly initiated by the Marteloscope network partners. Activities included excursions , full training exercises and expert exchanges. Participants were forest and nature conservation managers, policy makers, researchers, university / forest and agriculture school students, the general public and school children of different ages. The response from the events was positive throughout and often paired with proposals for holding additional events on other topical issues or organising joint trainings with other stakeholder groups. The aim of this Technical Report is to briefly present the main activities that took place between the summer of 2017 and early 2020. This report does not claim to be complete as many event took place without Informar team involvement and no activity report was provided. Unfortunately also many planned training events around the UN International Day of Forests had to be cancelled in March/April 2020 due to the Corvid-19 pandemic. We hope you find the report inspiring, either to also conduct such type of events in your Marteloscopes or see the benefit of establishing sites or your own.



Marteloscope sites in Europe
(Source: http://iplus.efi.int/)

Excursions and field visits

Activity A-1 Date 26th to 27th of June 2017

Title - Kick-off meeting of the "Integrate-Network"

Where

Location
Regional Forest District Office Rhein-Sieg-Erft; Kottenforst

Name of Marteloscope
Jägerhäuschen

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [ ]
Presentation [**X**] Other [excursion]

Aim of activity
The aim of the field excursion was to introduce the participants of the Integrate network kick-off meeting to the management concepts of the Regional Forest District Office Rhein-Sieg-Erft. One important excursion point was the stop in the Marteloscope Jägerhäuschen. The participants were made familiar with the Marteloscope as a training and educational tool (virtual tree selections in the field) and the role of tree related microhabitats for forest biodiversity. It was shown by EFI and the forest district office how the Marteloscope can be applied. Especially getting a better understanding for single tree values in terms of biodiversity and economic return supports objective decision-making in daily forest management.

Further details
In the framework of the EU Forest Strategy and its Multiannual Implementation Plan, with reference to lessons-learnt and outcomes of the INTEGRATE/ INTEGRATE+ studies of the European Forest Institute (EFI) and based on the Prague Declaration on Forests signed by the Czech Minister of Agriculture, Mr. Jurecka, and by the German Federal Minister of Food and Agriculture, Mr. Schmidt, at the Conference in Prague early October 2016, the two ministers invited for the establishment of a voluntary cross- border network on the further integration of nature conservation enhancement in sustainably managed forests in Europe.
The overarching objective of this "Integrate Network" will be to promote and advance forest management approaches for the integration of nature conservation in SFM at three levels: the decision-making policy level, the level of forest practitioners/managers, and the level of research and academic knowledge.
This field trip took place in the frame of the kick event of the Integrate Network in Bonn, Germany. The Marteloscope training was conducted jointly by Andreas Schuck (EFI) and Frank Krumm (WSL).

Who

Participants [**53**] of whom from EFI [8]
One country [ ] multi-national [**X**]
Country/countries of origin: Austria, Croatia, Czech Republic, Denmark, Estonia, France, Germany, Hungary, Italy, Poland, Slovak Republic, Slovenia, Spain, Sweden, EU representatives

Participants further details
Participants comprised of ministry representatives, scientists, forest administrators, forest owner associations and representatives from EU DGs.

Participant list

Name	Affiliation
	Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, Sektion III Forstwirtschaft, Austria
	Ministry of Agriculture, Czech Republic
	UHUL, Czech Republic
	Bundesministerium für Ernährung und Landwirtschaft, Germany
	Bundesministerium für Ernährung und Landwirtschaft, Germany
	Ministry for Climate Protection, Environment, Agriculture, Conservation and Consumer Protection of the State of North Rhine-Westphalia, Germany
	Ministry for Climate Protection, Environment, Agriculture, Conservation and Consumer Protection of the State of North Rhine-Westphalia, Germany
	Wald und Holz, NRW, Germany
	City of Bonn, Germany
	Ministerium für Umwelt und Verbraucherschutz, Saarland, Germany
	AGDW – Die Waldeigentümer, Germany
	Deutscher Forstwirtschaftsrat e.V., Germany
	Landesbetrieb Wald und Holz Nordrhein-Westfalen Lehr- und Versuchsforstamt Arnsberger Wald, Germany
	Landesbetrieb Wald und Holz NRW, Germany
	Federal Agency for Nature Conservation, Germany
	Danish Nature Agency, Ministry of Environment and Food, Denmark
	University of Copenhagen, Denmark
	Perm. Rep.-UE/Brussels (Spain)
	Ministry of Agriculture and Environment, Spain
	Ministry of the Environment, Estonia
	Ministry of the Environment, Estonia
	Ministry of the Environment, Estonia
	INRA, France
	Ministry of Agriculture, Croatia
	Ministry of Agriculture, Hungary
	Ministry of Agriculture and Forestry, Italy
	Forest Research Institute, Poland
	Directorate General of the State Forest, Poland
	Directorate General of the State Forest, Poland

Participant list

Name	Affiliation
	Ministry of Agriculture and Rural Development of the Slovak Republic
	Ministry of Agriculture, Forestry and Food, Slovenia
	Swedish Forest Agency, Sweden
	Swiss Federal Research Institute WSL, Switzerland
	European Commission, DG Environment, Belgium
	European Commission, DG Agriculture and Rural Development, Belgium
	Landesbetrieb Wald und Holz Nordrhein-Westfalen Regionalforstamt Rhein-Sieg-Erft, Germany
	Landesbetrieb Wald und Holz Nordrhein-Westfalen Regionalforstamt Rhein-Sieg-Erft, Germany
	AFZ – Der Wald, Germany
	Swiss Federal Research Institute WSL, Switzerland
	Forest Research Institute BW, Germany
	Bavarian State Forestry, Germany
	ConFoBi, University Freiburg, Germany
	Swiss Federal Research Institute WSL, Switzerland
EFI team	
Georg Winkel, Marcus Lindner, Andreas Schuck (Marteloscope presentation jointly with Frank Krumm, WSL), Gesche Schifferdecker, Theresa Cashore, Jakob Derks, Theresa Frei, Laura Nikinmaa	EFI

Feedback, remarks and potentials for collaboration

Reply

Feedback was overall positive. The participants appreciated the presentation of the Marteloscope tool and its applications. Some of the participants asked for more details and expressed their interest to also establish such a demonstration site in a typical managed forest in their respective countries. Interest for more extended visits with full-fledged exercises were also asked for. Especially due to the interest of establishing own Marteloscopes or investigating other application for the tool.

Docs

Documentation

Documents/tools

- Marteloscope field guide ‘Jägerhäuschen‘ (EN)
- Information Sheet Jägerhäuschen
- I+ Tree Microhabitat Catalogue (EN)
- Jägerhäuschen Poster
- I+ tablet software

Photos (Andreas Schuck)

- Integrate network group discussing in the ‘Jägerhäuschen Marteloscope'

Title – Study tour to primeval forests and continuous cover forestry examples in Romania

Where

Location
Romania (Sibiu and various locations in the Carpathians mountains)

Name of Marteloscope

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [X] Education [X]
Presentation [ ] Other [field excursion]

What

Aim of activity
ProSilva Romania, newly established, invited European foresters to visit the Carpathians to exchange expertise on continuous cover forestry. Participation from EFI was focused on introducing Integrate and thus expand the Integrate network.

Further details
Romania has vast forest areas and is a country in transition with all related difficulties and challenges. The forests in Romania are an important source of income and therefore important for the countries development. In the Carpathians we also find untouched forests remnants, old-growth and primeval forests. Continuous cover forestry as promoted through the ProSilva principles is a forest management approach very suitable for the mixed mountain forests in the Carpathians. Pro Silva Romania has invited colleagues from across Europe to share expertise and develop a support network for the Pro Silva work in Romania. Close to 60 participants from 19 countries did follow that invitation. In the course of 3 days the participants visited a number of different forest sites and enterprises, exchanged with a wide variety of foresters, researchers, NGO activists and policy makers. The program focussed main on forestry challenges in Romania around continuous cover forestry and protected forest areas. The group was able to visit a primeval forest site (see: http://www.padurilesincii.ro/tur_virtual/turvirtual.html) in which the Integrate approach was presented and discussed. In particular the role of tree related microhabitats was specific attention.

Who

Participants [57] of whom from EFI [1]
One country [ ] multi-national [X]
Country/countries of origin: Albania, Austria, Belgium, Czech Republic, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Lithuania, The Netherlands, Portugal, Romania, Slovakia, Slovenia, Switzerland, United Kingdom

Participants further details
Participants were country representatives from Pro Silva national associations. They were taking part in their capacity as representatives of national ProSilva groups and as well as their forest enterprises.

Participant list

Name	Country
	Albania
	Austria
	Austria
	Austria
	Austria
	Belgium
	Belgium
	Belgium
	Belgium
	Czech Republic
	Czech Republic
	Czech Republic
	Czech Republic
	Denmark
	Denmark
	France
	France
	Germany
	Greece
	Greece
	Hungary
	Hungary
	Hungary

Name	Country
	Ireland
	Ireland
	Italy
	Italy
	Italy
	Italy
	Lithuania
	The Netherlands
	The Netherlands
	The Netherlands
	Portugal
	Romania
	Romania
	Romania
	Slovakia
	Slovenia
	Slovenia
	Slovenia
	Switzerland
	Switzerland
	United Kingdom
	United Kingdom
	United Kingdom
	United Kingdom
	Pro Silva Board
	EFI

Reply

Feedback/ remarks and potentials for collaboration (free text)

Feedback was overwhelming and positive and the value of networking and cooperation was clearly demonstrated. The potential for cooperation and joint research projects with partners from Romania was welcomed. Especially the presentation of the tree microhabitat phone app and the printed 'Tree Microhabitat Catalogue' proved to be of very high interest and used during the visit of the primeval forest. It stimulated a discussion on the role of such habitat structures also in managed forests. Focus was further on the topic of good forest governance. Good practices and experiences collected in other countries would be seen as highly supportive. It was thus regarded as important not to have a too long gap with follow-up cooperation and project ideas in order to keep the momentum.

Docs

Documentation

Documents/tools

- Integrate publication in German, English and French
- I+ tree microhabitat catalogue and phone App (EN, DE)

Other

- The Pro Silva Declaration
- Articles in "Dauerwald"
- ProSilva Europa website
- News article on website
- Feedback report from participants (internal document)
- Photos at google photo albums

Photo (Alexander Held)

- Beech stand that is managed by the Forest Research Institute. Due to the regular sanitary fellings, hardly any habitat structure were present ('Marin Dracea'- research plots Mihaiesti)

Photo (Alexander Held)

- Padurile Sincii forest reserve (primeval forest) as an excellent reference forest for observing a multitude of tree related microhabitats. The tree microhabitat catalogue and the corresponding phone app were tested and discussed.

Photo (Alexander Held)

- Padurile Sincii: Observing natural gap dynamics in a beech and silver fir forest.

Title - Field trip with University students to the Marteloscope Ravna gora

Where

Location
Ravna gora – Gorjanci, Slovenia

Name of Marteloscope
Ravna gora

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [X]
Presentation [X] Other [ ]

Aim of activity
The aim of the field trip was to present the concept of Marteloscopes to students of the University of Ljubljana (Department of Forestry). Using the Marteloscope Ravna gora the students were introduced to purpose and use of such sites for training and education and the corresponding I+ software application. An important goal of the teachers was to raise attention to the importance of tree microhabitat structures for forest biodiversity and how they may be integrated into managed forests.

Further details
A field trip was performed with forestry students on the 1st of December 2017. Despite high snow cover the group visited the Ravna gora Marteloscope. The students were educated on the role and of tree microhabitat structures and their importance for many forest dwelling species. In managed forests such structures are often rare or even missing. The Integrate+ tree microhabitat catalogue was applied for showing different examples. Also the I+ mobile phone app of the tree microhabitat catalogue was used. The students were shown existing examples of tree microhabitats on living and dead trees including e.g. woodpecker cavities, mould cavities, exposed sapwood, branch holes and other features. Following this, the teachers explained the concept and use of Marteloscopes. The group discussed the data available for the Marteloscope Ravna gora and discussed besides other issues habitat and economic values at example trees on the site. Further The "I+" software running on portable tablet devices was explained and demonstrated. Unfortunately, the data of the Marteloscope Ravna gora was not available via the tablets at the time so examples of virtual tree selections were shown for the second Slovenian Marteloscope Pahernik.

Who

Participants [12] of whom from EFI [0]
One country [ ] multi-national [X]
Country/countries of origin: Slovenia, Spain

Participants further details
Kristina Sever was part of the Integrate+ project team as a trainee during her Erasmus+ practice work in 2015.

Participant list

Name	Affiliation
	Slovenian Forestry Institute
	University of Ljubljana, Department of Forestry
	University of Ljubljana, Department of Forestry
	University of Ljubljana, Department of Forestry
	University of Ljubljana, Department of Forestry
	University of Ljubljana, Department of Forestry
	University of Ljubljana, Department of Forestry
	University of Ljubljana, Department of Forestry
	University of Ljubljana, Department of Forestry
	University of Ljubljana, Department of Forestry
	University of Ljubljana, Department of Forestry
	University of Ljubljana, Department of Forestry

Reply

Feedback, remarks and potentials for collaboration

Gorjanci area in which the Ravna gora Marteloscope is located is very suitable for field trips and excursions, due to a variety of different forest types, natural attractions, protected areas, research and demonstration plots and the possibility to utilise the Marteloscope for targeted training and educational events.

Docs

Documentation

Documents/tools

- Marteloscope booklet Ravna gora
- Excursion field guide Gorjanci
- I+ tree microhabitat catalogue (Slovenian)
- I+ tree microhabitat catalogue (mobile phone App)
- I+ tablet software

Photo (excursion participant)

- Student group at the Ravna gora Marteloscope in Slovenia

Title - Forest extension service organisations visit the Jägerhäuschen Marteloscope

Where

Location
Regional Forestry Department Rhine-Sieg-Erft, near Bonn, Germany

Name of Marteloscope
Jägerhäuschen

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [ ]
Presentation [**X**] Other [Field excursion]

Aim of activity
To introduce the Marteloscope as a potential educational and training tool for forest extension services who advise and support private forest owners in conducting forest management on their properties.

Further details
The European network of 'Forest Extension Service' experts held their first meeting in Bonn 22 - 23.01.2018. Forest Extension Service experts are senior members of organizations that provide support to private forest owners from the side of the state (e.g. departments within ministries, chambers) or as independent organizations (e.g. the French National Center for Forest, the Finnish Forest Centre). Their interests were to learn about what type of approaches may help them in supporting small-scale forestry, be it training and education of private forest owners, supporting their associations or subsidy schemes.

Following a day of presentations at the EFI Bonn office, the 23.01.2018 was dedicated to an excursion to Kottenforst which located in the Regional Forestry Department Rhine-Sieg-Erft, North Rhine Westphalia. Jointly with representatives of the regional forest department visits were conducted to the Jägerhäuschen Marteloscope and a private forest property. Participants were introduced on what are Marteloscopes and how the can be applied in different context. At the second stop they learned from the regional forest district forester on how they support private forest owners in their management in their region.

Who

Participants [**35**] of whom from EFI [6]
One country [ ] multi-national [**17**]
Country/countries of origin: Belgium, Bosnia and Herzegovina, Croatia, Denmark, Estonia, Finland, France, Germany, Ireland, Latvia, Norway, Serbia, Slovak Republic, Spain, Sweden, United Kingdom, Albania (observer country)

Participants further details
See participant list for more details.

Participant list

Name	Affiliation
	Forestry Commission, United Kingdom
	SKOGKURS - Forestry Extension Institute, Norway
	Catalonia Ownership Forest Centre, Spain
	Foundation Private Forest Centre, Estonia
	Ministry for Environment, Agriculture, Conservation and Consumer Protection NRW, Germany
	Public Enterprise for Forest Management Srbijasume, Serbia
	Ltd Latvian Rural advisory and Trainong centre - Forest Consultancy Services Center, Latvia
	Ministry of Agriculture and Rural Development of Slovak Republic
	Teagasc, Ireland
	Advisory Service Croatia
	Swedish Forest Agency, Sweden
	Centre National de la Propriété Forestière, France
	Teagasc, Ireland
	CPF, Spain
	Diputacion Foral de Bizkaia, Spain
	Ministerium für Ländliche Entwicklung, Umwelt und Landwirtschaft, Germany
	University of the Highlands and Islands, United Kingdom
	MAS ABOGADOS, Spain
	University of Freiburg - Chair of Forest and Environmental Policy, Germany
	Finnish Forestry Centre, Finland
	EUSTAFOR, Belgium
	Forestry Environmental Action – FEA, Bosnia and Herzegovina
	Danish Forestry Extension, Denmark
	CNVP, Albania
	Wald und Holz NRW, Germany
	Finnish Forest Centre, Finland
	CNPF, France

Name	Affiliation
	Regional Forestry Department Rhine-Sieg-Erft, Germany
	Regional Forestry Department Rhine-Sieg-Erft, Germany
Johanna Strieck	EFI
Agata Konczal	EFI
Enni Kallio	EFI
Marko Lovrić	EFI
Nataša Lovrić	EFI
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

The feedback from the excursion participants was overall positive. Participants expressed that Marteloscopes are suitable tools for use in education and training for different forest actors. Especially in combination with the tablet software which provides the results of virtual tree selection exercises on site it was noted that "the exchange amongst participants becomes more objective and fact based". Further they expressed that "Marteloscopes could serve as a valuable tool in their work with private forest owners" especially "in better understanding the effects of management decisions".

They thanked the Regional Forestry Department Rhine-Sieg-Erft for the opportunity to learn about forest management in North Rhine Westphalia and receive insight into their work and assistance of private forest owners. They thanked EFI-Bonn for the introduction to Marteloscopes. A number of organisations expressed to stay in contact with EFI Bonn experts as they may consider Marteloscopes a valuable asset in their work with private forest owners and forest associations. Further they asked for access to relevant documentation (publications and field guide material) and the Integrate+ Film. Those will be provided to all participants jointly with the written meeting outcomes.

Docs

Documentation

Documents/tools

- Marteloscope booklet Jägerhäuschen
- I+ tree microhabitat catalogue (phone App)
- I+ tablet software (presented)

Other

- EFI Bonn Resilience Blog entry

Photos (Johanna Strieck and Agata Konczal)

- Lively discussion at the Marteloscope Jägerhäuschen

Title – 2nd meeting of the European Policy Network INTEGRATE

Where

Location
Plzeň, Czech Republic

Name of Marteloscope
Královský hvozd

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [ ]
Presentation [ ] Other [field excursion, workshop]

Aim of activity
This 2nd meeting of the European Policy Network INTEGRATE addressed on options for payment schemes for Integrative forest management and what are suitable communication tools to address different stakeholder groups. The further development and used of Marteloscopes was a further central topic of the meeting

Further details
Visit to Marteloscope demonstration site in the Czech Republic for stimulating the discussion on the issues related to the integration of nature conservation into sustainably managed forests („Královský hvozd" Marteloscope (spruce, fir, beech) with the initial phase of regeneration at 950 m a.s.l.). The Marteloscope was explained as well as the I+ software. The participnats werr then asked to test it on selected trees. In the joint discussion ideas for further development of the concept of Marteloscopes were addressed. Further approaches to bark beetle control in relation to nature protection (examples in the Šumava National Park and its buffer zone, set-aside vs. actively managed forests) were on the excursion programme. ON the follwong days a worshop was conductewith short presentations by country representatives, the European Commission, EFI Bonn and other organizations followed by a World Café with two groups (group 1: How could the European Network INTEGRATE contribute to the development of pragmatic evaluations and payment schemes for nature protection activities integrated in forest management?; Group 2: How should the integrative approaches be communicated to various stakeholders and target groups and how far can the Marteloscope sites be used to that end?

Who

Participants [**49**] of whom from EFI [4]
One country [ ] multi-national [**X**]
Country/countries of origin: Austria, Belgium, Czech Republic, Estonia, Finland, Germany, Lithuania, Poland, Serbia, Slovakia, Spain, Switzerland

Participants further details
Participants represented, administrations, forest management, European organisations / processes /associations.

Participant list

Name		Organisation
		Forest Management Institute, Czech Republi
		Ministry of Agriculture
		Ministerstvo zemědělství
		Pro Silva Austria / Pro Silva Europa
		BMEL
		ÚHÚL
		ÚHÚL
		ÚHÚL
		Austrian Research Centre for Forests
		ÚHÚL
		Ministry of the Environment of the State of North Rhine-Westphalia
		Mipaaf
Gesche	Schifferdecker	EFI
		Ministry of Agriculture
		Head of Division III/4, Ministry of Sustainability and tourism
		Divistion III/4, Ministry of Sustainability and Tourism
		FOREST EUROPE
Georg	Winkel	EFI
		département nature et forêts - Wallonie - Belgique
		Ministry of Agriculture
		LESY SR š.p. Banská Bystrica
		LESY SR š.p. Banská Bystrica
		Ministry of Agriculture
		Ústav pro hospodářskou úpravu lesů Brandýs nad Labem
		Ústav pro hospodářskou úpravu lesů Brandýs nad Labem
		Ústav pro hospodářskou úpravu lesů Brandýs nad Labem

Name		
		BfN (Bundesamt für Naturschutz)
		Czech University of Life Sciences, Faculty of Forestry and Wood Sciences, Dept. Forest Ecology
		Finnish Forest Centre
		JSC " Latvia's State Forests
		Ministry of Agriculture and Rural development of the Slovak Republic
		Botanický ústav AV ČR
		Výzkumný ústav lesního hospodářství a myslivosti, v.v.i.
		Forestry and Game Management Research Institute
		Ministry of the Environment
		Spanish Ministry for Agriculture and Fisheries, Food and Environment
		Forestry and Game Management Research Institute (FGMRI) / Pro Silva Bohemica
		Czech University of Life Sciences
		KINSKÝ Žďár a.s.
		Directorate General of the State FOrests
		Directorate General of the State Forests
		Directorate General of the State Forests
		Štátne lesy Tatranského národného parku Tatranská Lomnica
		Štátne lesy Tatranského národného parku Tatranská Lomnica
		Štátne lesy Tatranského národného parku Tatranská Lomnica
		WSL
Andreas	Schuck	EFI
Filip	Aggestam	EFI

Reply

Feedback/ remarks and potentials for collaboration (free text)

The outcomes of the workshop and the field trip are summarised in the European Policy Network INTEGRATE workshop report.

Docs

Documentation

Documents/tools

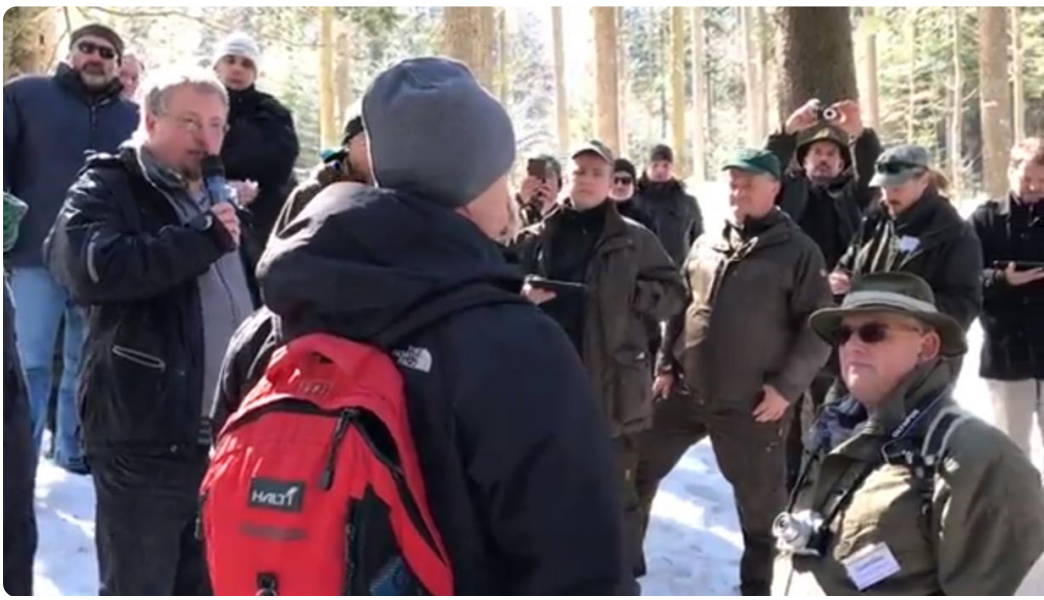
- I+ tree microhabitat catalogue (EN, CZ)
- I+ software

Other

- Meeting report
- Resilience blog entry
- You tube video

Photos (Gesche Schifferdecker)

- Visit to the Královský hvozd" Marteloscope



Title - Marteloscope Manager Workshop

Where

Location
Steigerwaldzentrum, Handthal Germany

Name of Marteloscope
Steinkreuz

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [ ]
Presentation [ ] Other [Workshop and field excursions]

Aim of activity
Bringing together Marteloscope managers to develop next steps for improving both application of Marteloscopes and the corresponding "I+" software.

Further details
The workshop intended to provide Marteloscope managers and experts the opportunity to meet one another and share your experiences with their Marteloscopes. It addressed (1) what type of activities have been implemented/are planned, (2) what kind of feedback was received from events in Marteloscopes, (3) what are further plans of using Marteloscopes in the future and (4) and what would be useful further developments to better serve your needs in working with Marteloscopes. The workshop allowed to learn about the "I+" software and exchange with the IT developers on what further software features and applications would be required. Those included e.g. user interface, data management, exercise analysis and software evaluation tools. Thus the workshop intended to move towards enhancing the use of Marteloscope sites for practical training, education and stimulate use in research. Two excursions took place including a visit to the Marteloscope "Steinkreuz". Further stops were the so called ABC-level thinning experiment which is one of the world's oldest forest research plots. The aim was to test different thinning intensities. Last stop of the first excursion day was the strict forest reserve "Kleinengelein". It is an old beech forest and described in forestry literature as a one of a kind stand in Germany concerning dimensions and qualities and has received world-wide fame. During the last an optional excursion was offered. It included stops a stop at the strict forest reserve Brunnenstibe (old beech stand strongly affected by wind damage) a stand dominated by old oaks, a valley covered in wild garlic and a rocky outpost of the forest dominated by the castle ruin, the Zabelstein.

Who

Participants [44] of whom from EFI [9]
One country [ ] multi-national [12]
Country/countries of origin: Czech Republic, Finland, France, Germany, Hungary, Italy, Luxembourg, Poland, Russian Federation, Slovenia, Sweden, Switzerland

Participants further details
Participants from 11 countries representing forest administrations, ministries, forest services and forest district offices, research institutions, universities, nature conservation agencies took part in the workshop.

Participant list

Name	Affiliation
	Lesy CR
Filip Aggestam	EFI
	FH Erfurt
	Nature et Forêts
	Slovenia Forest Service
	AgroParisTech
	Irstea
	Bükk National Park Directorate
Jakob Derks	EFI
	SYCOPARC / Parc Naturel Régional des Vosges du Nord
	Ministerium für Ländliche Entwicklung, Umwelt und Landwirtschaft
	BMEL
Agata Konczal	EFI
	BaySF
	Federal Ministry Food and Agriculture
	Swiss Federal Institute for Forest, Snow, and Landscape Research, WSL
	Lesy CR
	Stadtwald Göttingen
	Nature et Forêts
	Ministry for Environment, Agriculture, Nature Conservation and Consumer Protection, NRW
Marcus Lindner	EFI
	BaySF
	Staatsbetrieb Sachsenforst
	TUM
	Chair of Silviculture, Uni Freiburg
	Nature et Forêts
	Landesforsten Rheinland-Pfalz
	University of Molise
	Staatsbetrieb Sachsenforst
Andreas Schuck	EFI
	Swiss Federal Institute for Forest, Snow, and Landscape Research WSL
	Wald und Holz NRW

Name	Affiliation
	Slovenian Forestry Institute
	Nature et Forêts
	AELF Fuerth
	LIFE+ Projekt Villewälder
Tommi Suominen	EFI
	Lesy CR
	BFH-HAFL
Simo Varis	EFI
Georg Winkel	EFI
	Landesforsten Rheinland-Pfalz
	Landesbetrieb Forst Baden-Württemberg Fachbereich Waldbau, Waldschutz, Klimawandel
Sergey Zudin	EFI

Reply

Feedback, remarks and potentials for collaboration

Group work yielded a multitude of ideas and options for further developing the Marteloscopes and the I+ software. Many of these ideas were discussed also in more detail during the field trip to the Steinkreuz Marteloscope. Note that all presentations of this vent can be accessed at as well as a workshop report.

Docs

Documentation

Documents/tools

- Marteloscope booklet Steinkreuz
- Excursion guide Steigerwald
- I+ tree microhabitat catalogue (German, English)

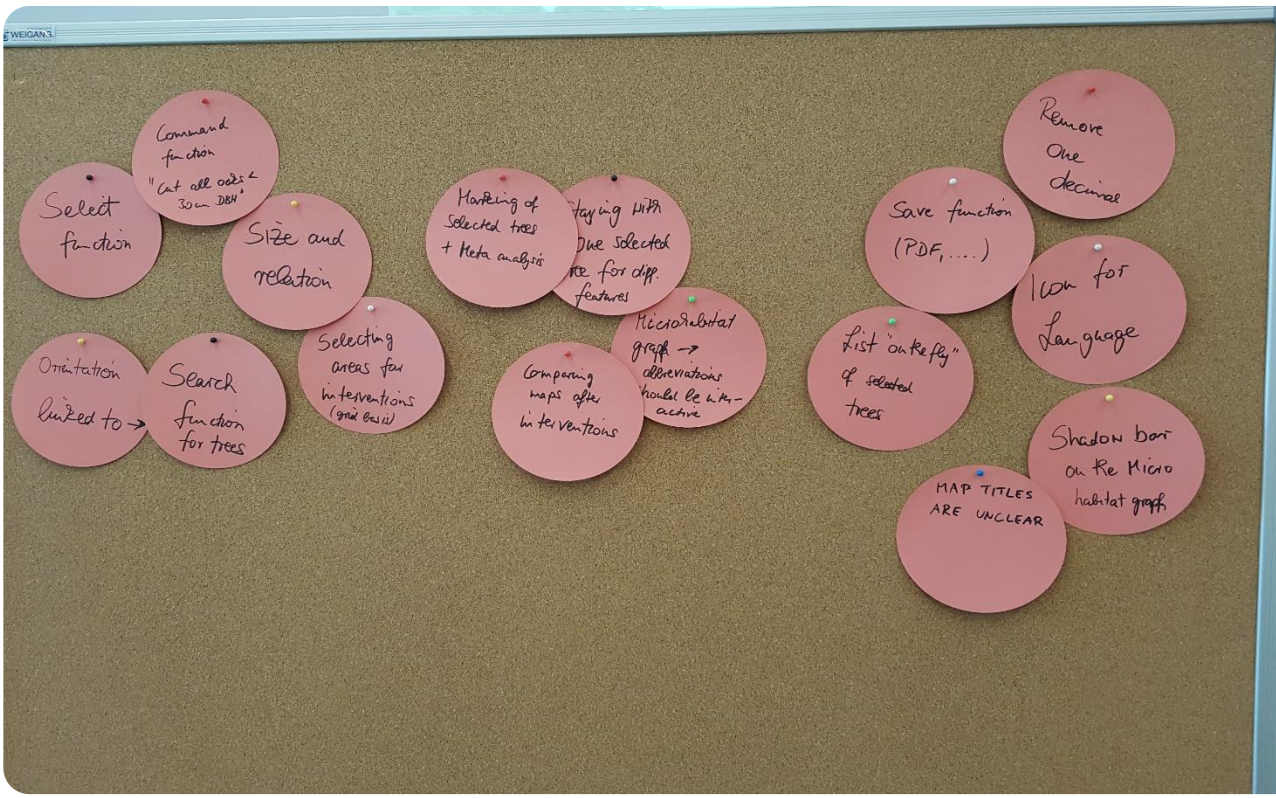
Other

- News article published on Bonn officer Resilience Blog
- Newspaper article

Photo (Agata Konczal, Andreas Schuck, Klaus Striepen, Andreas Schuck)

- (1) Presentation at the Steigerwaldzentrum; (2) group work; (3) visit to the Steinkreuz Marteloscope; (4) Visit to the strict nature reserve “Brunnenstube”


EUROPEAN FOREST INSTITUTE
INFORMAR


Command function
"cut all trees < 30 cm DBH"
Select function
Size and relation
Selecting areas for interventions (grid basis)
Orientation limited to →
Search function for trees
Marking of selected trees + Meta analysis
Staying with one selected tree for diff. features
Comparing maps after interventions
Microhabitat graph → abbreviations should be interactive
Remove one decimal
Save function (PDF, ...)
Icon for Language
List "on the fly" of selected trees
Shadow bar on the Micro habitat graph
MAP TITLES ARE UNCLEAR

Title – Belgian foresters visit Marteloscope in Gorjanci, Slovenia

Where

Location
Gorjanci forest

Name of Marteloscope
Ravna gora

What

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [ ] Education [ ]
Presentation [ ] Other [field excursion]

Aim of activity
The aim of this field trip was to show to the group of Belgians foresters and forest owners the forests of Gorjanci region and implement a training exercise in the Marteloscope Ravna gora. Intention was highlight different types of forests during the field excursion (old growth forest reserve Ravna gora, forest reserve Kobile and managed forest) and explain how forests are managed in Slovenia.

Further details
30th May we organised a field trip to Gorjanci. 41 participants attended the field trip and Marteloscope visit. 35 were part of a Belgian group (foresters, forest owners, nature conservation representatives, other) and 6 participants from Slovenia. First stop was the old growth forest reserve Ravna gora. It is a beech forest under strict protection. The local forester Jože Smolič (SFS) gave insight to this old growth forest. Thomas Andrew Nagel (University of Ljubljana) explained the natural processes in old growth forests including natural disturbances, natural regeneration, course woody debris, etc. At the second stop was at the forest owned and managed by the Monastery Kartuzija Pleterje. The local forester Jože Smolič (SFS) explained in this context the management system applied in Slovenia and how he implements it in his daily work (selection of trees for cutting). The Marteloscope Ravna gora is also located in this forest. Kristina Sever from SFI introduced the Marteloscope and Integrate+/Informar project. The information and data collected for the Marteloscope Ravna gora were discussed by visiting selected trees. The role of microhabitats was also explained. Kristina then showed the functionalities of the "I+" software. The introduction was followed by a Marteloscope training exercise using the I+ tablets. The participants were divided into groups and given instructions for the exercise. Once finished, the groups jointly discussed their results with the local forester. The last point of the excursion was Kobile forest reserve. Marjan Grah (SFS) presented also the history of the surrounding valley, natural features, conservation status and the challenges that they have to deal with.

Who

Participants [41] of whom from EFI [0]
One country [ ] multi-national [X]
Country/countries of origin: Belgium, Slovenia, Argentina

Participants further details
35 participants from Belgium as a part of the Inverde excursion. They were mainly forest owners, foresters, nature conservation representatives. The Slovenian Forestry Institute organized the excursion in collaboration with experts from SFS and University. A visiting professor from Argentina also participated in the excursion.

Participant list

Name	Affiliation
Name	**Affiliation**
	Slovenian Forestry Institute
	Slovenian Forest Service
	Slovenian Forest Service
	University of Ljubljana
	Inverde
	Inverde
	Instituto de Biología Subtropical, Argentina (IBS)
	Slovenian Forest Service
	Various organisations, private forests

Reply

Feedback, remarks and potentials for collaboration

The Belgians group was very satisfied with the field trip. Their feedback was overall positive. They said that this particular day (being one of the full week excursion trip) was in terms of information and forest sites they were able to see highly diverse. The opportunity with the Belgian group was also very useful for us, as it was also our first full training course implemented in our Marteloscopes in Slovenia. It was useful for us to better understand how to organize training events and on what to focus most. Some of the Slovenian participants have now also a better understanding on how to apply the Marteloscope as a tool for training and extensively discussed potentials of collaboration with Slovenian Forest Service. They are now seriously considering the use of Marteloscopes for training of local foresters and possibly other target groups.

Docs

Documentation

Documents/tools

- Gorjanci demo site booklet and field guide
- Info sheet Ravna gora
- I+ tree microhabitat catalogue (EN and SLO)
- I+ tablet software

Results from Marteloscope exercises

- Four exercise results: (internal documents)
  Unfortunately we did not save the results. The instructions given to the participants were to do a thinning as explained by the local forester. Also leaving habitat trees and trees with important tree microhabitats was asked.

Other

- News article published on EFI website (resilience blog)
- The news about the first Marteloscope training implemented in Slovenia published in Slovenian forestry magazine Gozrarski vestnik

Photo (Boris Rantaša)

- Kristina Sever (SFI) presenting the Marteloscope and I+ Trainer.

Photo (Boris Rantaša)

- Participants discussing tree selections.

Photo (Boris Rantaša)

- Using the I+ Trainer in the field for implementing a training exercise.

Title – Scoping visit to Forest Enterprise Eibenstock, Saxony

Where

Location
Forstbezirk Eibenstock, Germany

Name of Marteloscope

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [ ]
Presentation [ ] Other [Meeting and excursion]

Aim of activity
Exchange of experiences and ideas on the effective use of Marteloscopes in the State Forest Enterprise Sachsen (Staatsbetrieb Sachsenforst)

Further details
Presentations on the forest enterprise Eibenstock and their experiences with Marteloscopes and the developed R- based training software were given. Students from the Univeristy of Applied Sciences Erfurt are currently working in the Forest Enterprise with a set of test sites in the forest district Eibenstock. Those should be further expanded to correspsond with the EFI Martelsocopes. EFI and BaySF (represented by Daniel Kraus) then gave insight to the outputs of the Integrate+ and the ongoing Informar project.
Following the discussions at the forest enterprise the two Marteloscope test sites were visited in the field. The group exchanged on how to cooperate and adapt the Eibenstock deomstration sites to the Integrate+ approach.

Who

Participants [12] of whom from EFI [1]
One country [X] multi-national [ ]
Country/countries of origin: Germany

Participants further details
Participants from the Forest Enterprise Eibenstock, the University Tharandt, State Ministry of Environment and Agriculture of Saxony, the Bavarian State Forest Enterprise - BaySF, and the European Forest Institute.

Participant list

Name	Affiliation
	Sachsen Forst
	Sachsen Forst
	Sachsen Forst
	Sächsisches Staatsministerium für Umwelt und Landwirtschaft (SMUL)
	University Tharandt
	Sachsen Forst, Thüringen
	University of Applied Science Erfurt
	BaySF
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

Outputs of the meeting and field visit was to increase cooperation through the establishment of tow Marteloscopes for the Integrate network. It was agreed that Sven Martens would take art in the upcoming Integrate Waldbau Workshop in July 2018 in order to exchange with silviculture trainers and academia on how to excel the use of Marteloscopes for silviculture training. It was also offered to have a close look at the R-script analysis package and how it could be linked to the I+ software.

Docs

Documentation

Documents/tools

- Tablet software
- Microhabitat catalogue

Photo (Andreas Schuck)

- Field visit to Marteloscope sites.

Title – Opening ceremony of the Viergemeindewald Marteloscope

Where

Location
Stipshausen, Rheinland Pfalz, Germany

Name of Marteloscope
Viergemeindewald

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [ ]
Presentation [ ] Other [Opening Ceremony]

Aim of activity
Official opening ceremony of the Viergemeindewald Martelscope in Stipshausen, Rheinland Pfalz Germany.

Further details
The Viergemeindewald Martelscope in Stipshausen was officially opened by the Head of the Forestry Section at the Rheinland Pfalz Ministry for Environment, Energy, Food and Forestry, Jens Jacob. He was followed by Georg Wilhelm and Manfred Witz who gave a detailed introduction to the site and it intended use. The Mayor as representative of the communal owners of the Viergemeindewald on which the Marteloscope was established expressed his excitement to have such a site in their communal forest and hopes it will be frequently used and that also the general public will have the chance to visit and learn at this site. Andreas Schuck presented the work in the projects Integrate+ and Informar and gave insight to the overall goal of the cross country project activities with Marteloscopes.

Who

Participants [approx. 20] of whom from EFI [1]
One country [**X**] multi-national [ ]
Country/countries of origin: Germany

Participants further details
Participants from the Rheinland Pfalz Ministry for Environment, Energy, Food and Forestry, Community representatives of Stipshausen, the Rheinland Pfalz Forest Research Institute for Forest Ecology and Forest Management and numerous representatives of forest administrations and state forest enterprises from Rheinland Pfalz.

Participant list

Name	Affiliation
	Ministerium für Umwelt, Energie, Ernährung und Forsten, Rheinland Pfalz
	Ministerium für Umwelt, Energie, Ernährung und Forsten, Rheinland Pfalz
	Communal administration
	Ministerium für Umwelt, Energie, Ernährung und Forsten, Rheinland Pfalz
	Landesforsten Rheinland Pfalz
	Landesforsten Rheinland Pfalz
	Forschungsanstalt für Waldökologie und Forstwirtschaft, Rheinland Pfalz
	Forest administrations, Rheinland Pfalz
	State forest enterprises, Rheinland Pfalz
Andreas Schuck	EFI

Feedback, remarks and potentials for collaboration

Reply

Documentation

Documents/tools

- Viergemeindewald information sheet
- I+ software

Other

- News article in local Newspaper
- Resilience Blog entry

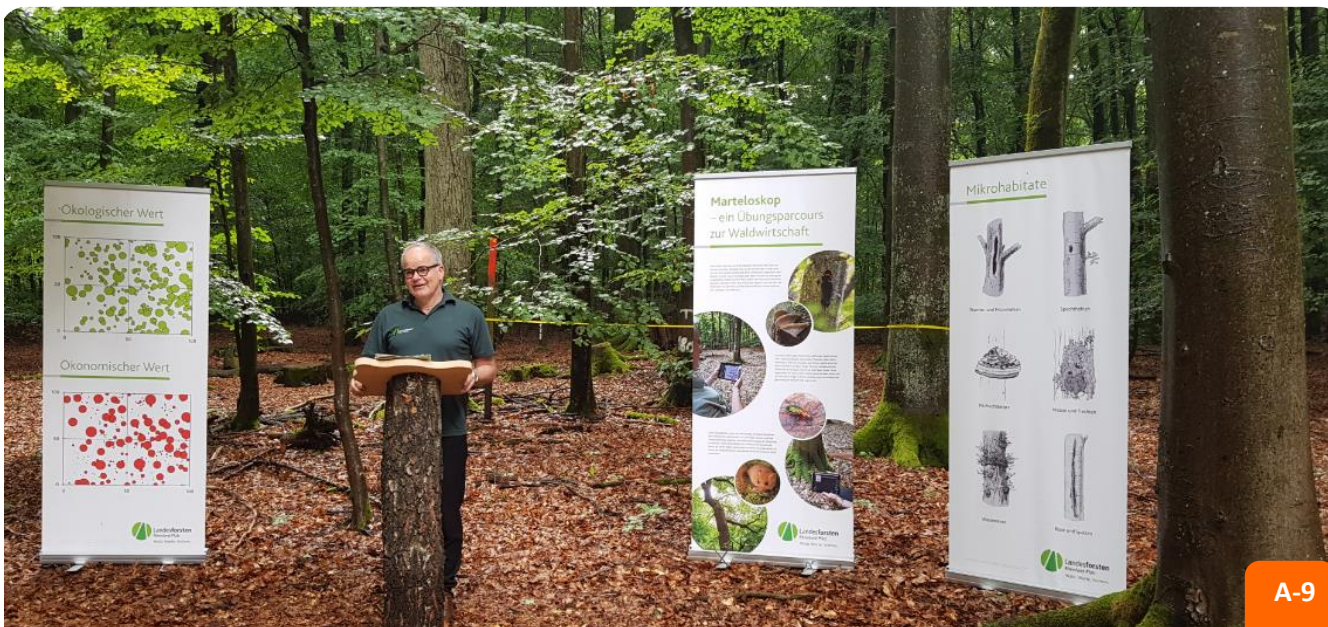
Docs

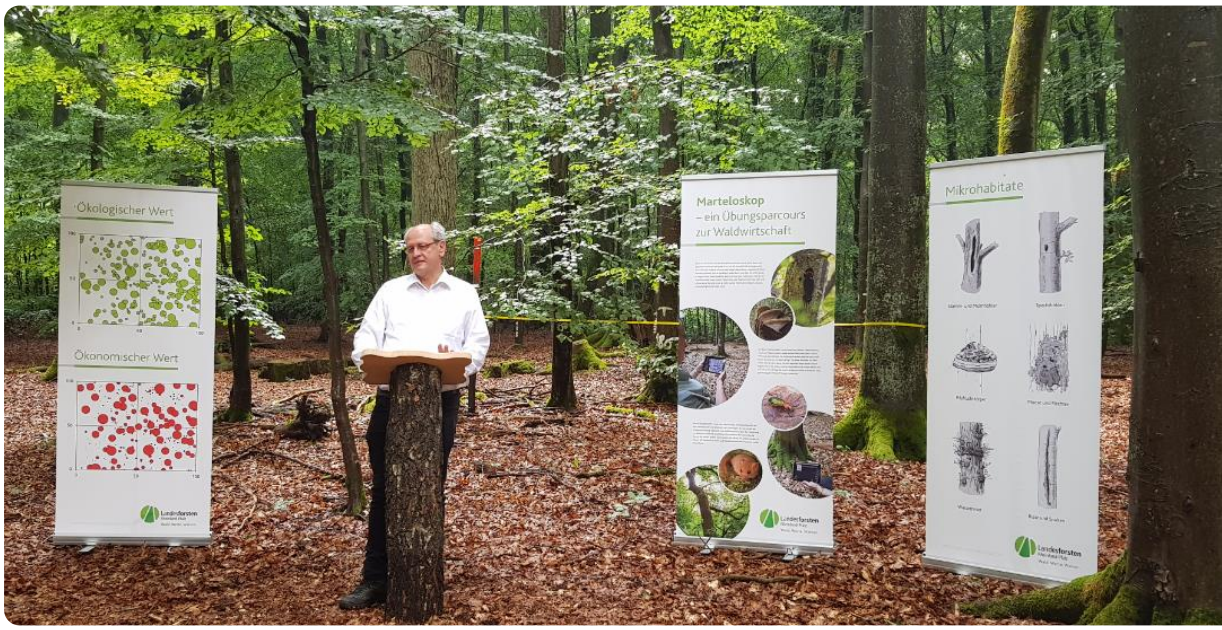

Kreis Birkenfeld

Marteloskop soll den Waldbau näherbringen

Photos (Andreas Schuck)

- Opening words by Jens Jakob, Georg Wilhelm and Manfred Witz




Ökologischer Wert
Ökonomischer Wert
Marteloskop
– ein Übungsparcours
zur Waldwirtschaft
Mikrohabitate


Ökologischer Wert
Ökonomischer Wert
Marteloskop
– ein Übungsparcours
zur Waldwirtschaft
Mikrohabitate

Title – Scoping visit of the Deutsche Gesellschaft für Internationale Zusammenarbeit - Akademie für internationale Zusammenarbeit and Haus der Natur - Bonn

Where

Location
Regional Forest District Office Rhein-Sieg-Erft;, North Rhine Westphalia, Germany

Name of Marteloscope
Jägerhäuschen

What

Activity type
Training [ ] Marteloscope exercise [**(X)**] Exchange of Experts [ ] Education [**X**]
Presentation [ ] Other [**excursion**]

Aim of activity
To present the Martelscopes and the I+ software as training tools

Further details
The GIZ/AIZ (https://www.giz.de/akademie/de/html/index.html) qualifies professionals and executives in international sustainable development cooperation to actively shape change and make knowledge available globally. The practice-oriented learning and further education offers of the academy are oriented towards the current trends in international cooperation and cover a broad spectrum: language courses, safety training prior to a foreign assignment, methods of conflict and project management, digital skills for project work and leadership development. The participants were interested if the Marteloscopes can be used for their training curricula especially in digital skills and project implementation and education.
Two representatives of the "Haus der Natur Bonn" were also present who were interested to see if they could use such demonstration sites in public education.
(http://www.bonn.de/umwelt_gesundheit_planen_bauen_wohnen/amt_fuer_stadtgruen/stadtwald/13651/index.html?lang=dec)

Who

Participants [**10**] of whom from EFI [1]
One country [1] multi-national [ ]
Country/countries of origin: Germany

Participants further details

Participant list

Name	Affiliation
	Deutsche Gesellschaft für Internationale Zusammenarbeit - Akademie für internationale Zusammenarbeit (GIZ/AIZ)
	GIZ/AIZ
	Haus der Natur, Bonn
	Haus der Natur, Bonn
	BMEL
	Wald und Holz NRW
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

GIZ/AIZ representatives expressed that they would investigate internally on how they could utilise Marteloscopes and the corresponding digital tools as a supplement to their training activities. Marteloscopes were seen especially interesting for such personnel going into forestry projects in developing countries. The representatives of "*Haus der Natur*" also very much liked the tool. They see good potential for use in their education programmes. It was agreed jointly between "Haus der Natur" Regional Forest District Office Rhein-Sieg-Erft and EFI to find an opportunity in the near future (e.g. activity day of the "Haus der Natur Bonn") to offer a educational visit to Jägerhäuschen and allow participants to experience first hand the work of a forest manager.

Docs

Documentation

Documents/tools

- Jägerhäuschen booklet and information sheet
- I+ software and tablets

Photos (Andreas Schuck)

- Introduction to the Marteloscope Jägerhäuschen and I+ software

Title – Workshop on IT supported silviculture training

Where

Locations
Workshop: European Forest Institute (EFI): Platz der Vereinten Nationen 7, 53133 Bonn, Germany; Field trip: Regional Forestry Department Rhein-Sieg-Erft, Bonn, Germany

Name of Marteloscope
Jägerhäuschen

What

Activity type
Training [ ] Marteloscope exercise [(X)] Exchange of Experts [ ] Education [ ]
Presentation [X] Other [field trip]

Aim of activity
The aim of the workshop and field trip was to exchange on the use of IT tools in silviculture training and to give input to the further development of the I+ software tool.

Further details
The workshop was organized by the European Forest Institute and the State Forestry Authority of North Rhine-Westphalia as part of a study in which the existing Integrate+ Software ("I+") is extended with a set of silvicultural parameters and supplemented by didactic training material. This project is closely related to the Informar project funded by the BMEL.
"I+" has already been widely used in silviculture training, which allows the integration of nature conservation aspects in multifunctional forest management. In the project supported by the Ministry of Environment, Agriculture, Nature and Consumer Protection of North-Rhine Westphalia it is envisaged to extend "I+" with silvicultural parameters such as site suitability and stability against disturbances.

Who

Participants [26] of whom from EFI [4]
One country [ ] multi-national [X]
Country/countries of origin: Germany, Switzerland

Participants further details
24 participants from 8 German Federal States and Switzerland took part in the workshop. They represented silviculture trainers, forest managers, representatives of administrations, research and nature conservation.

Participant list

Name	Affiliation
Marcus Lindner	EFI
	Stadtwald Göttingen
	LB WH NRW; Waldbau & FoVg
	Landesbetrieb Wald und Holz NRW
	MULNV NRW
	LIFE+ Projekt Villewälder
	Landesbetrieb Wald und Holz NRW
	MULNV
	Bayer. Landesanstalt für Wald und Forstwirtschaft
	Bayer. Landesanstalt für Wald und Forstwirtschaft
	Staatsbetrieb Sachsenforst
	Wald und Holz NRW
Andreas Schuck	EFI
	LB Wald und Holz NRW
	Landesforsten Rheinland-Pfalz
	HessenForst
	HNEE
	ForstBW, RP Freiburg
	TUM
	Landesbtrieb Forst Brandenburg, Landeskompetenz-zentrum Forst Eberswalde
	WSL
	Wald und Holz NRW
	Wald und Holz NRW
	Wald und Holz NRW
Alexander Held	EFI
Gesche Schifferdecker	EFI

Feedback, remarks and potentials for collaboration

Reply

The participants were invited to give presentations on their experiences in IT-supported forestry training and propose improvements for “I+”. The feedback was collected in group work sessions. Agenda, presentations and outcomes of the workshop can be found at the Informar website: https://informar.eu/silviculture-workshop-bonn

Docs

Documentation

Documents/tools

- Jägerhäuschen Booklet and Information sheet
- I+ software and tablets
- Tree Microhabitat Catalogue (German)

Other

- Article in Resilience Blog
- Video clip

Photos (Gesche Schifferdecker (1), Klaus Striepen (2, 3, 4), Andreas Schuck (4))

- Group photo; testing and discussing the “I+” software at the Marteloscope Jägerhäuschen

Title – Visit to the Marteloscopes in the Göttingen City Forest

Where

Location
Göttingen City Forest, Niedersachsen, Germany

Name(s) of Marteloscope(s)
Windelberg, Waak'sches Ufer

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [ ]
Presentation [ ] Other [**field trip**]

Aim of activity
Joint meeting of the City Forest Office Göttingen, Chair of Silviculture Göttingen University, State Forest Enterprise Reinhausen and University of Applied Sciences to discuss and plan joint use of the 5 Marteloscopes established in the City Forest Göttingen.

Further details
The City Forest Office has five Martelscopes established which are now ready for use.

Who

Participants [**7**] of whom from EFI [1]
One country [**X**] multi-national [ ]
Country/countries of origin: Germany

Participants further details
Participants from City Forest of Göttingen, University and University of Applied Sciences, the Forest Enterprise Reinhausen and the European Forest Institute.

Participant list

Name	Affiliation
	Head of Stadwald Göttingen
	Niedersächsisches Forstamt Reinhausen
	Chair of Silviculture – Göttingen University
	Incoming head of Stadwald Göttingen
	Incoming forest manager Stadtwald Göttingen
	Silvaverde
	Hochschule für Angewandte Wissenschaften Hildesheim / Holzminden / Göttingen
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

It was generally agreed to jointly utilise the Marteloscopes. The Chair of Silviculture – Göttingen University sees excellent potential to apply the site for the education of students. Especially also the possibilities to link the exercise results to growth simulators was very much supported. The City Forest sees the Marteloscopes as helpful tools not only for education and training foresters, forest owners but especially also their use for communicating forests, forest management and nature conservation to the general public. The city forest actually receives many visitors from Göttingen but also the surrounding area. It was agreed to ensure close cooperation also with the incoming Head of the City Forest Lena Dzeia who will take over from Martin Levin during the summer 2018. The Forest Enterprise Reinhausen expressed that they have close cooperation with the Chair of Silviculture – Göttingen University and the Hochschule für Angewandte Wissenschaften Hildesheim/Holzminden/Göttingen. After having now seen the city foerst Marteloscopes they will ensure to reactivate and further develop their two already partly established training sites. They are very similar in their set-up to the Integrate Martelscopes. In this way they could then complement the Göttingen City Forest Marteloscopes with additional forest types and management regimes. It was agreed to organise in the near future a follow-up meeting to develop a more formally agreed collaboration.

Docs

Documentation

Documents/tools

- "I+" Tablet software
- Marteloscope Information Sheets
- Tree Microhabitat Catalogue

Photo (Andreas Schuck)

- Visit to the Göttingen City Forest Marteloscopes.

Title – Saarland Ministry of Environment and Consumer Protection and SaarForst visit the Jägerhäuschen Marteloscope

Where

Location
Regional Forestry Department Rhein-Sieg-Erft, Bonn, Germany

Name of Marteloscope
Jägerhäuschen

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [ ]
Presentation [X] Other [Field excursion]

Aim of activity
To introduce the Marteloscope as a potential educational and training tool for training of foresters in Saarland.

Further details
Marteloscopes are currently distributed in half of the German states. Saarland wants to follow suit and establish at least 2 Marteloscopes in the region.
The day started with a presentation of the Regional Forest District Rhein-Sieg-Erft by Uwe Schölmerich, followed by an introduction to the Integrate+ Marteloscopes by Andreas Schuck (EFI). These presentations and the following discussion took place in the Regional Forest District Rhein-Sieg-Erft office premises.
Afterwards, the participants were introduced to the I+ Trainer Software in the field, having the opportunity to test the I+ software and tablets in the "Jägerhäuschen" Marteloscope. They also briefly visited the second Marteloscope "Venne" in the Kottenforst which is located in an old beech stand.
This field visit was followed by a final discussion round on how to proceed with the practical installation of Marteloscope sites in the State of Saarland.

Who

Participants [10] of whom from EFI [3]
One country [ ] multi-national [2]
Country/countries of origin: Belgium, Germany

Participants further details

Participant list

Name	Affiliation
	Wald und Holz NRW
	Wald und Holz NRW
	Ministerium für Umwelt und Verbraucherschutz
	Ministerium für Umwelt und Verbraucherschutz
	Ministerium für Umwelt und Verbraucherschutz
	SaarForst
	Biologische Station Bonn/Rhein-Erft
Andreas Schuck	EFI
Alexander Held	EFI
Jakob Derks	EFI

Reply

Feedback, remarks and potentials for collaboration

The participants were very positive about the presentations and the excursion. They acknowledged the user-friendliness of the software as an excellent tool for enhancing on-site fact-based discussions on forest management.

The representatives from the Saarland Ministry of Environmental and Consumer Protection expressed their motivation to install at least two Marteloscope sites and to have potential sites selected by the end of September. They requested the assistance of EFI in this process.

They also thanked the Regional Forestry Department Rhine-Sieg-Erft for the warm welcome and the valuable insight into their work and assistance of private forest owners. Finally they invited EFI and the Regional Forestry Department Rhine-Sieg-Erft to continue cooperating and to organise a return visit to Saarland and once the Marteloscopes are installed hopefully a joint exercise.

Docs

Documentation

Documents/tools

- Marteloscope booklet Jägerhäuschen
- I+ tree microhabitat catalogue (phone App)
- I+ tablet software (presented)

Photos (Andreas Schuck and Jakob Derks)

- Introduction to the I+ software followed by tree selections and lively discussions


302

Title – Metsään meni – into the forest: Finnish delegation visits Bonn

Where

Location
EFI Bonn Office, Regional Forest Enterprise Rhein-Stieg-Erft, Kottenforst North Rhine Westphalia, Germany

Name of Marteloscope
Jägerhäuschen

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [ ]
Presentation [ ] Other [indoor presentations and field excursion]

Aim of activity
To give background on the work of the 'Integrate Policy Network' and present the use of demonstration sites: for education and targeted training, the exchange on forest management approaches and on options of integrating nature conservation measure to managed forests.

Further details
The delegation from the Finnish Ministry of Agriculture and Forestry was hosted by the BMEL for bilateral talks which was followed by a visit to the EFI Bonn Office. Following a brief introduction on what the EFI Resilience Programme does, the delegates had the opportunity to visit the possibility to visit the Regional Forest Enterprise Rhein-Stieg-Erft. Uwe Schölmerich, head of the forest enterprise, gave a brief introduction to the Kottenforst district which is located right outside the City of Bonn. It hosts also the Marteloscope 'Jägerhäuschen'. Andreas Schuck provided background on the Integrate policy network and the distribution of currently existing demonstration sites established in more than 10 European countries. How can such demonstration sites be used for training, exchange of management approaches? Such topics were conveyed to the Finnish delegation using also the tablet based software package "I+". The demonstration was followed by a lively discussion.

Who

Participants [9] of whom from EFI [2]
One country [ ] multi-national [X]
Country/countries of origin: Finland, Germany

Participants further details
All three participants were with the Finnish Ministry of Agriculture and Forestry. Juha Niemelä is the 'Head of the Natural Resources Unit'. Heikki Granholm works as 'Forest Counsellor' at the Ministry while Teemu Seppä fills the position of 'Senior Adviser'. The German Federal Ministry of Food and Agriculture was represented by Axel Heider (Secretary 'Forestry Department'), Matthias Schwoerer (Head of Unit International Forest Policy) and Aljoscha Requardt (Senior Advisor).

Participant list

Name	Affiliation
	Finnish Ministry of Agriculture and Forestry
	Finnish Ministry of Agriculture and Forestry
	Finnish Ministry of Agriculture and Forestry
	German Federal Ministry of Food and Agriculture
	German Federal Ministry of Food and Agriculture
	German Federal Ministry of Food and Agriculture
	Regional Forest Enterprise Rhein-Stieg-Erft
Laura Nikkinmaa	EFI
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

Despite obvious differences between German and Finnish forest ecology and management, many of the faced challenges are similar. Bark beetles have been causing damages in both countries for many years while the exceptionally hot and dry summer brought forest fires very prominently to the agenda. Halting the loss of biodiversity is also a very important part of current forest management and planning. The use of demonstration sites was stressed by all participants as highly relevant for use in education and providing a place for dialogue between various interest groups on many different aspects of forest management. The Finnish delegates emphasised that for their work it would be very helpful to have available a carbon sequestration component within the I+ software. That would allow to visualise how forest management decisions affect carbon balance and how wood products from harvested timber contribute to storing carbon over many years. The delegates expressed that they will investigate possibilities of joining the 'European Demonstration Site Network', be it with a site based on the 'Marteloscope' set-up or another best suited for training, education and as a place of exchange and dialogue for different forest actors.

Docs

Documentation

Documents/tools

- Marteloscope booklet Jägerhäuschen
- I+ tree microhabitat catalogue (English)
- I+ tablet software

Other

- Blog post: https://resilience-blog.com/2018/09/04/metsaan-meni-into-the-forest-the-finnish-delegation-visits-bonn/

Photos (Laura Nikkinmaa)

- Visit to the Kottenforst including a stop at the Marteloscope Jägerhäuschen

Title – Slovak foresters visit Gorjanci region and the Ravna gora Marteloscope

Where

Location
Gorjanci Region, Slovenia

Name of Marteloscope
Ravna gora

What

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [ ] Education [X]
Presentation [X] Other [field excursion]

Aim of activity
The aim of the field trip was to present to a group of Slovakian foresters and forest owners the forest of the Gorjanci Region, including a visit to the Ravna gora Marteloscope and implement a training exercise. During the field trip the participants visited also the forest reserve Kobile and managed forests nearby in order to visualise different management approaches in Slovenian forests.

Further details
On 7th of September we organised a field trip to Gorjanci. 47 participants took part of which 43 were from Slovakia (Members of Slovak Forestry Chamber). Four participants were from Slovenia. First point was the presentation of a managed forest owned by private forest owner Monastery Kartuzija Pleterje. Andrej Breznikar from Slovenia Forest Service (SFS) presented the management system in Slovenia, the organisation of SFS, principles of management, disturbances etc. Local forester Jože Smolič (SFS) presented the area and surrounding forests and he explained how he does his work (selection of trees for cutting; single or group tree selection). The Marteloscope Ravna gora is also located in this forest. Kristina Sever from the Slovenian Forestry Institute (SFI) presented the Marteloscope and the corresponding Integrate+ project. The data and results of Marteloscope Ravna gora were discussed and tree microhabitats presented. Some actual examples were shown on nearby trees. The participants then performed a simplified training exercise using the I+ Trainer tablet software. Due to the large number of participants they were divided into groups and given the instructions how to use a tablet with I+ trainer. They walked through the Marteloscope site and tested the software application with a number of trees. Once finished, they discussed potentials of hand held software tools for training in forest stands. Advantages were identified and where there is room for further improvement. Next stop was Kobile with a view into the Kobile valley. Kristina Sever presented the history of the valley, natural features, conservation status and resulting challenges. On the way the group crossed the restored overgrowing meadow protected by Natura 2000, which is a part of a project "Life to Grasslands". There discussion emerged on measures of maintenance of important habitat types, in this case – grasslands.

Who

Participants [47] of whom from EFI [0]
One country [ ] multi-national [X]
Country/countries of origin: **Slovenia, Slovakia**

Participants further details

43 participants from Slovakia took part. They were Members of Slovak Forestry Chamber and represented forest owners, foresters from State Forest Enterprises as well as private forest companies. The SFI organized the field excursion to Bohinjska Bistrica and Gorjanci. Other participants from the Slovenia Forest Service actively participated as guides.

Participant list

Name	Affiliation
	Slovenian Forestry Institute
	Slovenian Forest Service
	Slovenian Forest Service
	Slovenian Forest Service
	State Forest Enterprises, private forest owners associations, private forest companies

Reply

Feedback, remarks and potentials for collaboration

The Slovak group was very satisfied with the field trip. Their feedback was consistently positive. As foresters they enjoyed working in the field with the new technology (I+ Tablet software). This opportunity was very useful for us too, since we are learning on how to best implement Marteloscope training courses. It was useful for us to see how to organize training events and on what we should focus. The Slovenian participants had also seen for the first time how training can be performed. Discussions started on potentials for collaboration. The Slovenian Forest Service voiced that Marteloscopes have good potential to be applied in training events e.g. for local foresters. They will investigate options.

Docs

Documentation

Documents/tools

- Gorjanci demo site guide and information sheet 'Ravna gora'
- Tree Microhabitat Catalogue (EN and SI) and the I+ tablet software

Photo (Katja Kunc - SFI)

- Introduction to the Marteloscope Ravna gora and I+ Trainer software.

- Participants discussing tree related microhabitats (Katja Kunc).

- Applying the I+ Trainer software in the Marteloscope Ravna gora (Kristina Sever SFI).

Title – Expert visit from Ireland to investigate collaboration

Where

Location
Freiburg City Forest, Germany

Names of Marteloscopes
Mooswald and Rosskopf

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [X] Education [ ]
Presentation [ ] Other [Discussion on collaboration and field visits]

Aim of activity
The aim of the visit was to exchange on experiences with Marteloscopes and their use for education and training. Possibilities for collaboration in the future were on the agenda and if and how Irish Marteloscopes may be linked to the Integrate+ demonstration site network .

Further details
Ireland has extended experiences with Marteloscopes. According to Ted Wilson Marteloscope sites have been dormant for quite some time. There are ideas to re-activate and further develop them. They are established using the AFI protocol. It was thus interesting for him to get insight on the Integrate+/Informar projects and on possibilities of integrating Irish sites within a wider exiting site network. Major focus in Ireland lies on training in stand dynamics and tree marking. Ted noted that they are looking at a range of methods for researching this, and developing new guidelines for woodland owners and foresters. Plans are to make more use of the exiting Marteloscope network for training events, from later this year. Learning from one another and sharing experience are thus of vital importance. Field visits took place to the Marteloscopes *'Mooswald'* and *'Rosskopf'*. Alex Held joined the ProSilva Ireland trip (14.09.18) to Obernai, France and met with colleagues of Ted Wilson.

Who

Participants [3] of whom from EFI [2]
One country [ ] multi-national [X]
Country/countries of origin: Ireland, Germany

Participants further details
Ted Wilson works with Teagasc Forestry Development Department in Ashtown Research Centre, Dublin, Ireland (www.teagasc.ie/forestry). He is a researcher working on Continuous Cover Forestry. Main project is TranSSFor, which focusses on the transformation of Sitka spruce plantations to continuous cover forestry. See:
https://www.teagasc.ie/crops/forestry/research/transformation-of-sitka-spruce-to-ccf/.

Participant list

Name	Affiliation
	Teagasc Forestry Development Department
Andreas Schuck	EFI
Alexander Held	EFI
	Pro Silva excursion to Obernai, France: ONF (host); various Irish forest organisations

Reply

Feedback, remarks and potentials for collaboration

In the course of discussion and filed visits the following fields for action were identified:

- Ted Wilson will send data from one plot as input to the I+ software for investigating the applicability to a typical Irish forest stand.
- It was agreed to plan a meeting for late February 2019 in Ireland where all interested parties would come together to learn more about the Informar project, the Marteloscope network, the I+ software and silviculture training opportunities.
- Additional I+ software modules may be highly relevant for Irish forests: those include regeneration and carbon sequestration. Preference in the context of policy and current priorities in Ireland, would be carbon. Marteloscope data already allows for calculating carbon equivalents. Carbon sequestration can be well integrated to training activities.
- A 1-page project proposal/outline will be produced as basis for collaboration and bringing Ireland to the Informar Marteloscope network.
- Alex Held attended the first day of the Pro Silva Ireland meeting in Obernai, France. Key contacts were met: Padraig O'Tuama (CCF expert), Kathy Duff (forest ecologist, Forest Service, Ireland), Jonathan Spazzi (forestry advisor/trainer, Teagasc – the Agriculture and Food Development Authority, Ireland). They were briefed on options for future collaboration.

Docs

Documentation

Documents/tools

- I+ Tree Microhabitat App and the I+ tablet software
- Marteloscope Booklets and Information sheets ("Mooswald" and "Rosskopf")

Other

- Blog post: https://resilience-blog.com/

Photo (Alexander Held)

- Ted Wilson and Andreas Schuck discussing the habitat scoring in the Martelscope "*Mooswald*".

Title – Marteloscope scoping visit to Forest District Office Tegel, Berlin

Where

Location
Forest District Office, Berlin Tegel

Name of Marteloscope
Planned Marteloscope „Hermsdorf“

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [ ]
Presentation [X] Other [Marteloscope visit]

Aim of activity
Selection of Marteloscope site(s) in the Tegel Forest, Berlin for allowing easy access to on site education, training and exchange platform for a multitude of different actors and interest groups either professionally dealing with forests, or interested in forest related topics.

Further details
As part of the forest walk with Federal Minister Julia Klöckner (Federal Ministry of Food and Agriculture) on 21.06.2018 (see: https://www.efi.int/news/trip-forest-german-federal-minister-klockner-2018-06-22), it was suggested to set up a demonstration area in the form of a Marteloscope at the Tegel Forest District Enterprise. The head of the forest enterprise, Karl-Heinz Marx, was very enthusiastic about this idea and invited to a site visit in Tegel on 21.09.2018. Together with Mr. Marx and the local forester Johannes Müller a number of typical forest stands were visited and examined if they would be suitable Marteloscope training sites. Among them were pine, beech and oak dominated stands. The group agreed on a mature oak hornbeam stand. Data collection will begin in October.
The Tegel Forest District Enterprise is one of four under the administration of the Landesforstamt Berlin. It manages a total forest area of approx. 6,000 hectares with six district foresters. It manages forests in the Berlin districts of Reinickendorf and Spandau. In addition Tegel is responsible for the forests in Stolpe (Hohen Neuendorf) and Schönwalde-Glien, district Wansdorf. Main goal of the enterprise is to ensure that their forests are managed sustainably and in accordance with the principles of close to nature silviculture.

Who

Participants [7] of whom from EFI [3]
One country [X] multi-national [ ]
Country/countries of origin: Germany

Participants further details
Participants included the Head of the Forest District Office Berlin Tegel , the responsible forest district manager, two further staff members and representatives of the European Forest Institute.

Participant list

Name	Affiliation
	Forest District Berlin Tegel
	Forest District Berlin Tegel
	Forest District Berlin Tegel
Andreas Schuck	EFI
Alexander Held	EFI
Sergey Zudin	EFI

Reply

Feedback, remarks and potentials for collaboration

Mr. Marx proposed to set up a further Marteloscope in the course of the next year in mature beech dominated stand. He expressed that"...*the two Marteloscopes will be particularly suitable for communicating forest management in the context of needs for recreation, the preservation of biological diversity and ensuring protective functions and traffic safety"*. Andreas Schuck and his colleagues Alexander Held and Sergey Zudin from EFI highlighted the strategic location of the Marteloscopes as a competitive advantage: "Access to Marteloscopes in the heart of Berlin will certainly attract a large number of interest groups to the Tegel forest. *"We have observed such in other Marteloscopes in the vicinity of cities such as Bonn, Freiburg and Brussels,"* said Andreas Schuck. Karl-Heinz Marx and his colleagues very much appreciated the demonstration of the tablet software „I+". Discussions took place on specific needs of a city forest district office and how the tool could most effectively serve as communication tool especiily for forest visitors.

Docs

Documentation

Documents/tools

- I+ tree microhabitat App and I+ tablet software

Other

- Blog post: https://resilience-blog.com/

Photo (Alexander Held)

- Visit of different potential Marteloscope sites in Tegel Forest Berlin

Title - Presentation of Marteloscope exercises to the participants of the Conference Forests of Eurasia - Serbian Forests at the Marteloscope Vrnjačka banja

Where

Location
Vrnjačka banja, Republic of Serbia

Name of Marteloscope
Vrnjačka banja

What

Activity type
Training [ ] Marteloscope exercise [X] Exchange of Experts [ ] Education []
Presentation [X] Other [ ]

Aim of activity
Marteloscope exercises are presented to the participants of the Conference FORESTS OF EURASIA - SERBIAN FORESTS at the Marteloscope Vrnjačka banja. Based on that participants saw practical example of training courses and content as they were developed during the project: Promotion of Vocational and Practical Postgraduate Training in the Serbian Forestry Sector.

Further details
Participants had the opportunity to hear more details about Marteloscope exercises, as well as how we use these exercises in training courses for practical application of the new „Forest Management Guidelines“. Marteloscope exercise was presented by Nenad Petrović (Faculty of Forestry University of Belgrade).

Who

Participants [approx. 170] of whom from the “Integrate team” [3]
One country [ ] multi-national [X]
Country/countries of origin: Russia, Serbia, Bosnia and Herzegovina, Poland, Hungary, Sweden, Belarus, Ukraine, Kazakhstan, Kyrgyzstan, Iran and Germany

Participants further details
The participants of the conference were young scientists from the mentioned countries.

Reply

Feedback, remarks and potentials for collaboration

During the presentation all participants discussed about the Marteloscope exercises and also about criteria for tree selection according to the new „Forest Management Guidelines“. All participants agreed that these courses represent good opportunities for future improvement of the work of forest engineers in practice.

Docs

Documentation

Documents/tools

- Marteloscope booklet East Boranja I
- I+ tree microhabitat catalogue (English)
- I+ tablet software

Photos (Conference Forests of Eurasia – Serbian Forests)

- Photos 1-3: Presentation of Marteloscope exercises to the participants

Title – Improving commercial tree-marking routines applied to managed montane beech-fir forests by integrating ecological perspectives

Where

Location
France; Central Pyrenees; Occitanie county; private forest named "*GF des montagnes particulières de Hèches*"

Name of Marteloscope
Hèches

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [X] Education [X]
Presentation [X] Other [field excursion]

Aim of activity
The aim of this event was to introduce the European Marteloscope network to a range of potential users from forestry and nature conservation. Some participants could potentially be data providers since they already use local Marteloscopes during training sessions dedicated to private owners.

Further details
This half-day field visit was conducted by Laurent Larrieu (INRA & CRPF Occitanie) and Emmanuel Rouyer (CRPF Occitanie). It was designed at presenting both the originality of Marteloscopes and introduce to their potential applications. The Hèches Marteloscope is one of more than 50 sites brought together in the 'European Integrate+ Marteloscope Network'. Main emphasis is put on nature conservation aspects in managed forests (integrative forest management approaches). Data has been collected on tree-related microhabitats which can then be used in the course of training or educational field events. We first gave an introduction to the Marteloscope network and the opportunities being part it. There is available a dedicated training software running on mobile devices, the network allows for the exchange of experience and training techniques jointly with Marteloscope managers both at national level and across borders and there is technical/logistical support provided. Then we described in detail the "I+ Training Software" and its numerous possibilities for exercise results display by testing it at individual trees within the Hèches Marteloscope. Finally, we discussed (i) how to most effectively use such Marteloscopes for different training topics and audiences, (ii) why it would be highly beneficial and efficient to apply the Integrate+ format when establishing further Marteloscopes in France and (iii) the application of IT tools such as e.g. the I+ software for education and training events in the field.

Who

Participants [8] of whom from EFI [0]
One country [X] multi-national [ ]
Country/countries of origin: **France**

Participants further details
This event gathered private forest owners, forest advisors and a project manager who works for a nature conservation association.

Participant list

Name	Affiliation
	Forest ecologist, INRA & forest adviser, CRPF Occitanie
	Forest engineer, CRPF (Occitanie county)
	Forest engineer, CRPF (Nouvelle-Aquitaine county)
	Forest adviser, Chambre d'Agriculture des Hautes-Pyrénées
	Project manager, nature conservation association "Nature en Occitanie"
	President of the governing board of the Hèches forest
	Forest manager
	Forest owners

Reply

Feedback, remarks and potentials for collaboration

This event was very much appreciated by the owners of the Hèches forest who then much better understood the tremendous potential of such Marteloscope sites for improving management practices, in the context of applying integrated approaches on their forest properties. The participants also appreciated to get a good understanding how Marteloscope can be used as training tools during their day-to-day work as forest advisors. Finally, the simplicity of using the application and its didactic aspects have convinced forest advisers. They are now willing to install additional Marteloscopes throughout the region and will adopt the Integrate+ approach. We also jointly agreed on planning training sessions for 2019.

Docs

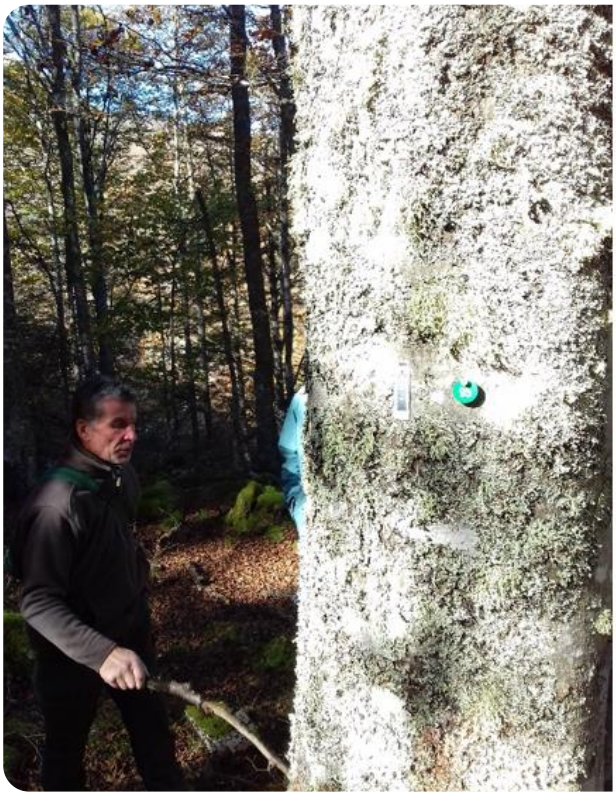
Documentation

Documents/tools

- European Marteloscope map
- Information sheet describing the Hèches site; I+ tree microhabitat catalogue (French version)
- I+ tablet software and the tree microhabitat smart phone app

Photos (Jean-Raymon Liarçou and Grégory Sajdak)

- Impressions from the field visit to the Marteloscope Hèches.



Title – Representatives of the Bund Deutscher Forstleute (BDF) Rhineland-Palatinate visit the Marteloscope 'Viergemeindewald'

Where

Location
Stipshausen, Rheinland-Pfalz, German

Name of Marteloscope
Viergemeindewald

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [ ]
Presentation [X] Other [ ]

What

Aim of activity
Presentation of the Marteloscope and the software on practical examples in the area and with existing tablet computers.

Further details
During a meeting of the BDF (Bund Deutscher Forstleute) Rhineland-Palatinate the participants were introduced to the newly opened Marteloscope "Viergemeindewald". In the meeting room we were able to watch the film 'Wise use of our forests: the integrative approach', which provides a good overview of the topic of integrative forest management. Next the I+ trainer software was presented on the tablets, which proved to be very beneficial as that allowed to explain the functions of the software to all participants by mirroring the tablet screen via a beamer to a screen. There were 10 tablets available, so that everyone had the opportunity to follow all steps. After the theoretical explanations the participants were able to practice using the tablet in the Marteloscope. For example, individual trees and the recorded characteristics were discussed. The exercise in the field took about 2 hours. The participants were impressed by the ability to be able to distinguish virtually and see results immediately. A lack of a silvicultural prognosis possibility was addressed by some colleagues and one hoped for a possible further development in this direction. Overall, it was a successful event this afternoon.

Who

Participants [16] of whom from EFI [0]
One country [X] multi-national [ ]
Country/countries of origin: Germany

Participants further details
.

Participant list

Name	Affiliation
	FA Bitburg
	FA Soonwald
	FA Soonwald
	FA Bad-Sobernheim
	FA Boppard
	FA Simmern
	FA Simmern,
	FA Simmern
	FA Simmern
	FA Simmern
	Student
	FA Soonwald
	FA Birkenfeld
	FA Soonwald
	ZdF Neustadt, FE
	FA Idarwald

Docs

Documentation

Documents/tools

- Film: 'Wise use of our forests: the integrative approach'
- Viergemeindewald information sheet and Viergemeidewald booklet
- I+ tree microhabitat catalogue (German)
- I+ tablet software

Other: Press release: "*BDF-Regionalversammlung Hunsrück im Waldklassenzimmer für Förster - Treffen im ersten Rheinland-pfälzischen Marteloskop im Forstamt Idarwald*"

Photos (Gisela Kadisch)

- Visit to the Marteloscope Viergemeindewald


319 % 31 x 31 m
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Titel – Den Wald mit anderen Augen sehen

Wo

Ort
EFI Bonn Büro und Regional Forstamt Rhein-Stieg-Erft, Nordrhein Westfalen

Name des Marteloskops
Jägerhäuschen

Was

Aktivität
Training [ ] Marteloskop Übung [ ] Expertenaustausch [ ] Weiterbildung [X]
Präsentation [ ] weitere Aktivitäten [ ]

Ziel der Aktivität
Öffentlichkeitsarbeit LIFE+ Projekt "Villewälder" .

Weitere Details
Weitere Details s. Beitrag für Resilience-Blog unter:
https://resilience-blog.com/2019/05/07/einmal-forster-sein-sind-marteloskope-fur-die-offentlichkeitsarbeit-geeignet/

Wer

Teilnehmer [9] davon EFI [0]
National [X] Multinational [ ]
Teilnehmende(s) Land/Länder: Deutschland

Informationen zu Teilnehmern
Gemischte Gruppe: Mutter mit zwei Töchtern (Alter ca. 20 Jahre); Vater mit Sohn (Alter ca. 18 Jahre); ein Paar mittleren Alters und ein älterer Herr.

Teilnehmerliste

Name	Oranistation
	Regionalforstamt / FBB Kottenforst
Die Volkshochschule Bonn (VHS Bonn) hat uns mitgeteilt, dass die Namen der Teilnehmer*innen aus Gründen des Datenschutzes nicht weitergegeben werden können.	

Reply

Feedback, Anmerkungen, Möglichkeiten der Zusammenarbeit
Weitere Details s. Beitrag für Resilience-Blog unter:
https://resilience-blog.com/2019/05/07/einmal-forster-sein-sind-marteloskope-fur-die-offentlichkeitsarbeit-geeignet/

Docs

Handreichungen
Unterlagen/Tools

- Marteloskop Brochure Jägerhäuschen
- Laminate zur Einführung in Marteloskope
- Katalog der Baummikrohabitate
- I+ Tablet Software (v0.7.6)

Sonstiges

- Geplant sind folgende Internetartikel:
  - www.villewaelder .de
  - www.wald-und-holz.nrw.de
  - EFI Resilience-Blog : https://resilience-blog.com/2019/05/07/einmal-forster-sein-sind-marteloskope-fur-die-offentlichkeitsarbeit-geeignet/
  - Facebook (Villewälder, Regionalforstamt Rhein-Sieg-Erft)

Fotos (Klaus Striepen)

- Teilnehmer der VHS Exkursion.

- Anwendung der Tabletsoftware im Marteloskop Jägerhäuschen.

Title – Excursion on continuous cover forestry for mixed deciduous forests

Where

Location
Ettenheim, Ortennau County (Forest District Klosterwald), Germany

Name of Marteloscope
Klosterwald

What

Activity type
Training [ ] Marteloscope exercise [X] Exchange of Experts [ ] Education [X]
Presentation [ ] Other [Excursion]

Aim of activity
Introduction of University students to conversion of beech high forest stands to beech under continuous cover .

Further details
An excursion was organised by the University of Freiburg - Faculty of Environment and Natural Resources jointly with ForstBW for master students on converting single story beech stands to mixed deciduous continuous cover forests (*WET Buchen-Laubbaum-Mischwald -> Ziel Dauerwald*). This aim applies to about 70.000 ha in Baden Württemberg's state forests. Armin Jacob from the Forest Administration Freiburg introduced the students to the '*WET Buchen-Laubbaum-Mischwald*' He then challenged the students on how they to convert beech high forest stands in different development stages. For that mature, mid-aged and young beech stands were visited. The excursion concluded with a virtual tree selection exercise in small groups in the beech Marteloscope '*Klosterwald*'. The groups then presented their results to the other students on how they would initiate the conversion to continuous cover beech broadleaved mixed forest in the Marteloscope 'Klosterwald'. Lively debated was on how and to what extent to support the available oaks in the stand.

Participants [20] of whom from EFI [1]
One country [X] multi-national [ ]
Country/countries of origin: Germany

Who

Participants further details
18 Master students; Representative of the University of Freiburg (Faculty of Environment and Natural Resources – Chair Silviculture); Armin Jacob (Regierungspräsidium Freiburg, Fachbereich 83 Waldbau, Waldschutz, Klimawandel); Martin Fehrenbach (ForstBW, District Forester), Andreas Schuck (EFI-Bonn).

Participant list

Name	Affiliation
Students (18)	University of Freiburg – Faculty of Environment and Natural Resources
	Regierungspräsidium Freiburg, Fachbereich 83 Waldbau, Waldschutz, Klimawandel; ForstBW
	ForstBWStaatswald Ortenaukreis
	University of Freiburg – Faculty of Environment and Natural Resources (Chair Silviculture)
Andreas Schuck	EFI

Docs

Documentation

Documents/tools

- Tablet software I+

Other

- ForstBW excursion guide: WET Buchen-Laubbaum-Mischwald -> Ziel Dauerwald (Author Armin Jacob)

Photo (Andreas Schuck)

- Wrap up discussion following the Marteloscope exercise in Klosterwald

Title – Excursion of the BMEL Department Head "Forest, Sustainability and Renewable Resources") Eva Müller to the Jägerhäuschen Marteloscope

Where

Location
Regional Forest District Office Rhein-Sieg-Erft; Kottenforst, North Rhine Westphalia, Germany

Name of Marteloscope
Jägerhäuschen

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [ ] Presentation [ ] Other [Ministry visit]

Aim of activity
Informing the BMEL department head, Eva Müller, on the INTEGRATE network and on the high interest of countries for utilising forest demonstration sites (Marteloscopes) as a tool for knowledge exchange and training on integrated forest management, specifically on integrating nature conservation to managed forests.

Further details
We informed Dr. Eva Müller in detail about the political framework of INTEGRATE and introduced her to the concept of a Marteloscope and the tablet software. The Forest District Office Rhein-Sieg Erft representatives explained the concrete applications of their three Marteloscopes in their daily work and how they use them in collaboration with Haus der Natur (i.e. exercises with conservationists, foresters, VHS course with the Bonn public, students). Emphasised were the easy manageability of the software, the variation options when defining exercises and the applicability of the tool to different target groups. As the software bases exercise results on the Marteloscope data, it allows transparent and fact based discussions. This has shown very useful for exchanges between NGOs, nature conservation agencies and forest managers. It in all cases to a better understanding on how one can bring nature conservation and economic considerations into agreement and what are the resulting consequences.

Who

Participants [7] of whom from EFI [2]
One country [X] multi-national [ ]
Country/countries of origin: Germany (Belgium)

Participant list

Name	Affiliation
	BMEL (Department Head "Forest, Sustainability and Renewable Resources"
	BMEL
	BMEL
	Forstamt Rhein-Sieg-Erft
	Forstamt Rhein-Sieg-Erft (Life+ project Villewälder)
Georg Winkel	EFI
Jakob Derks	EFI

Reply

Feedback, remarks and potentials for collaboration

Dr. Eva Müller was very impressed with the INTEGRATE networks and especially with the Marteloscopes. She asked clear questions on the practical use of the approach and was convinced by the answers. She suggested a visit to the Marteloscope by the forest by Federal Minister Julia Klöckner (possibly together with Federal Minister Svenja Schulze) jointly with journalists. Maybe the date could also be combined with a visit to a selected strict forest reserve. She also pointed out the possibilities in Berlin as she was informed that such a training site also exists there (Forstamt Tegel). The connections to the targeted topic of nature conservation in the national forest strategy were discussed in view of the fact that such areas have already been designated and are actively used in 10 federal states, but that a variety of other approaches to the integration of biological diversity are also being pursued. The need for coordination in this regard was highlighted. It is also being examined whether INTEGRATE and its Marteloscope sites could be used on 21st of March 2020 as a theme for the International Day of Forests "Forests and Nature Conservation".

Docs

Documentation

Documents/tools

- I+ tablet software and information material on the Jägerhäuschen site

Photo (Jakob Derks)

- Discussing the ecological value of an old oak.

Title - Excursion of the "Clearing House Delegation" to the Jägerhäuschen Marteloscope

Where

Location
Regional Forestry Department Rhine-Sieg-Erft, near Bonn, Germany

Name of Marteloscope
Jägerhäuschen

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [X] Education [X]
Presentation [ ] Other [ ]

Aim of activity
During the kick-off event of the EU project CLEARING HOUSE, focusing on urban forestry, it seemed appropriate to organise an excursion to an exemplary forest that is managed for social, environmental and economic purposes.

Further details
The excursion started of with an introduction by Klaus Striepen, head of the LIFE+ project Villewälder, to the management and rich history of Kottenforst, the biggest urban forest in the Bonn region. Aim of the project is to restore some particular ecosystems that are typical for the region, with a focus on mixed oak-hornbeam forests on water-logged soils. This forest type is characterized by a long history of human management but is very valuable for biodiversity. This shows that human intervention and productive forestry can go hand in hand with ecology, if well managed. Georg Winkel, Head of the EFI Bonn Office, introduced the integrated forest management approach to the participants. This philosophy tries to join the different forest functions in the same stand, instead of segregating protected and productive forests. A good introduction on this topic is presented in the short movie "*Wise us of our forests: the integrative approach*" (http://informar.eu/movie). To enhance the knowledge exchange on a policy scale, the "European Network Integrate" was initiated. On a practice level, forest managers that use this approach can exchange knowledge and information through the established practice network. Both networks are facilitated by EFI's Informar project. After this introduction, the most important tool uniting the forest practitioners from this network was presented by EFI staff member Jakob Derks: the Marteloscope. A Marteloscope is a forest stand of usually one hectare in which all trees have been numbered and inventoried. For a short introduction, filmed in the Kottenforst, see: https://www.youtube.com/watch?v=drRlEhYK4_0. Excursion participants had a chance to act as foresters, by selecting which trees to cut, looking for tree microhabitats and assessing wood values. Lastly, the excursion led to the botanical gardens of Bonn, where an experienced guide led the participants and explained them the history, future and importance of botanical gardens and their cooperation.

Who

Participants [approx. 25] of whom from EFI [5]
One country [ ] multi-national [X]
Country/countries of origin: PR China, Germany, Spain, Poland, Belgium

Participant list

Name	Affiliation
Rik De Vreese	EFI
Clive Davies	EFI
Georg Winkel	EFI
Jakob Derks	EFI
Dennis Roitsch	EFI
	Regional Forestry Department Rhine-Sieg-Erft, LIFE+ Villewälder
	Krakow Greenspace Authority - ZZM
	Àrea Metropolitana de Barcelona
	Àrea Metropolitana de Barcelona
	Research Institute of Forestry, Chinese Academy of Forestry (CAF-RIF)
	Research Institute of Forestry, Chinese Academy of Forestry (CAF-RIF)
	Research Institute of Forestry, Chinese Academy of Forestry (CAF-RIF)
	Research Institute of Forestry, Chinese Academy of Forestry (CAF-RIF)
	Research Institute of Forestry, Chinese Academy of Forestry (CAF-RIF)
	Research Institute of Forestry, Chinese Academy of Forestry (CAF-RIF)
	Faculty of Forestry, Beijing Forestry University (BFU)
	Faculty of Forestry, Beijing Forestry University (BFU)
	Institute of Island and Coastal Ecosystems, Zhejiang University (ZJU)
	Guangzhou Institute of Forestry and Landscape Architecture (GZIFLA))
	Shenzhen Fairy Lake Botanical Garden (SZFLBG)
	Department of Geography, the University of Hong Kong (HKU)
	Faculty of Forestry, University of British Columbia (UBC)

Feedback, remarks and potentials for collaboration

Reply

The general feedback was very positive. Despite the dreary weather, the participants insisted on making a walk to get a good feel of the surrounding nature. For most participants, this type of forest management was rather new. People were very interested in the history and the peculiarities of Kottenforst and wanted to get a grasp of German forest management. This included basic but crucial discussion on questions such as: *"how to determine what trees to cut? How to see when trees compete for sunlight? How do different tree species interact? How are wood sales practically organised?"* The I+ Trainer software, used for the exercises in Marteloscopes, was received very positively due to its interactive and user-friendly nature. Especially for people who are new to the field it presents a valuable first encounter with integrated forest management.

Docs

Documentation

Documents/tools

- Various Integrate/Informar documents
- I+ tree microhabitat catalogue (mobile phone App)
- I+ tablet software

Photos (excursion participants)

- Photo 1: The excursion group in front of the so called “conflict oak” in the Jägerhäuschen Marteloscope
- Photo 2: Georg Winkel introduces to the concept of integrative forest management
- Photo 3: Jakob Derks explains the concept behind Marteloscopes, the role of tree microhabitats for biodiversity and the use of the tablet based I+ Trainer software for on site exercises

Title - Pro Silva 30th Anniversary Meeting 2019 "Forests for the future – from science to the people"

Where

Location
Radlje ob Dravi, Slovenia

Name of Marteloscope
Pahernik

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [**X**] Education [ ]
Presentation [ ] Other [conference participation and excursions]

Aim of activity
Participation and representation of EFI at the Pro Silva 30th Anniversary Meeting to strengthen collaboration and networks to both Pro Silva Europe and national Pro Silva groups.

Further details
Pro Silva is a European federation of foresters who advocate forest management based on natural processes. It was founded in Slovenia in 1989 and now celebrated its 30 year anniversary. Pro Silva promotes forest use which follows primarily natural processes and supports the implementation of such management by 1) the exchange of information within regional working groups, (2) the establishment of demonstration forests to be regarded as exemplary forests, (3) meetings and excursions in demonstration forests and (4) through cooperation with educational and scientific institutions, and other bodies. Thus the link to EFI's project activities in Informar and Sure are obvious. Pro Silva has from its side actively supported EFI in these two projects by hosting meetings (e.g. the Kick-off Meeting of the Sure project in Pisek, Czech Republic) and by taking part in workshops and conferences organised by the above mentioned projects.

Who

Participants [**approx. 90**] of whom from EFI [2]
One country [ ] multi-national [**X**]
Country/countries of origin: Albania, Austria, Belgium, Bosnia, Croatia, Czech Republic, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Netherlands, North Macedonia, Poland, Portugal, Romania, Scotland, Slovakia, Slovenia, Spain, Switzerland, United Kingdom, United States

Participant list

- List is not made public in this document (page 1)

Participant list

- List is not made public in this document (page 2)

Participant list

- List is not made public in this document (page 3)

Participant list

- List is not made public in this document (page 4)

Participants from EFI

Name	Affiliation
Alexander Held	EFI
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

New contacts were made to many of the participating representatives of the national Pro Silva groups. Further, an exchange was initiated with Oregon State University in the United States. During the field trip a visit to one of the Integrate Marteloscopes in Slovenia was organised (Pahernik). The concept and use was presented by Kristina Sever from the Slovenian Forest Research Institute. Following this presentation in the field, interest was expressed by several of the national representatives of Pro Silva to join the network of Marteloscopes, namely Hungary, Portugal and Romania. Two of these countries are currently not yet represented in the Integrate network. The Pro Silva Europe network has besides Integrate also an enormous value for the European Forest Risk Facility and the SURE project.

Docs

Documentation

Documents/tools

- PRO SILVA 30th Anniversary Meeting 2019 “Forests for the future – from science to the people” Meeting program, abstracts and field guide
- I+ tablet software
- I+ tree microhabitat catalogue (mobile phone App)
- Film footage from the Conference: http://89.212.55.69:8082/share.cgi?ssid=0s99Oxg
- Press release (15th September 2019 “Forests in Europe are in danger – we offer solutions”
- Radlje Declaration

Photos (Eckart Senitza [1, 4] Andreas Schuck [2, 3, 5])

- Group photo of the Pro Silva 30th Anniversary Meeting participants

- Welcome by the Pro Silva Europe President Eckart Senitza

- Keynote speech by Prof. Klaus Püttmann (Orgeon State University)

- Field trip during the 30th anniversary conference of Pro Silva

- Field trip during the 30th anniversary conference of Pro Silva

Title – Students get together for a Green Campus Day

Where

Location
Freiburg City Forest, Germany

Name of Marteloscope
Mooswald

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [X]
Presentation [ ] Other ["visit to the "outdoor classroom"]

Aim of activity
The Fridays for Future movement has received a lot of attention and support in the University Town of Freiburg, Germany. This led the Montessori Zentrum ANGELL (www.angell-montessori.de) to reflect on how to channel this energy of the students to engage and work on concrete projects related to climate change and environment. Thus the 'The Green Campus Day' was initiated during which teachers and students worked around a range of topics including climate change, biodiversity, waste reduction and upcycling.

Further details
The individual projects were selected on the basis that students would be able to learn about their contributions to reduce their carbon footprint, their impact on biodiversity and waste reduction. It was up to the students to select a project of their choice. The age of the students in the "forest group" ranged from 12 to 18 years. This project was supported by representatives of EFI. The activity took place in the Marteloscope "Mooswald" located in the City Forest of Freiburg. It provided an ideal outdoor classroom and learning lab for the students. They were able to learn and discuss about the role of forests in providing a multitude of important ecosystem services that are important for us. The focus of the day was put on the role of forests as carbon sinks as they actively remove carbon dioxide from the atmosphere, i.e. the process of carbon sequestration. Also introduced was the role and importance of forest as habitat for many species. In particular, the students investigated tree microhabitat structures which serve a large variation of species, including insects, fungi, mammals and birds as homes or food sources. This role was then put into the context of our need to harvest trees as an environmental friendly and renewable resource used for many products in our daily lives.

Who

Participants [15 students and teacher] EFI [2]
One country [X] multi-national [ ]
Country/countries of origin: Germany

Participants further details

Participant list

Name	Affiliation
	Montessori Zentrum ANGELL
15 students (12-18 years)	Montessori Zentrum ANGELL
Alexander Held	EFI
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

The teacher of the students, Sonja Mewes, summarised the forest field trip as follows: *"The students received new insights and different perspectives on the functional services of forests. They understood in especially their importance for providing us with the renewable resource wood, for ensuring jobs and livelihoods and serving people as place to recreate. Biodiversity and its role in forest ecosystems was recognised as highly relevant so that forests stay healthy and resilient now and in future"*.

In order to bridge between nature and modern technology the students were encouraged to work with the I+ software and tablets. They applied the 'Tree Microhabitat App' to assess the ecological value of trees and put those in relation to economic figures. "*They surely enjoyed this visit to the outdoor classroom a lot as it showed to them the importance of both scientific work and that of forest managers"*, concluded Sonja Mewes.

Docs

Documentation

I+ documents/tools

- I+ tree microhabitat catalogue (DE)
- I+ tablet software

Other

- Resilience Blog entry (https://resilience-blog.com/2019/12/04/schools-reaction-to-fridays-for-future-green-campus-day-in-freiburg/)
- Montessori Zentrum ANGELL: Information on the „Green Campus Day" information: https://www.angell-montessori.de/allgemeines/alle-neuigkeiten/allgemein/1493-green-campus-day-2
- Montessori Zentrum ANGELL - Video: https://youtu.be/mBUbBxGRWDM

Photo (Alexander Held)

- Learning about the importance of tree microhabitats.

Photo (Alexander Held)

- Using the I+ tablet software to investigate which trees have high economic and ecological value.

Photo (Andreas Schuck)

- How does it feel to be a woodpecker in his home?

Photos (left: Sonja Mewes; right: Andreas Schuck)

- Combining wood production and nature conservation in a managed forest stand.

Title – The POLYFORES workshop including a Marteloscope field exercise

Where

Location
Freiburg City Forest, Germany

Name of Marteloscope
Rosskopf

What

Activity type
Training [ ] Marteloscope exercise [X] Exchange of Experts [X] Education [ ] Presentation [ ] Other [data collection for research project]

Aim of activity
The workshop seeked to generate interdisciplinary and transdisciplinary knowledge, which could help decision makers in policy and practices to find a balance between the different demands on German forests. The workshop and exercises will allow project researchers to examine the barriers and drivers of learning between participating actors as a key support to integrated forest management.

Further details
The Rosskopf Marteloscope located in the Freiburg City Forest provided the location for the exercises that, with the support of a team of experts, allowed participants to explore and learn about the different synergies and trade-offs between wood production and nature conservation. With the help of the I+ trainer software, learning about tree microhabitats, economic value of trees, and the possible outcomes of different thinning decisions was possible. A learning environment was created through the discussion of the results and decision-making processes. By doing so, participants could share their knowledge and experience with others, and contribute with their ideas for the integration of biodiversity into sustainable forest management.

Who

Participants [30] of whom from EFI [1]
One country [X] multi-national [ ]
Country/countries of origin: Germany

Participants further details
Following a transdisciplinary approach, more than 30 scientists, practitioners and decision-makers from forestry and biodiversity conservation and different German federal states / regions took part in the planning of different forest management scenarios.

Participant list

Name	Affiliation
	Forstamt Bonndorf
	Regierungspräsidium FR
	ANW (Landesgruppe Baden-Württemberg)
	NABU BW
	LNV Baden-Württemberg
	Ministerium für Umwelt, Klima und Energiewirtschaft

Participant list

Name	Affiliation
	Wald Und Holz NRW
	Waldbauernverband NRW
	Landesforsten Rheinland-Pfalz
	WWF DE
	UNIQUE
	Private forest owner
	Ministerium für Umwelt, Landwirstchaft, Natur und Verbraucherschutz des Landes NW
	Regierungpräsidium FR
	Regierungpräsidium FR
	Forstrevier Endingen
	Forstamt Emmendingen
	NABU Kaiserstuhl
	SDW Baden-Württemberg
	Wald Und Holz NRW
	Wald Und Holz NRW
	Landesforsten Rheiland-Pfalz
	ZGF
	BUND
	Private forest owner Unterhöfenhof
	Forstamt Emmendingen
	University of Freiburg
	University of Freiburg
	University of Freiburg
	Forest Research Institute Baden Württemberg
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

The Marteloscope and the software were the perfect setting and tool to study the role of on-site information and technology in learning of experts when making forest management decisions. The support of the team of Marteloscope experts was crucial for the successful conduction of the exercises. The data collected will be used to produce at least two scientific publications as part of the POLYFORES project.

Docs

Documentation

I+ documents/tools, I+ tree microhabitat catalogue (DE) and I+ tablet software

- Field protocol created by the POLYFORES team

Results from Marteloscope exercises

- Results will be analysed for publication

Other

- Blog entry

Photo (Laura Dieguez)

- Participants are introduced to the field exercise

Photo (Andreas Schuck)

- Conducting the exercise.

Photo (Andreas Schuck)

- Discussing results and providing feedback to the exercise course.

Training events

Title - Training in species identification – characteristic species of old forests

Where

Location
Handthal, Steigerwald Bavaria, Germany

Name of Marteloscope
Steinkreuz

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [ ] Education [ ]
Presentation [] Other [ ]

What

Aim of activity
An advanced training course on characteristic species of old forests brought together 25 forest and nature conservation managers and representatives of administration and authorities. It was organised by the Bayerische Landesanstalt für Wald und Forstwirtschaft, LWF (Bavarian Forest Research Institute) and took place over two days in the Bavarian State Forest Enterprise Ebrach. One main part of the training was a visit in the Integrate+ Marteloscope Steinkreuz.

Further details
Following lectures and identification courses of key bird, bat and saproxylic beetle species, field trips were conducted to different forest locations. Those allowed identifying corresponding tree microhabitat structures such species require and learn about management concepts that incorporate biodiversity conservation. Half a day was then dedicated to visiting the Integrate+ Marteloscope 'Steinkreuz' in order to apply acquired knowledge. Andreas Schuck (EFI Bonn) and Frank Krumm (WSL, Switzerland) gave an introduction to the purpose of Marteloscopes and presented the tree microhabitat catalogue. They then gave the participants a hands on task to identify the 10 most valuable trees in terms of tree related microhabitats and those of highest economic value.

Who

Participants [32] of whom from EFI [1]
One country [X] multi-national [ ]
Country/countries of origin: Germany

Participants further details
Participants comprised of forest managers, representatives of nature conservation agencies, the Ministry of Nature Conservation, numerous forest administrations, Natura 2000 area managers and managers of protection forests.

Participant list

Name	Affiliation
	LWF Freising
	LWF Freising
	LWF Freising
	LWF Freising

Name	Affiliation
	Bavarian State Forest Enterprise Ebrach
Andreas Schuck	EFI
	WSL
Participants	
	AELF Ansbach
	AELF Ansbach
	AELF Augsburg
	Bad Neustadt/S.
	Bamberg
	Bayreuth
	Coburg
	Fürth
	Ingolstadt
	Karlstadt
	Karlstadt
	Karlstadt
	Kitzingen
	Kulmbach
	Mindelheim
	Nördlingen
	Roth
	Schwandorf
	Schweinfurt
	Schweinfurt
	Weilheim
	Weißenburg
	Würzburg
	Freising
	StMELF München

Reply

Feedback, remarks and potentials for collaboration

The exercise was accompanied by lively discussions tree by tree. In the wrap-up session the three groups presented their results, highlighting, analyzing and discussing the differences becoming visible given the same task.

The participants noted that performing exercises in a Marteloscope are helpful for calibrating oneself. It can also find application to train for new management strategies. Also one is sensitized for incorporating biodiversity relevant parameters (i.e. tree microhabitat structures) when making tree selections. They encouraged that Marteloscopes could be applied for topics addressing forest protection measures.

Docs

Documentation

Documents/tools

- Marteloscope booklet 'Steinkreuz' (DE)
- Catalogue of Tree Microhabitats (DE)
- I+ tablet software

Results Marteloscope exercises

- Four exercise results: (internal documents)

Other

- News article (local)

Photos (Raymund Filmer)

- Participants receiving old forest species training

Photos: Raymund Filmer

- Participants getting introduced to the Marteloscope Steinkreuz followed by an exercise where they could apply their newly acquired knowledge on species and tree related microhabitats

Title - Field visit to check status of the beech forest Marteloscopes in north-east Brandenburg

Where

Location
Schorfheide-Chorin Biosphere Reserve, forest districts Reiersdorf and Chorin

Names of Marteloscopes
Hessenhagen and Sandkrug

What

Activity type
Training [ ] Marteloscope exercise [X] Exchange of Experts [X] Education [ ]
Presentation [X] Other [evaluation of Marteloscope status and functionality of I+ software]

Aim of activity
Main aim was to evaluate the status of establishment of the beech forest Marteloscopes in NE Brandenburg. Further the Integrate+ software for tablets was tested and applied in the two Marteloscopes as as test run for larger scale training events (e.g. state forest officers, university education, PR work of state forest and the biosphere reserve).

Further details
Marteloscopes were visited to check suitability and representativeness of plots, marking of trees (numbers), accessibility etc. In the Hessenhagen Marteloscope, an exemplary exercise was performed to test the data and the tablet software provided by EFI in course of the Integrate + project.

Who

Participants [4] of whom from EFI [0]
One country [X] multi-national [ ]
Country/countries of origin: Germany

Participants further details
The participants of the event were two representatives of the Brandenburg State Ministry for Agriculture, Environment and Rural Development (forestry department), the Head of the Reiersdorf State Forest Enterprise and a representative of the Protected Area Administration.

Participant list

Name	Affiliation
	Brandenburg State Office for Environment, Dept. for Large Protected Areas
	Head of the Reiersdorf State Forest Enterprise
	Brandenburg State Ministry for Agriculture, Environment and Rural Development, Deputy Head of Forestry Department
	Brandenburg State Ministry for Agriculture, Environment and Rural Development (Forestry Dept.), responsible expert for state forester training and education programme

Reply

Feedback, remarks and potentials for collaboration

The Brandenburg State Forest Administration is willing to adopt the beech forest Marteloscopes for own training and education activities as well as for public relation work (demonstration of the "integration concept" of the state forest administration). Such activities are planned to take place on a regular basis and at a large scale. The events will be implemented in close cooperation with the State Protected Area Administration (Biosphere Reserve and Nature Park administrations).

The Brandenburg State Ministry for Agriculture, Environment and Rural Development is ready to provide personal and financial resources to run the Marteloscopes for a longer term.

Docs

Documentation

Documents/tools

- Marteloscope booklets and fact sheets for Hessenhagen and Sandkrug (DE)
- I+ tablet software (EN)

Results of Marteloscope exercises

- One exemplary exercise result: (pdf document)

Other

- Agreement of further working steps in order to officially open the Marteloscopes for the public

Photo (Martin Flade)

- Marteloscope Hessenhagen

Title -Training exercise with forest and nature conservation managers in the Marteloscope Falkenberg

Where

Location
Vosges Nord/Lorraine; Forêt de Bitche

Name of Marteloscope
Falkenberg

What

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [ ] Education [ ]
Presentation [ ] Other [ ]

Aim of activity
Aim of the event was to introduce the Falkenberg Marteloscope to a broad range of participants from forestry and nature conservation in order to agree on common approach for joint use.

Further details
The exercise asked for the selection of four habitat trees while designating a further six as potential habitat trees. Simultaneously ten trees should be virtually removed (economic return). The exercise was implemented by groups of two thus allowing for a sufficient set of results. Those were presented by the groups during a discussion session on site. A number of habitat and economic valuable trees were visited to challenge the groups on their decisions. The Marteloscope exercise was implemented by Andreas Schuck (EFI) and Frank Krumm (WSL).

Who

Participants [15] of whom from EFI [1]
One country [ ] multi-national [X]
Country/countries of origin: France, Germany, Switzerland

Participants further details
Participants represented the following organisations ONF (Office national des forêts), RNF (Réserves naturelles de France), PNRVN (Parc Naturel Régional des Vosges du Nord, France) and DREAL Grand Est (La Direction Régionale de l'Environnement, de l'Aménagement et du Logement Grand Est).

Participant list

Name	Affiliation
	Office national des forêts (ONF)
	Office national des forêts (ONF)
	Office national des forêts (ONF)
	Office national des forêts (ONF)
	Réserves naturelles de France (RNF)
	Parc Naturel Régional des Vosges du Nord (PNRVN)
	Parc Naturel Régional des Vosges du Nord (PNRVN)
	Parc Naturel Régional des Vosges du Nord (PNRVN)

Name	Affiliation
	Parc Naturel Régional des Vosges du Nord (PNRVN)
	Parc Naturel Régional des Vosges du Nord (PNRVN)
	Parc Naturel Régional des Vosges du Nord (PNRVN)
	La Direction Régionale de l'Environnement, de l'Aménagement et du Logement Grand Est (DREAL Grand Est)
	WSL
	WSL
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

The exercise was well received by the diverse group. As a result, an agreement on the usage of the Falkenberg Marteloscope was signed by ONF and PNRVN. Important pillars of use are that Falkenberg should attract excursions of forest and nature conservation managers from different countries, RNF driven initiatives at a national level for protected area managers and initiatives organised by PNRVN at local level for students and the general public. Further it was proposed to have a follow-up on tree microhabitats by inviting a scientific expert for training course. Finally, it was discussed to organise an excursion to the Bavarian State Forest Enterprise Ebrach to exchange on experiences relating to integrative forest management approaches.

Docs

Documentation

Documents/tools

- Marteloscope booklet Falkenberg
- I+ tree microhabitat catalogue (French)
- I+ tablet software

Results of Marteloscope exercises

- 5 exercise results: (internal documents)

Other

- Convention d'usage du Marteloscope du Falkenberg (internal document)
- News article published on EFI Resilience Blog

Photos (Andreas Schuck)

- Performing the Marteloscope exercise followed by group discussion

Title – Training exercise in the Sihlwald Marteloscope Switzerland with students from Bern University of Applied Sciences

Where

Location
City of Zürich /Foundation Wildnispark Zürich

Name of Marteloscope
Sihlwald

What

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [ ] Education [X]
Presentation [ ] Other [ ]

Aim of activity
Introduce HAFL students to the virtual training tool I+; train and educate them in the identification tree microhabitats; introduce them to economic and habitat values at selected trees to challenge their decision making based on their exercise results. Initiate discussions with the Foundation Wildnispark Zürich on the educational use of Marteloscope Sihlwald.

Further details
Students are in their 3rd and 5th semester at the Bern University of Applied Sciences - School of Agricultural, Forest and Food Sciences (HAFL). Course organiser and professor at HAFL, Thibault Lachat, is one of the authors of the Tree Microhabitat Catalogue published as one output of the Integrate+ project. A central aim of the course is to ensure that students learn to make educated decisions by taking into account numerous aspects when managing forests. In particular it was stressed on how to ensure maintaining biological diversity also in managed forests and what are the gains and trade-offs. WSL was present (Hannes Cosyns and Tobias Schulz) in order to record the exercise results for analysing learning effects based on Marteloscope exercises.

Who

Participants [25] of whom from EFI [1]
One country [X] multi-national [ ]
Country/countries of origin: Switzerland

Participants further details
3rd and 5th semester students (HAFL); Tobias Schulz and Hannes Cosyns (WSL) recording learning behaviour. Andreas Schuck (EFI) and Frank Krumm (WSL) conducting the Marteloscope exercise.

Participant list

Name	Affiliation
Approx. 20 students	Bern University of Applied Sciences School of Agricultural, Forest and Food Sciences (HAFL)
	HAFL
	City of Zürich /Foundation Wildnispark Zürich
	WSL
	WSL
	WSL
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

Main feedback from the student was they very much enjoyed the exercise. The exercise was conducted in groups of two students. The were very active in the discussion following the exercise especially when comparing their individual group results. They were challenged to explain and defend their decisions. Well received were discussions at individual trees. In a final wrap up the students expressed that they very much liked the I+ software. "*Such hands on exercises with immediate display of results in the field are great as they well illustrate the challenges of the day to day work in forests*" they stated. Thibault Lachat noted that he is happy to repeat such exercises with his students. Further Andreas Schuck and Frank Krumm will meet separately with representatives of the *Wildnispark Zürich* to discuss in more detail on how the Marteloscope can be applied as an educational tool both for professional but especially also for the numerous visitors coming to the wilderness park every year.

Docs

Documentation

Documents/tools

- I+ Trainer software (EN)
- Tree Microhabitat catalogue (EN, DE, FR)
- I+ Tree Microhabitat phone app

Other

- Article on EFI Bonn Resilience Blog

Photo (Andreas Schuck)

- HAFL students discussing their Marteloscope exercise results

Photos (Frank Krumm)

- Sihlwald Marteloscope

Title - Marteloscope exercise with nature conservation and forest managers in North Rhine Westphalia, Germany

Where

Location
Regional Forest District Office Rhein-Sieg-Erft; Kottenforst forest district, North Rhine Westphalia, Germany

Name of Marteloscope
Jägerhäuschen

What

Activity type
Training [ ] Marteloscope exercise [X] Exchange of Experts [ ] Education [ ]
Presentation [ ] Other [ ]

Aim of activity
To implement the same exercise task with two separate groups including nature conservation and forest managers to identify commonalities and variations in results. Also the reasoning for decision making was of considerable interest in this context.

Further details
The Marteloscope as a training tool for performing virtual selection exercises was introduced to both groups during the two separate events. The given exercise was as follows: *"Removal of 50m3 of timber (low tree removal rate; harvest should include 10 % high quality timber) and designate 10 habitat trees".* The exercise actually represents an operational management target for this forest type in Kottenforst forest district. The participants were divided into groups of two for exercise implementation. Each group was asked to explain their decision making in a group discussion supported by revisiting specific trees in the stand. The exercises were accompanied by social scientists from the WSL and University Freiburg who aim at investigating in more detail decision making processes in tree selection and analyse group discussions.

Who

Participants [31] of whom from EFI [1]
One country [X] multi-national [ ]
Country/countries of origin: Germany

Participants further details
Participants of Group 1 (13.11.2017) represented mainly heads and staff of a number of so called biological stations from around North Rhine Westphalia but also LIFE+ project staff. Group 2 (14.11.2017) consisted of district heads of North Rhine Westphalia state forest enterprises, silvicultural trainers, as well as representatives from forest associations (communal and private forest owners).

Participant list

Name	Affiliation
Group 1 (13.11.2017)	
	Biologische Station Bonn / Rhein-Erft
	LIFE+ Projekt Villewälder (Biologische Station Bonn / Rhein-Erft)
	Biologische Station Bonn / Rhein-Erft
	Biologische Station Bonn / Rhein-Erft
	Biologische Station Bonn / Rhein-Erft
	Biologische Station Bonn / Rhein-Erft (Praktikantin) / Universität Göttingen (Student)
	Biologische Station Rhein-Berg
	Biologische Station Rhein-Berg
	Biologische Station Euskirchen
	LIFE+ Projekt Villewälder (Wald und Holz NRW / RFA Rhein-Sieg-Erft)
	Wald und Holz NRW RFA Ruhrgebiet - SPA Naturschutz
	Wald und Holz NRW RFA Rhein-Sieg-Erft
	Wald und Holz NRW RFA Rhein-Sieg-Erft
	WSL
	WSL
	University Freiburg
	University Freiburg
Andreas Schuck	EFI

Name	Affiliation
Group 2 (14.11.2017)	
	Wald und Holz NRW RFA Rhein-Sieg-Erft
	Wald und Holz NRW RFA Rhein-Sieg-Erft
	Wald und Holz NRW RFA Rureifel-Jülicher Börde
	Wald und Holz NRW Zentrale - FB II - Landeseigener Forstbetrieb
	Wald und Holz NRW Zentrale - FB V - Holzwirtschaft, Forschung, Klimaschutz
	Wald und Holz NRW Lehr- und Versuchsforstamt Arnsberger Wald - SPA Waldplanung - KlimaWIS
	Regionalverband Ruhr - Ruhr Grün / Waldbesitzerverband der Gemeinden, Gemeindeverbände und öffentlich-rechtlichen Körperschaften in Nordrhein-Westfalen e.V.
	Wald und Holz NRW RFA Oberes Sauerland
	Forstbetrieb Freiherr von Wrede Haus Amecke / Waldbauernverband NRW e.V.
	Wald und Holz NRW Zentrale - FB IV - Hoheit, Schutzgebiete, Umweltbildung
	Wald und Holz NRW Lehr- und Versuchsforstamt Arnsberger Wald
	Wald und Holz NRW RFA Niederrhein - SPA Waldplanung
	Wald und Holz NRW RFA -- (Trainnee / Universität -- (Student)
	LIFE+ Projekt Villewälder
	Regionalforstamt / FBB Kottenforst
	Regionalforstamt / FBB Kottenforst
	WSL
	WSL
	University Freiburg
	University Freiburg
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

Both groups were very pleased with the exercises and emphasised that such type of training in the field having a mobile software that immediately displays the results allows for objective fact based discussions. Also the user friendliness was highlighted and the option of running the software in the native language. A few statements made by the participants help illustrate the reception of the exercise in the Marteloscope: ….*"being engaged with habitat tree selection in my work I found it very helpful to get a better understanding of the economic value of trees and how much they may differ from one to the other – knowing what to look for in this respect will help me in my decision making process of selecting habitat trees "; …"when looking at our virtual tree selection results it seems both nature conservation and forest managers are not necessarily so far apart from one other";…"working with such a tool (Marteloscope) I can imagine many ways to apply it also for other target groups including the general public"; …"such tools very well fit to our training programmes".* Both groups independently proposed that a follow up could be a joint Marteloscope exercise followed by constructive and fact based discussions.

Docs

Documentation

Documents/tools

- Marteloscope booklet Jägerhäuschen
- I+ tree microhabitat catalogue (German)
- I+ tablet software (German)

Results of Marteloscope exercises

- fourteen exercise results: (internal documents)

Other

- News article published on EFI Bonn Resilience Blog

Photo (Klaus Striepen)

- Impression from the two exercise days in the Jägerhäuschen Marteloscope

Title - Marteloscope training in Železná Ruda – Czech Forest State enterprise

Where

Location
Železná Ruda, Czech Republic

Name of Marteloscope
Královský hvozd

What

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [ ] Education [ ]
Presentation [X] Other [ ]

Aim of activity
State foresters evaluate economic and ecological value of each tree at four demonstration sites.

Further details
Foresters from forest enterprises of the Czech Republic introduce and educate their colleagues to assess trees from both economic and ecological perspective. For the time being there are four one-hectare plots, so called Marteloscope sites. Marteloscopes as a training tool are gradually becoming more commonly used in managed forests.
The approach is appreciated by forest professionals and ecologists alike. One year ago foresters of the Forests of the Czech Republic selected four one-hectare plots with the four most important forest tree species – spruce, pine, beech and oak. Representatives of the forest districts from Šumava Mountains and of Slovak State Forests took part in the field trip and tested the Marteloscope method in Železná Ruda this week (Marteloscope Královský hvozd).
For the next year it is planned to continue not only in Železná Ruda, but also at the Křivoklát forest district, where the demonstration site is dominated by beech, while the Plasy forest district consists of pine and oak demonstration sites.

Who

Participants [21] of whom from EFI [0]
One country [ ] multi-national [X]
Country/countries of origin: Czech Republic, Germany (Bavaria), Slovak Republic

Participants further details
Andreas Schuck was not able to take part in the field trip. He jointly prepared the event with Josef Svoboda from Lesy České republiky, s. p. Ulrich Mergner and Daniel Kraus from the Bavarian State Forest Enterprise in Ebrach, Germany, being active members of the Integrate+ network, were contacted and they kindly agreed to conduct the Marteloscope training exercise in Železná Ruda jointly with Josef Svoboda.

Participant list

LESY ČR

Lesy České republiky, s.p.,
se sídlem Přemyslova 1106/19, Nový Hradec Králové, 500 08 Hradec Králové, IČ: 42196451

PREZENČNÍ LISTINA

Název akce:	MARTELOSCOPE U LESŮ ČR		
Datum:	28. 11. 2017	Místo:	
Lektor:	J. SVOBODA	Podpis:	
Program:			

Poř. č.	Jméno a příjmení (hůlkovým písmem)	Organizační jednotka	Podpis
1		Ř LČR	
2		LS Železná Ruda	
3		LS FRANTIŠKOVY LÁZNĚ	
4		LZ KLADSKÁ	
5		-11-	
6		LS TEPLICE	
7		KŘ KARLOVY VARY	
8		LS HORNÍ BLATNÁ	
9		LS Přimda	
10		LS TOUŽIM	
11		LZ BOUŘÍN	
12		LZ BOUBÍN	
13		Bož. nástav AVĚŘ	
14		Bauer SF FB Ebrach	
15		Bayer SF FB Ebrach	
16		LESY ČR, š. p.	
17		Lesy ČR, Šp.	
18		Ř LČR	
19		LS Vyšší Brod	
20		LS DOMAŽLICE	
21		Ř LČR	

Name	Affiliation
Andreas Schuck (could not participate in the field trip. He prepared the Marteloscope training exercise jointly with Josef Svoboda from Lesy České republiky, s. p)	EFI

Reply

Feedback, remarks and potentials for collaboration

"*It is important that each forester ordinarily uses this method when marking trees for felling. He must consider whether a concrete tree is worth cutting, whether its ecologic value is not higher than a profit by selling it,*" emphasized Václav Lidický, Director for Forestry Production and Forests of the Czech Republic. The Marteloscopes in the Czech Republic were established in the course of the Strategic Dialogue between the Federal Republic of Germany and the Czech Republic during 2015 and 2016.

"*Our forest managers have to decide on a daily basis, whether a tree can be felled or is left for biodiversity. Training sites such as Marteloscopes allow us to virtually quantify our decisions both from an economic and ecological perspective. The around 40 Marteloscopes in nine European countries established by the Integrate + project are evidence that such demonstration sites are highly valuable for training and education*", says Ulrich Mergner, director of the Bavarian State Forest Enterprise in Ebrach, Germany. Based on experience from European conditions, it is possible to accommodate both economic and ecological point of view.

Prof. Josef Fanta, Czech forest ecologist of the Institute of Botany of the Czech Academy of Sciences, added that, "*especially climate change forces us to think about new approaches and point of views on forest management. Finding mainly inspiration in forest management practiced in the Nordic countries needs to be rethought. We should turn to developments in other countries such as Switzerland, Slovenia or Germany.*" "*The Marteloscope as a training and learning tool as it is becoming used in the Czech Republic I have to appraise, is a signal of understanding of natural changes*", he concluded.

Docs

Documentation

Documents/tools

- Powerpoint Presentation in Czech
- Marteloscope booklet Královský hvozd
- Tree microhabitat catalogue (Czech Version)
- I+ Tablet software

Other

- Press release produced (in Czech) and article in EFI Bonn Resilience Blog

Photo (Josef Svoboda)

- Czech forest managers performing Marteloscope exercise in Královský hvozd site

Photo (Daniel Kraus)

- Prof. Josef Fanta and Ulrich Mergner discussing selection results in the Marteloscope Královský hvozd

Title - Training exercise with the ONF Sarrebourg Executive Committee in the Falkenberg Marteloscope

Where

Location
Vosges Nord/Lorraine; Forêt de Bitche

Name of Marteloscope
Falkenberg

What

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [ ] Education [ ]
Presentation [ ] Other [ ]

Aim of activity
The idea was to show and test the tool, the tablet interface, and to discuss forestry and environmental issues as part of the implementation of the management plan on this specific forest plot jointly with the Executive Committee (Heads of Service, Territorial Unity Manager and Agency Director).

Further details
The Marteloscope is a beech-oak forest on acidic to slightly acidic soil with north-west slope. High fertility at the lower part and less at the top of the slope. Potential for the production of quality beech wood and sessile oak. Stand volume is distributed to oak (30%) and beech (70%). Mix of large and medium sized trees of beech and oak and very large beech trees Currently low potential for young trees with some presence of beech seedlings of varying quality. The ONF target for such stands is harvest at an optimum tree diameter of 70 cm for oak and 65 cm for beech. Frequency of intervention is 8 years while preserving the oak capital and its growing conditions in the stand while limiting competition through beech. Harvest of mature beech (criteria): 1) threatened quality loss, 2) competition for high quality oak and 3) if optimum diameter is reached selecting high quality trees. For harvesting very large trees the harvest order and felling direction need to be taken into consideration. There a options to initiate regeneration in low quality areas or mature tree sections. Harvest moves between 4.6 and 6.4 m^2/ha or 60 to 90 m^3/ha. Aim is an increase of 0.4m^2 /ha/year or 3.2 m^3/ha every 8 years. Target is to select 4 living habitat trees in the large beech trees/ha.

Who

Participants [11] of whom from EFI [0]
One country [X] multi-national [ ]
Country/countries of origin: France

Participants further details
Participants represented the following organisations ONF (Office National des Forêts, France) and PNRVN (Parc Naturel Régional des Vosges du Nord / Réserve Naturelle des Rochers et Tourbières du Pays de Bitche, France).

Participant list

Name	Affiliation
	Parc Naturel Régional des Vosges du Nord / Réserve Naturelle des Rochers et Tourbières du Pays de Bitche
	Office National des Forêts
	Office National des Forêts
	Office National des Forêts
	Office National des Forêts
	Office National des Forêts
	Office National des Forêts
	Office National des Forêts
	Office National des Forêts
	Office National des Forêts
	Office National des Forêts

Reply

Feedback, remarks and potentials for collaboration

The exercise was well received by the participants. They appreciated the tablet application that permitted to see immediately in the forest the result of their choices. They were also very interested by the tree microhabitat approach. They realised that they needed some more explanation on the diversity and the role of each tree microhabitat. The whole group had interesting discussions on integrative forest management. In the course of the exercise it was decided to organise a specific training session on tree related microhabitats, especially on their identification and conservation jointly with all the foresters of the Nature Park territory.

Docs

Documentation

Documents/tools

- Marteloscope booklet Falkenberg (French version)
- I+ tree microhabitat catalogue (French version)

Other

- I+ tablet software (French version)

Results of Marteloscope exercises

- 3 exercise results (internal documents)

Photo: Loïc Duchamp

- Nicolas Dericbourg, the Territorial Unity Manager, and Franck Jacquemin, the Agency Director, satisfied with their exercise

Photo: Andreas Schuck

- View of the lower part of the Falkenberg Marteloscope

Title - Marteloscope exercise as part of university education

Where

Location
Freiburg City Forest

Name of Marteloscope
Rosskopf

What

Activity type
Training [X] Marteloscope exercise [ ] Exchange of Experts [ ] Education [X]
Presentation [ ] Other [Participation of a film team]

Aim of activity
Conduct Marteloscope exercise as part of educational programme of the University of Freiburg, Chair of Silviculture. Students were asked to put theoretical knowledge to practice.

Further details
The students were tested on their knowledge resulting from the university course in the field. That included stand description, the understanding of silvicultural measures to be applied here and apply their knowledge on nature conservation in managed stands. For this reason, a Marteloscope exercise was conducted where they could test, in groups of 2-3, their abilities to identify habitat trees, potential future habitat trees and identify economic valuable tress for harvesting.

Who

Participants [20] of whom from EFI [1]
One country [X] multi-national [ ]
Country/countries of origin: Germany

Participants further details
Students about to finalise the Bachelor degree. Dr. Patrick Pyttel from the Chair of Silviculture implemented the university course which included also this practical exercise. Bettina Joa and Ronja Mikoleit PhD students within the ConFobi project to collect feedback from the students on their decision making behaviour and motivations. Further a film team was present who will utilise different opportunities (including this Marteloscope exercise) to document the topic of gender in forestry and forestry education. Besides the students also Patrick Pyttel and Andreas Schuck were interviewed and filmed. They will be kept updated on the work and if material is used be consulted.

Participant list

Name	Affiliation
Bachelor students (12)	University of Freiburg Faculty for Environment and Natural Resources
	University of Freiburg Faculty for Environment and Natural Resources
	University of Freiburg Faculty for Environment and Natural Resources
	University of Freiburg Faculty for Environment and Natural Resources
Film team (5)	Filming School Offenburg
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

Feedback from the students was very positive as they were able to apply what they have learned during university course and lectures. All were impressed by the opportunities that the I+ software provides and more than one student asked whether the tablets may be borrowed for revisiting the Marteloscope for conducting own training events.

Docs

Documentation

Documents/tools

- Marteloscope booklet Rosskopf
- I+ tree microhabitat catalogue (German)
- I+ tablet software

Photos (Andreas Schuck)

- Students at Rosskopf Marteloscope Text

Title - Foresters from Forst BW exploring the Rosskopf Marteloscope

Where

Location
Freiburg City Forest, Germany

Name of Marteloscope
Rosskopf

What

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [ ] Education [ ]
Presentation [ ] Other [ ]

Aim of activity
Introduce foresters from Forst-BW to the use of Marteloscopes and perform a full exercise.

Further details
ConFoBi (Conservation of Forest Biodiversity in Multiple-Use Landscapes of Central Europe) is a research project of the University of Freiburg and the Forest Research Institute Baden-Wuerttemberg. It focuses on effectiveness of structural retention measures for biodiversity conservation in multi-functional forests. Researchers work in a common pool of 135 study plots located in the Black Forest. In the course of ConFoBi's yearly information event for foresters managing those forest areas a Marteloscope training exercise was now conducted with 10 foresters from Forst-BW. The training exercise took place at the Rosskopf Marteloscope. It comprises of a multi-layered, about 105-year-old stand, consisting mainly of Silver fir, beech and Douglas fir. 2-person teams were given the task (1) to harvest 30m³ Douglas fir having reached the target diameter, (2) to remove 20m³ beech with the aim of supporting Douglas fir regeneration and (3) to retain 10 habitat trees, ideally showing ecological valuable microhabitat structures. .

Who

Participants [13] of whom from EFI [1]
One country [X] multi-national [ ]
Country/countries of origin: Germany

Participants further details
--

Participant list

Name	Affiliation
	Freiburg City Forest
	Forst BW
	Forst BW
	Forst BW
	Forst BW
	Forst BW
	Forst BW
	Forst BW
	Forst BW
	University Freiburg
	University Freiburg
	WSL
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

While trade-offs and different decision options were already intensively discussed during the one-hour thinning exercise within the teams, the final discussion with all 10 participants went even more vivid. When asked to present their decisions for specific trees, participants gave very different, yet comprehensible justifications for either retaining, harvesting or leaving the tree. The results of the exercise confirmed that there are diverse views on how to effectively integrate conservation objectives in forest management. Individual strategies may be influenced by different goals and preferences, stand and landscape structures and own experience. To make oneself more aware on options Marteloscope exercises can be very illustrative and may even stimulate changes of perspective some of the participants noted. They asked to be kept informed on further developments and may also proactively contact the project for further exercises.

Docs

Documentation

Documents/tools

- Marteloscope booklet Rosskopf
- Rosskopf Infromation sheet
- I+ tree microhabitat catalogue (german)
- I+ tablet software

Results of Marteloscope exercises

- Six exercise results: (internal documents)

Photos (Bettina Joa)

- Group work in the Rosskopf Marteloscope

Title – Marteloscope exercise with the Bundesamt für Naturschutz (BfN)

Where

Location
Regional Forest District Office Rhein-Sieg-Erft; Kottenforst forest district, North Rhine Westphalia, Germany

Name of Marteloscope
Jägerhäuschen

What

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [ ] Education [ ] Presentation [ ] Other [ ]

Aim of activity
Introduce the concept of Marteloscopes and its applications for implementing virtual tree selection exercises with emphasis on nature conservation options in managed forests.

Further details
The Marteloscope as a training tool for performing virtual selection exercises was introduced to all participants. The given exercise given was as follows: "*Removal of 50m³ of timber (low tree removal rate; harvest should include 10 % high quality timber) and designate 10 habitat trees*". The exercise represents an operational management target for this forest type in Kottenforst forest district. The participants were divided into groups of two for exercise implementation. Each group was then asked to explain their decision making in a group discussion supported by revisiting specific trees in the stand.

Who

Participants [12] of whom from EFI [2]
One country [X] multi-national [ ]
Country/countries of origin: Germany

Participants further details
Besides the participants from BfN a representative for the BMEL and GIZ were present. EFI was assisted by 3 representatives from the Regional Forest District Office Rhein-Sieg-Erft.

Name	Affiliation
	Bundesamt für Naturschutz (BfN)
	Bundesamt für Naturschutz (BfN)
	Bundesamt für Naturschutz (BfN)
	Bundesamt für Naturschutz (BfN)
	Bundesamt für Naturschutz (BfN)
	BMEL
	GIZ
	Regionalforstamt / FBB Kottenforst
	Regionalforstamt / FBB Kottenforst
	Regionalforstamt / FBB Kottenforst
Jakob Derks	EFI
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

The participants were very pleased with the Marteloscope as a tool for virtual tree selection exercises. They emphasised that such type of training in the field having a mobile software that immediately displays the results allows for objective fact based discussions. Also the use for calibrating for volume and basal area estimation was noted. User friendliness of the I+ software was highlighted as well as the functionality to run it in different languages. In the course of visits to selected trees discussions addressed trade offs between wood production and nature conservation. The three groups had diverging exercise results which highlighted that there is no one fits all solution. Proposals were made for the software tool to include additional layers of information. Addressing in some way the regeneration in a stand was proposed as was a layer for lying dead wood. Andreas Schuck noted that these topics have been looked into but are not yet fully realised. The participants agreed it to be useful to revisit the Marteloscope with other experts from eh BfN in the near future. The participants thanked especially the forest enterprise for having had the opportunity to visist the Jägerhäuschen Marteloscope.

Docs

Documentation

Documents/tools

- Jägerhäuschen Booklet and information sheet
- Tree microhabitat catalogue (DE)

Other

- I+ Trainer software (DE)
- 2 exercise results (internal)

Photos (Klaus Striepen)

- Introduction to the Jägerhäuschen Marteloscope and the exercise; Discussion during the Marteloscope exercise in small groups (next page)

Title – 40 foresters training in the Falkenberg Marteloscope

Where

Location
Vosges Nord/Lorraine; Forêt de Bitche

Name of Marteloscope
Falkenberg

What

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [ ] Education [ ]
Presentation [ ] Other [ ]

Aim of activity
Training of foresters in integrating biodiversity to managed forests.

Further details
A training session with around 40 foresters from public and private forests took place on 18th and 19th of October in the Marteloscope Falkenberg. The training was organised in the following way: 2 groups of 10 persons implemented in the course of one day both Marteloscope exercises and an on-site training on tree related microhabitats. Laurent Larrieu, an internationally renowned expert on tree related microhabitats from INRA Toulouse, introduced to the identification of such habitats and their importance for different forest dwelling species. The same approach was applied also for the second day. Andreas Schuck supported Loic Duchamp and his colleagues in conducting the Marteloscope exercises.

Who

Participants [approx. 40] of whom from EFI [1]
One country [1] multi-national [ ]
Country/countries of origin: France

Participants further details
Forest managers from ONF and private forest estates; representatives from nature conservation agencies an research.

Participant list

Name	Affiliation
Loic Duchamp	Parc Naturel Régional des Vosges du Nord / Réserve Naturelle des Rochers et Tourbières du Pays de Bitche
Laurent Larrieu	Dynafor, INRA Toulouse & CNPF-IDF (Centre National de la Propriété Forestière-Institut pour le Développement Forestier)
40 representatives (groups of 20 persons on 18. and 19. October 2018)	Mainly Office National des Forêts (ONF)
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

Feedback to the event was overall positive. The participants appreciated the insight to tree related microhabitats given by Laurent Larrieu. Why and for whom are they important and what can we do to preserve and develop them were main points of the training. The Marteloscope exercise then allowed to put the new acquired knowledge into action. Getting a better understanding for decision making when taking into consideration also nature conservation aspects was appreciated and the impacts of silvicultural interventions lively discussed. This showed especially as the five teams of two persons did not have the same results although they were given the same task. It was acknowledge that there are a variety of approaches and that there is not necessarily a "best solution". Each will have their advantages and disadvantages and ask for trade-offs.

Docs

Documentation

Documents/tools

- I+ Tablets
- Falkenberg Booklet (French)
- Tree microhabitat catalogues (French)

Other

- 20 exercise results (internal)

Photos (Andreas Schuck)

- Tree microhabitat training and Marteloscope exercises in Falkenberg.

Titel – Waldbautraining Bayerische Forstverwaltung „Umgang mit Marteloskopen"

Wo

Ort
Wachenroth (Bayern, Deutschland)

Name des Marteloskops
Wachenroth

Was

Aktivität
Training [X] Marteloskop Übung [X] Expertenaustausch [ ] Weiterbildung [X]
Präsentation [ ] weitere Aktivitäten [ ]

Ziel der Aktivität
Fortbildung der Mitarbeiter der Bayerischen Forstverwaltung.

Details
Die wesentlichen Ziele, die mit dem Waldbautraining verfolgt wurden waren: (1) Kennenlernen eines Marteloskops und dessen Möglichkeiten, (2) Strukturiertes Arbeiten über Analyse - Zielfindung - Maßnahme (Auszeichnung), (3) Eigenreflektion der Auszeichenarbeit (Soll/Ist-Vergleich), (4) Sensibilisierung für neue Herausforderungen (Habitatmerkmale und Werte) und (5) Erfahrungsaustausch.

Wer

Teilnehmer [11 (+8)] davon EFI [0]
National [X] Multinational [ ]
Teilnehmende(s) Land/Länder: Deutschland

Informationen zu Teilnehmern
Mitarbeiter, die in der waldbaulichen Beratung tätig sind. Revierleiter, Abteilungs- u. Bereichsleiter, QbF (Qualitätsbeauftragte für forstl. Förderung) FZusB (Berater der forstlichen Zusammenschlüsse); QE 3/QE 4 aller Altersgruppen.

Teilnehmerliste

Name	Organisation
11 Teilnehmer	Bayerische Forstverwaltung (QE 3/QE 4)
1 Teilnehmer	Bayerische Staatsforsten AöR
4 Teilnehmer	Steuerungsgruppe Bayer. Forstverwaltung (Beobachter)
1 Teilnehmer	Forst- und Technikerschule Lohr am Main (Beobachter)
	Bayerische Landesanstalt für Wald und Forstwirtschaft (LWF) Waldbautrainer Nordbayern
	Bayerische Landesanstalt für Wald- und Forstwirtschaft (LWF) Waldbautrainer Südbayern (Abt. 3 Waldbau und Bergwald)

Feed-back

Anmerkungen, Möglichkeiten der Zusammenarbeit

Eine Evaluierung der Veranstaltung aus dem Teilnehmerkreis gibt es als seperate Anlage. Wie geht es nach dieser ersten Veranstaltung weiter: Das Thema Marteloskope wird demnächst am Bayerischen Staatsministerium für Ernährung, Landwirtschaft und Forsten mit der Zielsetzung besprochen, dass es landesweit zur Einführung kommen soll. Es sollen regelmäßige Waldbautrainings in den bestehenden Marteloskopen angeboten werden und ferner neue über Bayern hinweg entstehen. Hier sollen als Schwerpunkt regionale Themen abgebildet sein (z.B. Fichtenpflege in verschiedenen Stadien, Edellaubholz, Waldumbau in klimasensitiven Bereichen).

Doku

Handreichungen

Unterlagen/Tools

- Martelskop Handout ‚Wachenroth'
- Drehbuch WBT "Umgang mit Marteloskopen"
- Arbeitsaufträge für Teilnehmer (Poster)
- Hilfsmittel (Checkliste)
- I+Tablet software

Sonstiges

- Die Präsentation der Ergebnisse aus den Auszeichenübungen erfolgte über einen Großbildschirm im Wald, mit dessen Hilfe die Diskussion im Plenum erfolgte.

Fotos (Wolfram Rothkegel)

- Fortbildung der Mitarbeiter der Bayerischen Forstverwaltung im Marteloskop ‚Wachenroth'

Title – Gorjanci region excursion and training exercise in the Marteloscope Ravna gora

Where

Location
Gorjanci region, Slovenia

Name of Marteloscope
Ravna gora

What

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [X] Education [X]
Presentation [X] Other [field excursion]

Aim of activity
This field trip was part of a one-week training held in Slovenia in the frame of the Net4Forest project (Erasmus+). The aim of the field trip was to exchange knowledge between foresters from 5 different countries. One of the project outputs will be a learning toolkit, if possible interactive, therefore the "I+" Trainer Software application running on mobile devices was a good example of how to use such tools in field exercises. Furthermore, the group was introduced to the Gorjanci forest region including the forest reserve Kobile and a variation of forests and how they are managed in Slovenia.

Further details
On October 25th we organised a field trip to Gorjanci region. 25 participants took part in the excursion with 20 being from Estonia, Latvia, Sweden and Spain and 5 from Slovenian Forestry Institute (SFI). Kristina Sever (SFI) presented Gorjanci region including the privately managed forest owned by the Monastery Kartuzija Pleterje. The Marteloscope Ravna gora is located in that forest. She introduced tree microhabitats, the use of Marteloscopes and the "I+" Trainer Software. The data and results of Marteloscope Ravna gora were discussed and tree microhabitats presented. Some actual examples were shown on nearby trees. The participants then performed a simplified training exercise using the I+ Trainer tablet software. They walked through the Marteloscope site and tested the software application with a number of trees. Once finished, they discussed potentials of hand held software tools for training in forest stands. Advantages were identified and where there is room for further improvement. Next stop was Kobile with a view into the Kobile valley. Kristina Sever presented the history of the valley, natural features, conservation status and resulting challenges.

Who

Participants [25] of whom from EFI [0]
One country [ ] multi-national [X]
Country/countries of origin: Estonia, Latvia, Slovenia, Spain, Sweden

Participants further details
25 participants from Slovenia, Estonia, Latvia, Sweden and Spain participated in the Marteloscope demonstration. They are all involved in the Net4Forest project and mainly forestry professionals, members of Forestry Associations and forest owners. SFI organized a field excursion.

Participant list

Name	Affiliation
	Slovenian Forestry Institute
	Slovenian Forestry Institute
	Slovenian Forestry Institute
	Slovenian Forestry Institute
	Slovenian Forestry Institute
	Foundation Centre for Suppport of Forest Owner Cooperation, Latvia
	SIHTASUTUS ERAMETSAKESKUS, Estonia
	SVERIGES LANTBRUKSUNIVERSITET, Sweden
	Consorci Centre de Ciencia I Tecnologia Forestal De Catalunya, Spain

Reply

Feedback, remarks and potentials for collaboration

The participants were very satisfied with the field excursion. Their feedback was consistently positive. As foresters they enjoyed working in the field with new IT technology. The Marteloscope visist with software demonstration was also very useful for the Net4Forest project and its planned outputs. Idea is to develop an online interactive toolkit for the education of forest owners. It was further helpful for us to see how to organize training events and on what we should focus. All participants were highly interested in the use of Marteloscopes and will investigate possibilities in their home countries. One participant from SLU has already established contact with the Informar project team regarding a Marteloscope in Sweden.

Docs

Documentation

Documents/tools

- Info sheet Ravna gora; I+ tree microhabitat catalogue (EN)
- I+ tablet software

Photos (SFI)

- Kristina Sever introducing to the Gorjanci forest and the Marteloscope Ravna gora.

Introduction to the I+ trainer software followed by an training exercise.

Viewpoint to the forest reserve Kobile.

Title – Training exercise with forest engineers in the Marteloscope East Boranja I

Where

Location
East Boranja, Loznica, Republic of Serbia

Name of Marteloscope
East Boranja I

What

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [ ] Education [ ]
Presentation [ ] Other [ ]

Aim of activity
Aim of the event was a training exercise with forest engineers in the Marteloscope East Boranja I in order to allow the presentation and discussion of the new 'Management Guideline' concept.

Further details
The exercise asked for the application of appropriate silvicultural treatment according to the new 'Management Guideline' concept. Since the object is high mixed beech stand in maturing phase, the task was to perform selective thinning with the selection of crop trees and their competitors. The exercise was implemented by four groups thus allowing for a sufficient set of results. Those were presented by the groups during a discussion session on site. A number of crop trees and their competitors were visited to discuss about decisions of different groups. The Marteloscope exercise was implemented by Nenad Petrović, Branko Kanjevac, Marko Kazimirović (Faculty of Forestry University of Belgrade) and Radivoje Kaurin (Ministry of Agriculture, Forestry and Water Management -Directorate of Forests).

Who

Participants [14] of whom from the "Integrate team" [4]
One country [X] multi-national [ ]
Country/countries of origin: Republic of Serbia

Participants further details
Participants represented the following organisations: PE "Srbijašume", PE "Vojvodinašume" and Ministry of Agriculture, Forestry and Water Management -Directorate of Forests.

Participant list

Name	Affiliation
	PE "Vojvodinašume"
	PE "Vojvodinašume"
	PE "Vojvodinašume"
	PE "Srbijašume"
	PE "Srbijašume"
	PE "Srbijašume"

Name	Affiliation
	PE "Srbijašume"
	PE "Srbijašume"
	PE "Srbijašume"
	Ministry of Agriculture, Forestry and Water Management - Directorate of Forests
	Faculty of Forestry University of Belgrade
	Ministry of Agriculture, Forestry and Water Management - Directorate of Forests
	Faculty of Forestry University of Belgrade
	Faculty of Forestry University of Belgrade

Reply

Feedback, remarks and potentials for collaboration

The participants successfully completed the training. All participants discussed the criteria for tree selection according to the new 'Management Guideline' concept. During the discussion all participants agreed that it is necessary to continue with such courses in order to further exchange knowledge and experience about current problems in forestry practice.

Docs

Documentation

Documents/tools

- I+ Trainer software (EN)
- Tree Microhabitat catalogue (EN)
- Marteloscope booklet East Boranja I
- 4 training results (internal documentation)

Photos (Branko Kanjevac)

- Performing training exercise with forest engineers followed by group discussion

- Selection of crop trees and their competitors

- Selection of crop trees and their competitors

Titel – Waldbautraining „Einsatz von Marteloskopen“ in Wachenroth - Rummelwald

Wo

Ort
Wachenroth (Bayern, Deutschland)

Name des Marteloskops
Wachenroth - Rummelwald

Was

Aktivität
Training [X] Marteloskop Übung [X] Expertenaustausch [ ] Weiterbildung [X]
Präsentation [ ] weitere Aktivitäten [ ]

Ziel der Aktivität
In Gruppenarbeit die Zielsetzung für den Marteloskop-Bestand erarbeiten und diese mit Hilfe der Tabletsoftware umsetzen.

Details
Der Fortbildung lag ein detailliert ausgearbeitetes Drehbuch zugrunde. Ottmar Ruppert und Wolfram Rothkegel führten Schritt für Schritt durch die Übung. Sie begannen mt einem Erfahrungsaustausch fragten Erwartungen bei den Teilnehmern ab und erläuterten die Lernziele des Tages. Sie führten zusammen mit Andreas Schuck das Marteloskop als praxisnahes Trainingstool ein. Es galt dann in Kleingruppen ein/mehrere Durchforstungziel(e) zu formulieren und diese im Martelsokop mit Hilfe der „I+“ Trainingssoftware virtuell umzusetzen. Danach wurden die Ergebnisse auf einen Grossbildschirm projeziert, von den Gruppen vorgestellt und mit den eigenen Zielsetzungen abgelichen.

Wer

Teilnehmer [14] davon EFI [1]
National [X] Multinational [ ]
Teilnehmende(s) Land/Länder: Deutschland

Informationen zu Teilnehmern
Die Gruppe der Teilnehmer setzte sich aus Revierleitern, Förstern in der Privatwaldbetreuung und Privatwaldbesitzern zusammen.

Teilnehmerliste

Name	Organisation
Anzahl: 11	Verschiedene Forstbetriebe
	Bayerische Landesanstalt für Wald und Forstwirtschaft (LWF) Waldbautrainer Nordbayern
	Bayerische Landesanstalt für Wald- und Forstwirtschaft (LWF) Waldbautrainer Südbayern (Abt. 3 Waldbau und Bergwald)
Andreas Schuck	EFI

Feed-back

Anmerkungen, Möglichkeiten der Zusammenarbeit

Zusammnefassend gab es von den Teilnehmern für die Fortbildung im Marteloskop sehr positives Feedback. Vor allem wurde das gut strukturierte „Drehbuch“ des Trainings gelobt. Besondes schätzten die Übungsteilnehmer das virtuelle Auszeichnen mit den Tablets und die anschliessende Präsentation der Ergebnisse im Wald auf grossem Bildschirm. Jede Gruppe hatte die Möglichkeit ihre Resultate detailliert in Zahlen und Grafiken vor der gesamten Gruppe zu erläutern und dabei auf bestimmte Bestandesstrukuren bzw. Einzelbäume einzugehen. Kommenatre wie „sehr visuelles Lernen“, „solche Art von Übungen sollten viel öfters angeboten werden“, „ das ist innovativer Einsatz von IT Tools im Wald“ wurden von den Teilnehmern in der Abschlussdikussion geäussert. Ein grosses Lob ging an die Waldbautrainer wie auch ei Dankeschön an das Europäische Forstinstitut für die bereitstellung der Tabletsoftware.

Doku

Handreichungen

Unterlagen/Tools

- Martelskop Handout ‚Wachenroth‘
- Drehbuch WBT “Umgang mit Marteloskopen”
- Arbeitsaufträge für Teilnehmer (Poster)
- Hilfsmittel (Checkliste)
- I+Tablet software

Sonstiges

- Die Präsentation der Ergebnisse aus den Auszeichenübungen erfolgte über einen Großbildschirm im Wald, mit dessen Hilfe die Diskussion im Plenum erfolgte.

Fotos (Andreas Schuck)

- Fortbildung im Marteloskop ‚Wachenroth‘.


LWF
Waldbestrahlung Marteloskope
LWF
Waldbestrahlung Marteloskope
LWF

Title -Workshop on tending of seed stands on Marteloscope site Pri studencu

Where

Location
Dvor pri Žužemberku, Slovenia

Name of Marteloscope
Studenec

What

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [X] Education [X] Presentation [X] Other [ ]

Aim of activity
This workshop was organized in the frame of LIFE+ LIFEGENMON PROJECT by the Slovenian Forestry Institute and Slovenia Forest Service. Participants were foresters from the Slovenian Forest Service, mainly district foresters and planners. The aim was to show and educate them on how to manage beech seed stands and which tree characteristics are important when choosing a seed tree and when performing tree felling and tending operations.

Further details
On the 24th of April 2019, a LIFEGENMON workshop was held in Dvor, Žužemberk on the tending of seeds stands. This was the third in a series of workshops on the importance, development and implementation of conservation of genetic diversity in Slovenian forests. As an introduction the aim of seed stands and genetic conservation were described. The seed stand Pri studencu was described as were Marteloscopes and their application. Kristina Sever and Andrej Breznikar gave instructions on how to apply the I+ Trainer tool, that was later used for the training. Participants were divided in to 10 groups (approx. 5 per group). With the help of I+ Trainer they performed a virtual tree selection exercise. The most important criteria influencing the decision for felling trees were their morphology, the provision of seeds and the structure of the stand. Focus was primarily on retaining the highest quality trees while removing those displaying negative morphological signs (e.g. forks, curving of the trunk, asymmetry of the crown, etc.). The I+ Trainer was adapted in a way that we used morphological signs of the trees instead of tree microhabitats. Concluding, we reviewed the results of all groups and compared them. The differences in results among groups stimulated an lively discussion and evaluation.

Who

Participants [50] of whom from EFI [0]
One country [X] multi-national [ ]
Country/countries of origin: Slovenia

Participants further details
37 participants from Slovenia Forest service (SFS) and 13 participants from Slovenian Forestry Institute (SFI) joined the Marteloscope training in the seed stand Pri studencu. All participants are experts from the field of forestry. Participants from SFI are involved in the LIFEGENMON project and organized the training in collaboration with representatives of SFS (field foresters / forest planners).

Participant list

Name	Affiliation
	Slovenian Forestry Institute
	Slovenian Forestry Institute
	Slovenian Forestry Institute
	Slovenian Forestry Institute
	Slovenian Forestry Institute
	Slovenian Forestry Institute
	Slovenian Forestry Institute
	Slovenia Forest Service
36 foresters and forest planners	Slovenia Forest Service

Reply

Feedback, remarks and potentials for collaboration

The participants were very satisfied with the workshop and training. It was a new approach for them, and their feedback was positive. As foresters they enjoyed working in the field with new technology,. They especially liked that the results were immediately available – in the field. We have already started planning a new training exercise at the Pahernik Marteloscope with foresters from that region.

Docs

Documentation

I+ documents used

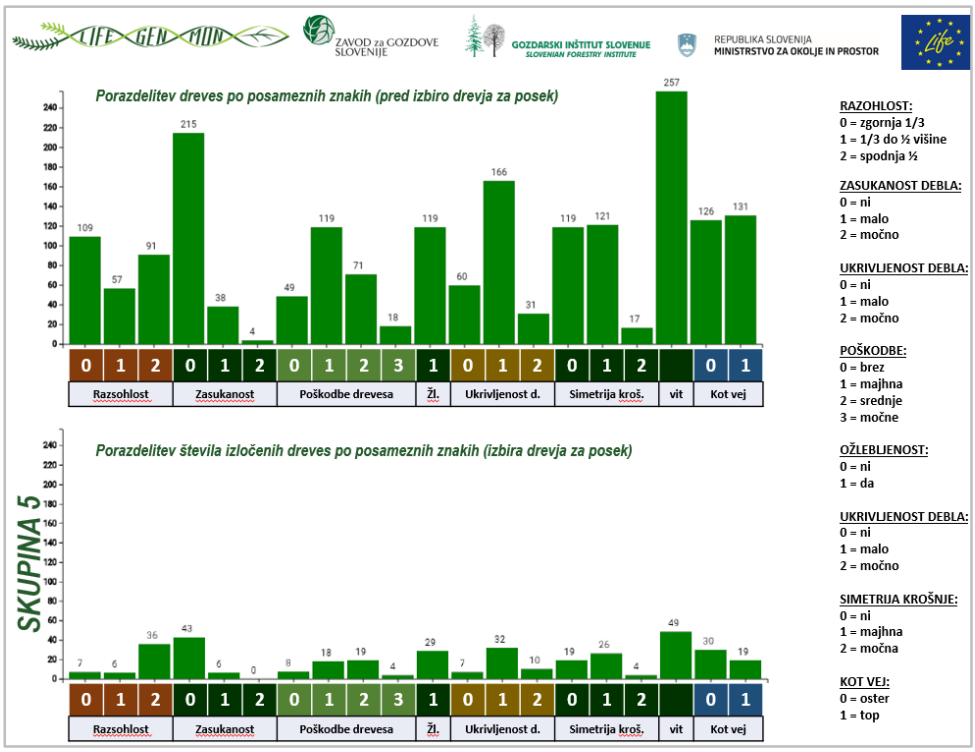
- PPT presentation on Marteloscope and I+ training
- I+ tablet software

Results of Marteloscope exercises

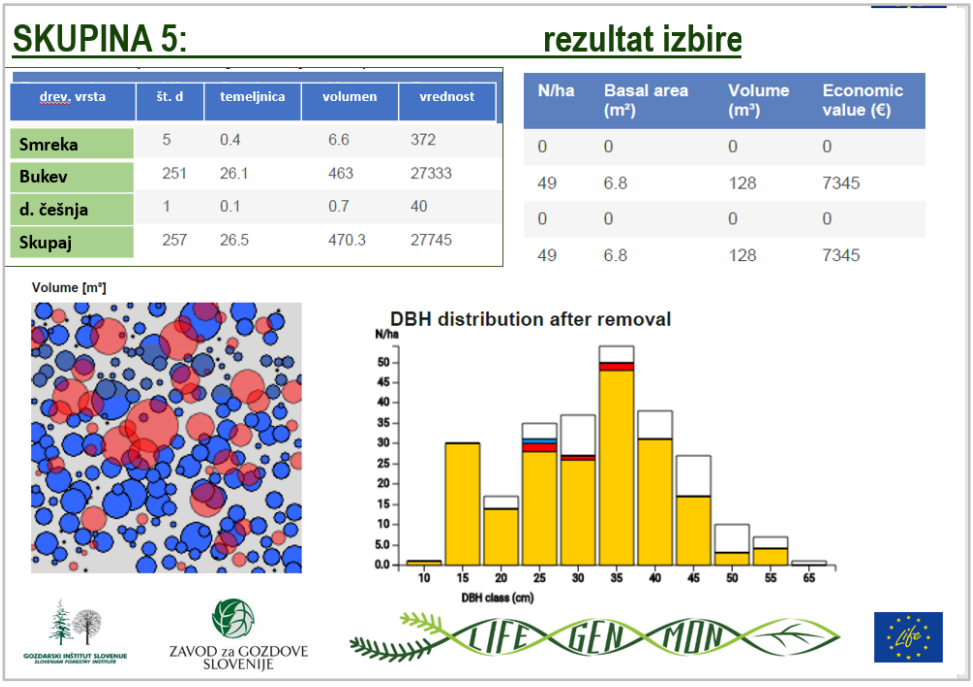
The differences in results among groups enabled an interesting discussion. Some groups were very careful in selecting trees for removal, while other decided to cut a larger numbers, with many in between the two extremes. They all selected around 45 trees out of 257 with an average of 97 m3 (total volume: 470 m3). They all removed trees with negative morphological signs (e.g. forks, curvature of the trunk, asymmetry of the crown, etc.).

Table 1: Results of virtual tree selection by groups

Group n.	n. of trees selected	m^3
1	29	82
2	140	258
3	40	92
4	23	79
5	29	128
6	41	104
7	45	122
8	40	101
9	24	54
10	37	85
average	44.8	110.5



- The results of group 5



- The results of group 5 – morphological signs before intervention and removed

Photos (Katja Kavčič Sonnenschein)

- Kristina Sever (SFI) is introducing a group to the I+ Trainer.

- A group performing selection using the I+ Trainer software.

Title – Marteloscope training in Wilderness Park Sihlwald

Where

Location
City of Zürich /Foundation Wildnispark Zürich

Name of Marteloscope
Sihlwald

What

Activity type
Training [ ] Marteloscope exercise [X] Exchange of Experts [ ] Education [X]
Presentation [ ] Other [ ]

Aim of activity
Introducing members of the Foundation Wildnispark Zürich staff on potential applications of Marteloscopes.

Further details
The participants were introduced to the concept of Marteloscopes. For this the so called 'Sihlwald Marteloscope' was visited. It is located within the 1100 ha large Sihlwald Foundation Wildnispark Zürich. Main goal set out by the participants was to learn what type of training applications are usually implemented in Marteloscopes, get introduced to the I+ software and to discuss jointly how the Sihlwald Marteloscope can serve the educational framework / teaching assignments of the park.

Who

Participants [10] of whom from EFI [1]
One country [X] multi-national [ ]
Country/countries of origin: Switzerland

Participants further details

Participant list

Name	Affiliation
	Foundation Wildnispark Zürich
	Foundation Wildnispark Zürich
	Foundation Wildnispark Zürich
	Foundation Wildnispark Zürich
	Foundation Wildnispark Zürich
	Foundation Wildnispark Zürich
	Foundation Wildnispark Zürich
	WSL
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

The feedback by the participants was overall positive. It will now be the task of the Foundation Wildnispark Zürich team to apply the acquired knowledge for setting out a framework for Marteloscope use in line with the strategic aims of the park. It was noted that education for forestry and agricultural schools as well as universities could be main target groups. Also school children are frequent visitors to the Sihlwald. They learn about forests, their role as an ecosystem, the services they provide, or which animals call them their home. For this the Sihlwald Marteloscope may serve useful. Due to the frequency of visitors also the general public could be seen as a strategic target group. It was agreed that the European Forest Institute and the WSL are available for further consultations and implementing initial training and educational events.

Docs

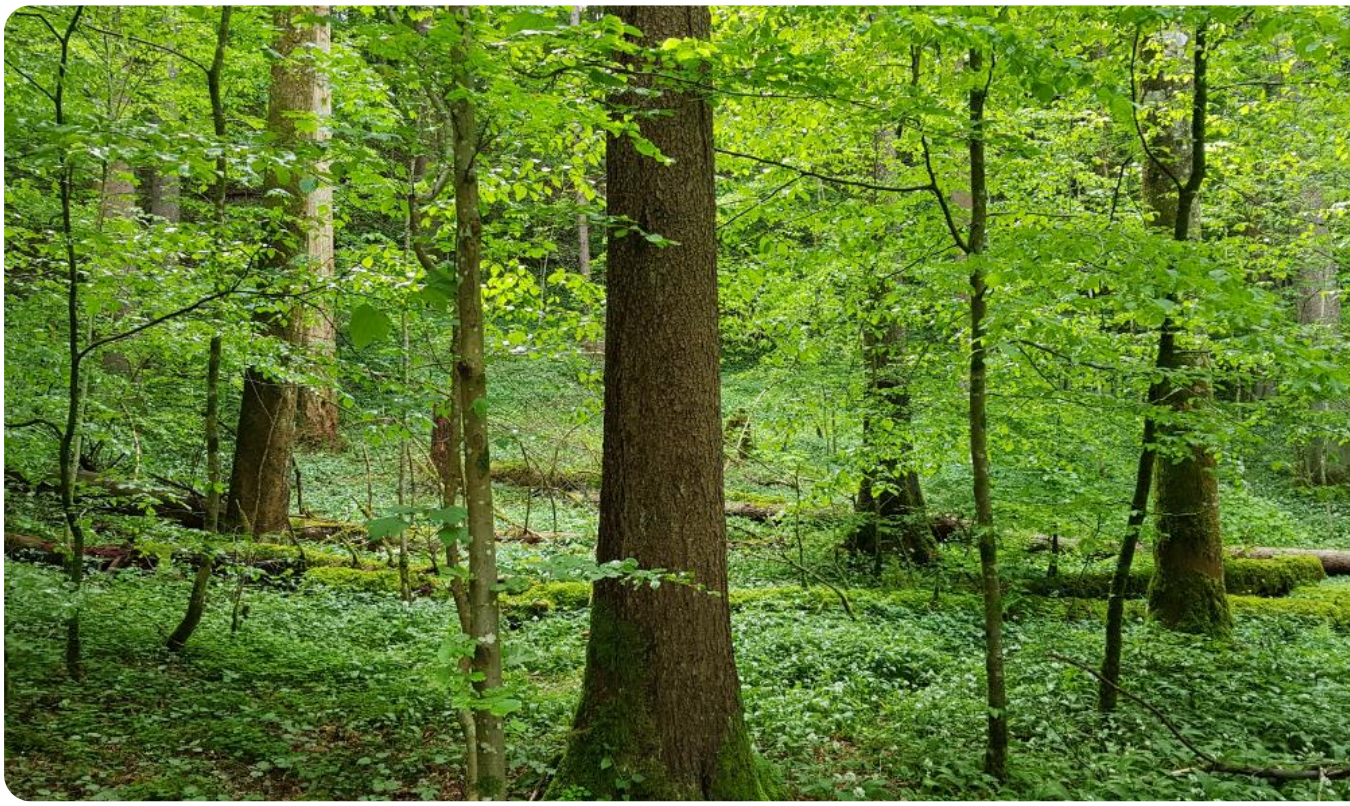
Documentation

Documents/tools

- Tablet software
- Tree microhabitat app

Photo (Andreas Schuck)

- Introduction to Marteloscopes, contucting a training exercise in the Sihlwald site and jointly discussing their use in the Foundation Wildnispark Zürich.




wildnispark.ch

Title – Presentation of Marteloscope exercises to the participants of the Final PWG Workshop at the Marteloscope Vrnjačka banja

Where

Location
Vrnjačka banja, Republic of Serbia

Name of Marteloscope
Vrnjačka banja

What

Activity type
Training [ ] Marteloscope exercise [X] Exchange of Experts [ ] Education [ ]
Presentation [X] Other [ ]

Aim of activity
Aim of the event was a presentation of Marteloscope exercises to the participants of the Final PWG Workshop at the Marteloscope Vrnjačka banja (Project: "Promotion of Vocational and Practical Postgraduate Training in the Serbian Forestry Sector"). Participants could experience in exemplary training courses the use of Marteloscopes and how they can be applied in the course of their project.

Further details
Participants had the opportunity to hear more details about Marteloscope exercises, as well as how we use these exercises in training courses for practical application of the new „Forest Management Guidelines". Marteloscope exercises were presented by Nenad Petrović, Branko Kanjevac and Nemanja Lazarević (Faculty of Forestry University of Belgrade).

Who

Participants [35] of whom from the "Integrate team" [4]
One country [ ] multi-national [X]
Country/countries of origin: Republic of Serbia, Germany

Participants further details
Participants represented the following organisations: PE "Srbijašume", PE "Vojvodinašume" and Monastery forests doo, Loznica, Chamber of Forest Engineers, Belgrade, PE "Šume-Goč, etc.

Participant list

Name	Affiliation
	Waldvisionen
	GFA
	BMEL
	Ministry of Agriculture, Forestry and Water Management - Directorate of Forests
	UNIQUE forestry and land use Freiburg, Germany
	UNIQUE forestry and land use Freiburg, Germany

Name	Affiliation
	Faculty of Forestry University of Belgrade
	Chamber of Forest Engineers, Belgrade
	PE "Vojvodinašume"
	PE "Vojvodinašume"
	PE "Vojvodinašume"
	PE "Srbijašume"
	PE "Srbijašume"
	PE "Srbijašume"
	PE "Srbijašume"
	PE "Srbijašume"
	PE "Vojvodinašume"
	Ministry of Agriculture, Forestry and Water Management - Directorate of Forests
	Ministry of Agriculture, Forestry and Water Management - Directorate of Forests
	Faculty of Forestry University of Belgrade
	Faculty of Forestry University of Belgrade
	Faculty of Forestry University of Belgrade
	Secondary Forestry School, Kraljevo, Serbia
	PE "Šume-Goč"
	PE "Šume-Goč"
	Monastery forests doo, Loznica
	PE "Srbijašume"
	Institute of Lowland Forestry and Environment, Novi Sad, Serbia
	Secondary School of Food Processing and Forestry, Sremska Mitrovica, Serbia
	Secondary School of Food Processing and Forestry, Sremska Mitrovica, Serbia
	Ministry of Agriculture, Forestry and Water Management - Directorate of Forests
	Chamber of Forest Engineers, Belgrade

Reply

Feedback, remarks and potentials for collaboration

During the presentation all participants discussed about the criteria for tree selection according to the new „Forest Management Guidelines“. All participants agreed that these courses will be very important for future improvement of the work of forest engineers in practice.

Docs

Documentation

Documents/tools

- I+ Trainer software (EN)
- Tree Microhabitat catalogue (EN)
- Marteloscope booklet Vrnjačka banja

Photos (Chamber of Forest Engineers, Belgrade)

- Presentation of Marteloscope exercises to the participants

- Final PWG workshop.

Titel – Süddeutsche Waldbaureferenten – Waldbaufortbildung

Wo

Ort
Saarforst Landesbetrieb von der Heydt, Saarbrücken

Name des Marteloskops
Von-der-Heydt

Was

Aktivität
Training [X] Marteloskop Übung [ ] Expertenaustausch [ ] Weiterbildung [ ]
Präsentation [ ] weitere Aktivitäten [praktische Exkursion im Zuge der Tagung der Waldbaureferenten]

Ziel der Aktivität
Die Probanden der Fortbildung mussten in ihrer Gruppe das gesamte Mareloskop entsprechend einer vorgegeben Zielsetzung für das kommende Jahrzehnt auszeichnen.

Details
Nach der Etablierung des ersten Marteloskops im Saarland fand im Zuge der Waldbaureferententagung der erste Praxischeck statt. Nach einer kurzen Einführung ins Thema und der Arbeitsanweisung wurden 4 Gruppen mit jeweils einem Tablet und der I+Trainer Software ausgestattet. Entsprechend der jeweils vorher innerhalb der Gruppe festgelegten Ziele, wurde die gesamte Fläche von den Teilnehmern bearbeitet. Als die Auszeichnung abgeschlossen war, wurde den Teilnehmern eine Ergebnispräsentation im Vergleich der vier Gruppen vorgestellt und diskutiert.

Wer

Teilnehmer [39] davon EFI [0]
National [X] Multinational [ ]
Teilnehmende(s) Land/Länder: Deutschland (Saarland, Rheinland-Pfalz, Baden-Württemberg, Hessen, Bayern)

Informationen zu Teilnehmern
Im Zuge der jährlichen Waldbaureferententagung, die 2019 im Saarland stattfand, durften die Teilnehmer praktische Erfahrung im Umgang mit dem Marteloskop sammeln.

Teilnehmerliste

Name	Organisation
	ForstBW
	ForstBW
	ForstBW
	ForstBW
	ForstBW
	ForstBW
	ForstBW
	ForstBW

Name	Affiliation
	ForstBW
	ForstBW
	ForstBW
	ForstBW
	ForstBW
	ForstBW
	BMEL
	LWF
	LWF
	STMELF
	Hessenforst
	Hessenforst
	Hessenforst
	Hessenforst
	Hessenforst
	Hessenforst
	Hessenforst
	Landesforsten Rheinland Pfalz
	Landesforsten Rheinland Pfalz
	Landesforsten Rheinland Pfalz
	Landesforsten Rheinland Pfalz
	Landesforsten Rheinland Pfalz
	Landesforsten Rheinland Pfalz
	Landesforsten Rheinland Pfalz
	Saarforst Landesbetrieb
	Saarforst Landesbetrieb
	Saarforst Landesbetrieb
	Saarforst Landesbetrieb
	Saarforst Landesbetrieb
	Saarforst Landesbetrieb
	Ministerium für Umwelt und Verbraucherschutz Saarland

Feed-back

Anmerkungen, Möglichkeiten der Zusammenarbeit

Die Teilnehmer äußerten sich überwiegend positiv zum Marteloskop. Flächengröße und Bearbeitung waren gut machbar und die praktische Übung war mit der I+Trainer Software eine neue Erfahrung. Die Software wäre aus Sicht der Probanden noch etwas ausbaufähig, vor allem bezüglich der Auswertungsmöglichkeiten. Vom Handling und der Bedienung waren sie überzeugt. Einige Teilnehmer nehmen die Erfahrung mit ins Heimatland und haben angeregt ebenfalls eine Fläche einzuführen, um diese zum Waldbautraining zu nutzen.

Doku

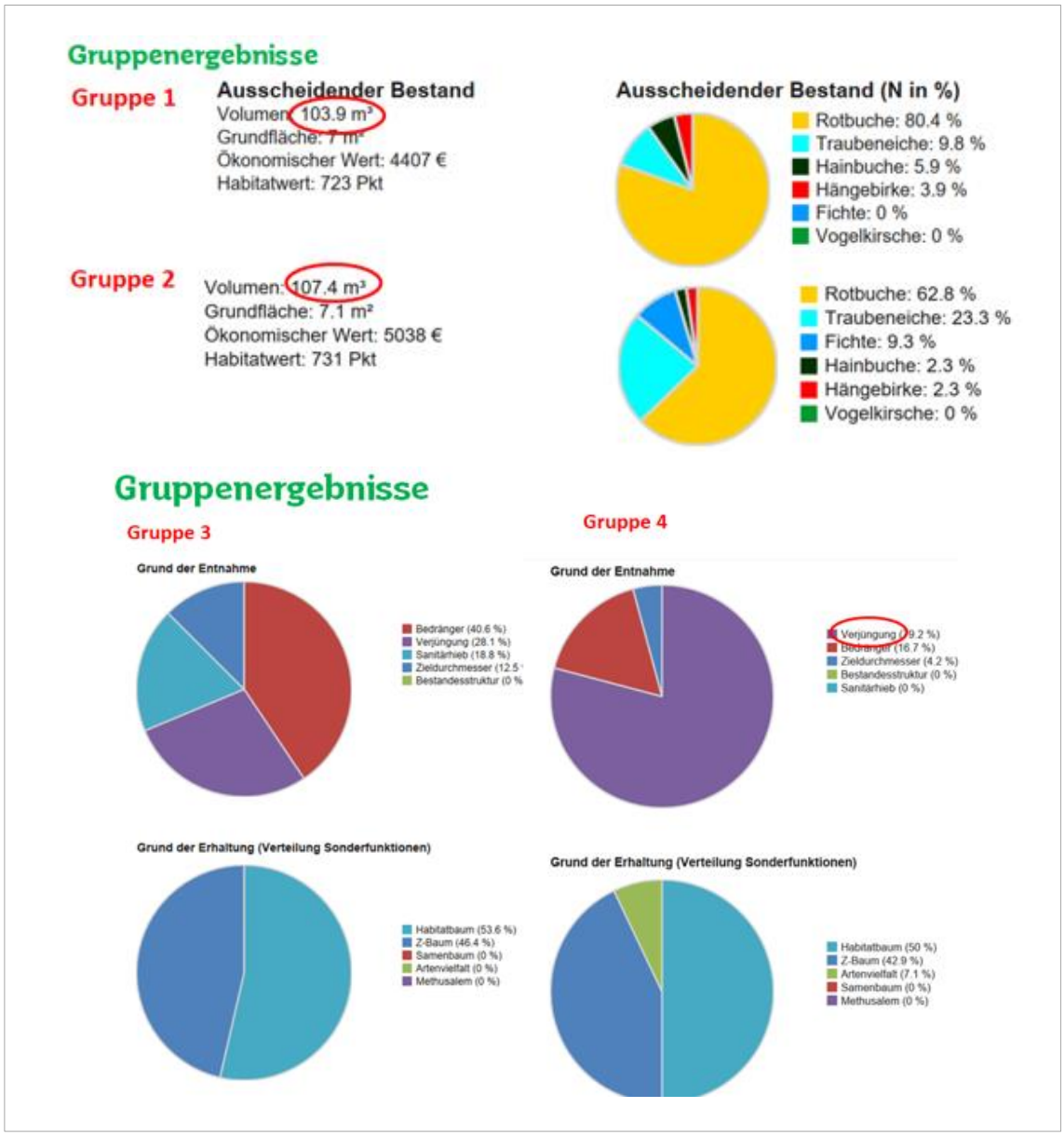
Handreichungen

Unterlagen/Tools

- Marteloskop Infromationsblatt ‚Von der Heydt'
- Katalog der Baummikrohabitate (DE)
- I+ Tablet Software (DE Version)

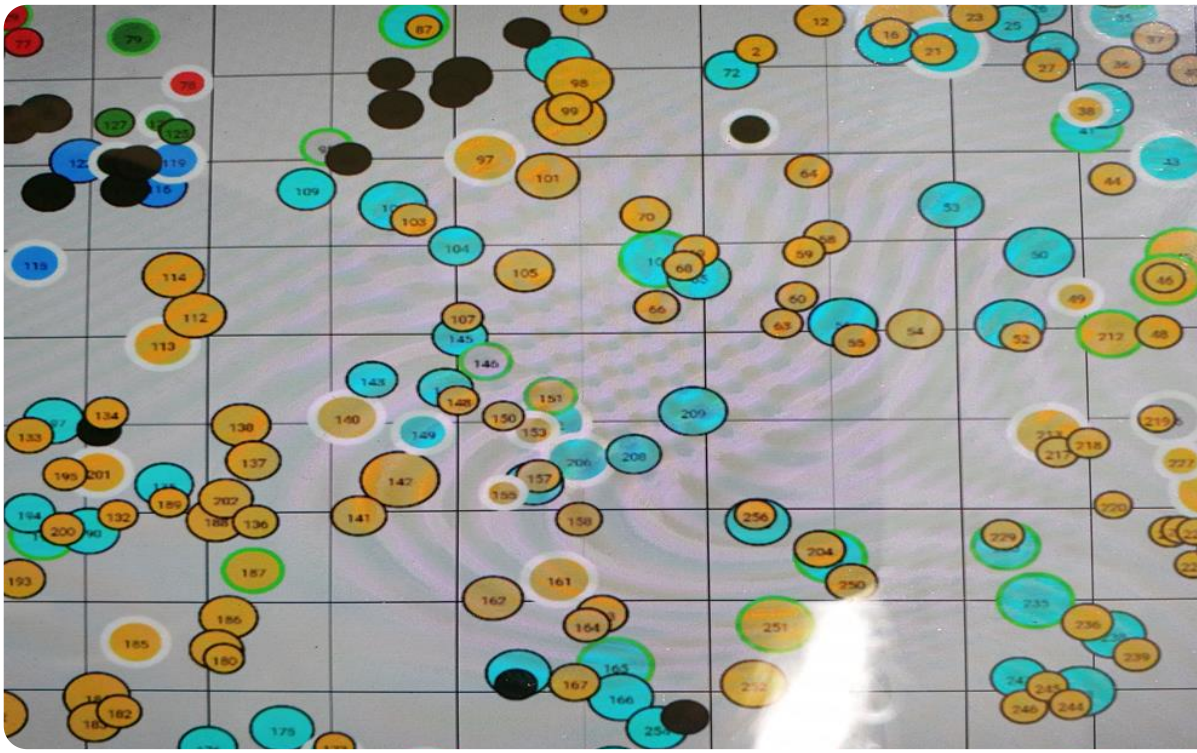
Marteloskop Ergebnisse

- Beispiele zusammengestellt von Alexandra Steinmetz (Saarforst)



Fotos (bereitgestellt von den Übungsteilnehmern)

- Abbildung der Marteloskopfläche nach der Auszeichnung
- Eine der vier Gruppen nach der Aufnahme im Marteloskop



Title – Tree Marker Training for Biodiversity Conservation and Timber Production in Mixed High Forest (MHF)

Where

Location
Donadea Forest Park, County Kildare, Ireland

Name(s) of Marteloscope(s)
Donadea MHF

What

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [ ] Education [X]
Presentation [ ] Other [ ]

Aim of activity
This one-day workshop at Donadea Forest Park was designed to introduce the principles of tree marking in mature "Mixed High Forest" (MHF) where there are both significant biodiversity and timber production considerations associated with active stand management. The workshop was designed for both professional ecologists and foresters, and to be as "hands on" as possible. The event provided an opportunity for ecologists and foresters to share their own expertise and perspective on management of a MHF stand..

Further details
Within the Coillte Bio Class system, the Donadea MHF stand is BioClass 3, which implies that long-term management has the objective of sustaining a diversity of species and habitat features. The workshop was based on-site in the forest stand and involved a mix of training and practical exercises based in a Marteloscope (training plot) specially devised to demonstrate diverse stand attributes. For the purposes of this project, a 0.5 ha Marteloscope was established in accordance with the INFORMAR Marteloscope protocol. The I+Trainer software was then used during the workshop.

Participants worked in small groups of 2-3 people, with ecologists and foresters in each group. Each group was asked to complete two activities: 1. To select trees to retain on the basis of microhabitat value and economic value; 2. To reduce stand basal area by 20% while retaining high value trees for habitat and timber value. Participants received individual feedback on tree marking and how to identify and classify both timber quality and a range of microhabitat features on individual trees, and within the stand.

Who

Participants [16] of whom from EFI [0]
One country [X] multi-national [ ]
Country/countries of origin: Ireland

Participants further details
The participants represented three professional groups engaged with the Coillte BioClass Project:

- Coillte Forest Resource Managers
- Professional Ecologists
- Professional Foresters

Participant list

Name	Affiliation
	Independent (Forester)
	Independent (Ecologist)
	Coillte/Independent (Ecologist)/Independent (Forester)
	Coillte (Forester)
	Independent (Forester)
	Coillte (Forester)
	Independent (Forester)
	Independent (Ecologist)
	Coillte (Forester)
	Independent (Ecologist)
	Independent (Forester)
	Independent (Forester)
	Coillte (Facilitator)
	Purser Tarleton Russell Ltd. - Forest Sector Management and Consultancy (Facilitator)
	Teagasc (Facilitator)
	CCF Management (Facilitator)

Feedback, remarks and potentials for collaboration

Reply

Docs

Documentation

Documents/tools

- Graphic presentation to review the main concepts in forest stand dynamics, thinning types and the basic element of continuous cover forestry (CCF)
- I+ tree microhabitat catalogue (English language, laminated)
- I+ tablet software (on Tablet)
- Map of the plot (laminated)
- Guidance of Timber Quality Classification (laminated)

Exercise results

- The results from activity 2 were collected from each group at the conclusion of the workshop. Copies in PDF format will be returned to INFORMAR.
- Please note that the Marteloscope was 0.5 ha and that some of the results require adjustment to be interpreted on the per Ha basis.

Other

- We are preparing an online blog report from the workshop

Photo 1: Aileen Sullivan (Coillte) and Padriag O Tuama (CCF Management) explaining how to use the I+ Trainer software and interpret results. Photo: Edward Wilson.

Photo 2: Padraig O Tuama reviewing results of tree marking selections with one of the groups. Photo: Edward Wilson.

Photo 3: Participants and facilitators at the conclusion of the workshop on 25 September 2019. Photo: Edward Wilson.

Title – Tree Marker Training for Biodiversity Conservation and Timber Production in Mixed High Forest (MHF)

Where

Location
Donadea Forest Park, County Kildare, Ireland

Name(s) of Marteloscope(s)
Donadea MHF

What

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [ ] Education [X]
Presentation [ ] Other [ ]

Aim of activity
This one-day workshop at Donadea Forest Park was designed to introduce the principles of tree marking in mature "Mixed High Forest" (MHF) where there are both significant biodiversity and timber production considerations associated with active stand management. The workshop was designed for both professional ecologists and foresters, and to be as "hands on" as possible. The event provided an opportunity for ecologists and foresters to share their own expertise and perspective on management of a MHF stand.

Further details
Within the Coillte Bio Class system, the Donadea MHF stand is BioClass 3, which implies that long-term management has the objective of sustaining a diversity of species and habitat features. The workshop was based on-site in the forest stand and involved a mix of training and practical exercises based in a Marteloscope (training plot) specially devised to demonstrate diverse stand attributes. For the purposes of this project, a 0.5 ha Marteloscope was established in accordance with the INFORMAR Marteloscope protocol. The I+Trainer software was then used during the workshop.

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Who

Participants [16] of whom from EFI [0]
One country [X] multi-national [ ]
Country/countries of origin: Ireland

Participants further details
The participants represented three professional groups engaged with the Coillte BioClass Project:

- Coillte Forest Resource Managers
- Professional Ecologists
- Professional Foresters

Participant list

Name	Affiliation
	Independent (Ecologist
	Independent (Ecologist
	Independent (Forester)
	Coillte (Forester)
	Coillte (Forester)
	Coillte (Forester)
	Coillte (Forester)
	Coillte (Forester)
	Coillte (Forester)
	Coillte (Forester)
	Coillte (Forester)
	Coillte(Forester)
	Coillte (Forester)
	Coillte (Facilitator)
	Purser Tarleton Russell Ltd. - Forest Sector Management and Consultancy (Facilitator)
	Teagasc (Facilitator)
	CCF Management (Facilitator)

Feedback, remarks and potentials for collaboration

Reply

Docs

Documentation

Documents/tools

- Graphic presentation to review the main concepts in forest stand dynamics, thinning types and the basic element of continuous cover forestry (CCF)
- I+ tree microhabitat catalogue (English language, laminated)
- I+ tablet software (on Tablet)
- Map of the plot (laminated)
- Guidance of Timber Quality Classification (laminated)

Exercise results

- The results from activity 2 were collected from each group at the conclusion of the workshop. Copies in PDF format will be returned to INFORMAR.
- Please note that the Marteloscope was 0.5 ha and that some of the results require adjustment to be interpreted on the per Ha basis.

Other

- We are preparing an online blog report from the workshop

Photo 1: Group discussion about timber quality and microhabitat attributes of a Norway spruce tree in the Marteloscope. Photo: Edward Wilson.

Photo 2: Paddy Purser (PTR Forestry) and Aileen O' Sullivan (Coillte) reviewing results of tree marking selections with one of the groups. Photo: Edward Wilson.

Photo 3: Participants and facilitators at the conclusion of the workshop on 26 September 2019. Photo: Edward Wilson.

Title – Tree Marker Training for Biodiversity Conservation and Timber Production in Mixed High Forest (MHF)

Where

Location
Donadea Forest Park, County Kildare, Ireland

Name(s) of Marteloscope(s)
Donadea MHF

What

Activity type
Training [X] Marteloscope exercise [X] Exchange of Experts [ ] Education [X]
Presentation [ ] Other [ ]

Aim of activity
This one-day workshop at Donadea Forest Park was designed to introduce the principles of tree marking in mature "Mixed High Forest" (MHF) where there are both significant biodiversity and timber production considerations associated with active stand management. The day's workshop was designed for third year Forestry students form Waterford Institute of Technology as a field exercise for CCF selection thinning in a forest, with the introduction of the preservation of biodiversity within the forest an equal consideration to timber production.

Further details
Within the Coillte Bio Class system, the Donadea MHF stand is BioClass 3, which implies that long-term management has the objective of sustaining a diversity of species and habitat features. The workshop was based on-site in the forest stand and involved a mix of training and practical exercises based in a Marteloscope (training plot) specially devised to demonstrate diverse stand attributes. For the purposes of this project, a 0.5 ha Marteloscope was established in accordance with the INFORMAR Marteloscope protocol. The I+Trainer software was then used during the workshop.

Participants worked in groups of 4. Each group was asked to complete two activities:

1. To select trees to retain on the basis of microhabitat value and economic value;
2. To reduce stand basal area by 20% while retaining high value trees for habitat and timber value.

Participants received individual feedback on tree marking and how to identify and classify both timber quality and a range of microhabitat features on individual trees, and within the stand.

Who

Participants [16] of whom from EFI [0]
One country [X] multi-national [ ]
Country/countries of origin: Ireland

Participants further details
18 third year students from the BSc in Forestry Course in Waterford Institute of Technology, Waterford.

Participant list

Name	Affiliation
	3rd Year Forestry Student, WIT
	4th Year Forestry Student, WIT
	5th Year Forestry Student, WIT
	6th Year Forestry Student, WIT
	7th Year Forestry Student, WIT
	8th Year Forestry Student, WIT
	9th Year Forestry Student, WIT
	10th Year Forestry Student, WIT
	11th Year Forestry Student, WIT
	12th Year Forestry Student, WIT
	13th Year Forestry Student, WIT
	14th Year Forestry Student, WIT
	15th Year Forestry Student, WIT
	16th Year Forestry Student, WIT
	17th Year Forestry Student, WIT
	18th Year Forestry Student, WIT
	19th Year Forestry Student, WIT
	20th Year Forestry Student, WIT
	21st Year Forestry Student, WIT
	Tutor (WIT)
	Teagasc (Facilitator)
	CCF Management (Facilitator)

Feedback, remarks and potentials for collaboration

Reply

Docs

Documentation

Documents/tools

- Graphic presentation to review the main concepts in forest stand dynamics, thinning types and the basic element of continuous cover forestry (CCF)
- I+ tree microhabitat catalogue (English language, laminated)
- I+ tablet software (on Tablet)
- Map of the plot (laminated)
- Guidance of Timber Quality Classification (laminated)
- Sheet on Reasons for Removing – Reasons for Retaining Trees (laminated)

Exercise results

- The first exercise was used as an introduction to the use of the Marteloscope software and to have the students focus on selecting what was best quality biodiversity trees and timber quality trees. Each group was asked to go to one biodiversity and timber quality tree at the end of the exercise and explain the reasons for selection.
- The results from the second activity was collected from each group at the conclusion of the workshop. Copies in PDF format will be returned to INFORMAR.
- Please note that the Marteloscope was 0.5 ha and that some of the results require adjustment to be interpreted on the per Ha basis.

Other

- The group had received instruction on Continuous Cover Forestry, in selection thinning and the reasons for removal and retaining trees in lectures and on previous field visits. However, the microhabitats features were very new to them and I felt they focussed on the timber volume/value of the exercise. Adriene Booth, the tutor, agreed he would engage the ecologist on the staff to utilise the microhabitats features to students in lectures prior to any future field visits. On the previous exercise we had the ecologists who had the understanding and appreciation of the microhabitats. In future, I would allow further time on the introduction to the microhabitats, depending on the participants.
- On the second exercise, the 20% basal area (BA) removal, the amount of volume being removed in thinning is accumulating at the home screen so this gave the students a good indication of the BA removed as they progressed through the exercise and they all came very close to the 20%. This volume removed field will have to be closed of in this exercise in future.
- The group was 18 – this is too many for such an exercise, especially for half hectare that Donadea is. Also, as it doesn't give time for much one-one discussion and interaction.
- There were only four tablets on site with one group using a phone giving groups of four. I felt this in unsatisfactory with many individuals not getting the full benefit of the exercise. I think there should be at most two people per tablet so that they should have to consider each tree for its value.

Photo 1: Photograph of the same group after training day with Edward Wilson.

Exchange of experts

Title - EoE Forest to the Czech Republic: Risk and Resilience in relation to forest biodiversity

Where

Location
Several forest sites including set-aside forests we visited in the Czech Republic including Chomutov, Doksy, Kocanda, Křtiny, Opočno

Name of Marteloscope

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [X] Education [X]
Presentation [X] Other [ ]

Aim of activity
The exchange of experts (EoE) had as broad topic risk and resilience of forests in the forest ecosystems in selected regions of the Czech Republic. One part of the EoE dealt risk and resilience in relation to forest biodiversity. In this context the role of tree related microhabitats for biodiversity was introduced to foresters and forest owners in the Czech Republic. Further the Marteloscope concept was explained and how it could be used as a tool for virtual tree selection exercises for different interest groups.

Further details
The group of experts from Germany, Austria, Ireland and the Czech Republic came together in the frame of an EoE Forest, where the knowledge exchange on risk and resilience management in Czech Forests was the main topic. The role of increased biodiversity for resilience was intensively discussed. Two forest reserves were visited, a private one on the forest enterprise of the Kinsky family and one in the ownership of the forest enterprise of the Mendel University in Brno. In these reserves we observed a broad variety of tree microhabitats and dead wood of all dimensions. The tree microhabitat catalogue was presented and compared to actual observations.

Who

Participants [11] of whom from EFI [1]
One country [ ] multi-national [X]
Country/countries of origin: Austria, Czech Republic, Germany, Ireland

Participants further details

Participant list (taking part during the entire EoE)

Name	Affiliation
	Pro Silva Bohemia, Czech Republic
	Forest Service, Ireland
	Baumpflege International, Germany
	State Forest Service, Germany
	Land management consultant, Germany
	Communal Forestry, Staufen, Germany
Alexander Held	EFI

Reply

Feedback, remarks and potentials for collaboration

The exchange was like a transect through the various forest types of the Czech Republic. In most forest enterprises we could start with a visit to a forest reserve, which in all cases served as reference and observation tool for the forest managers. From the reserves we could then move through the stands and discuss the tree microhabitat structures using the Integrate+ tree microhabitat catalogue available in Czech language. Following the reserves we visited stands where close to nature forestry is implemented and such where conversion from monoculture and even aged stands to continuous cover forestry is ongoing. Discussions then focussed around how such approaches provides opportunities for biodiversity and what it means for resilience of the future forests. The exchange of opinion and expertise between 4 countries was very inspiring!

Docs

Documentation

Documents/tools

- I+ tree microhabitat catalogue (CZ)
- I+ tree microhabitat phone app
- I+ tablet software

Other

- EoE report (see Risk Platform)

Photo (Alexander Held)

- Visit forest reserves during the EoE Forest to the Czech Republic addressing risk and resilience in relation to forest biodiversity

Title - Silviculture Training Plots for Continuous Cover Forestry - The Irish Marteloscope Programme

Where

Locations
Teagasc, Oak Park, Carlow, Co Carlow; Proposed Marteloscope site at Oak Park; Donadea Forest Park, Co Kildare; Teagasc Forestry Development Department, Ashtown Research Centre, Dublin 15

Name of Marteloscope
Donadea

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [X] Education [ ]
Presentation [X] Other [field trips]

Aim of activity
Professional exchange on using Marteloscopes as learning and training tools based on workshop presentations and field visits. Main goal of the exchange was to investigate options for future collaboration in the frame of the European Marteloscope Network Integrate.

Further details
The workshop focussed on reviewing the Marteloscope concept and Irish experiences. Following a welcome by Nuala Ni Fhlatharta (Teagasc), Robert Windle (DAFM Forestry Division) updated on forest policy relating to CCF in Ireland. Phil Morgan (ISN and SelectFor) and Andreas Schuck (EFI) gave insight to the AFI-ISN network and the European Marteloscope Network Integrate. Aileen O'Sullivan (Coillte) introduced the Coillte biodiversity classification while Padraig O'Tuama (ISN) presented research activities performed in Irish Marteloscopes. The TranSSFor Project "Tree marker training for stand transformation" was highlighted by Ted Wilson (Teagasc and UCD) while Jonathan Spazzi (Teagasc) gave insight to his work on applying CCF to private forestry in Ireland. Field excursions took place to existing Marteloscopes and potential new training sites. Cooperation was discussed as were the different training approaches. Considerable interest was shown for the Integrate+ approach which includes tree microhabitat assessments as well as for the Tablet software "I+".

Who

Participants [>12] of whom from EFI [1]
One country [ ] multi-national [X]
Country/countries of origin: Ireland, United Kingdom, Germany

Participants further details

Participant list

Name	Affiliation
	Teagasc
	DAFM Forestry Division
	ISN and SelectFor
	Coillte
	ISN
	Teagasc and UCD
	Teagasc
	PTR Ltd, ISN, Pro Silva Ireland
	Teagasc, Coillte, other
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

Main purpose and outcome of the exchange was to build collaboration between initiatives. It was agreed to adjust the Marteloscope Donadea to the Integrate approach which meant the collection of a few additional data sets. This is ongoing. Once done the data will be imported to the I+ Database which then allows to use also the tablet software ("I+") for field training. Coillte showed special interest in the tree microhabitat catalogue and its applications in field training as it addresses nature conservation aspects in forests and particularly also in managed forests. It as suggested that some additional Marteloscope sites would be established by Coillte to cover different forest types based on the Integrate+ approach. This would then allow the use of "I+" for training events. Andreas was asked for his availability to revisit and introduce and support initial training events. Also a return filed excursion from Ireland to Germany was proposed.

Docs

Documentation

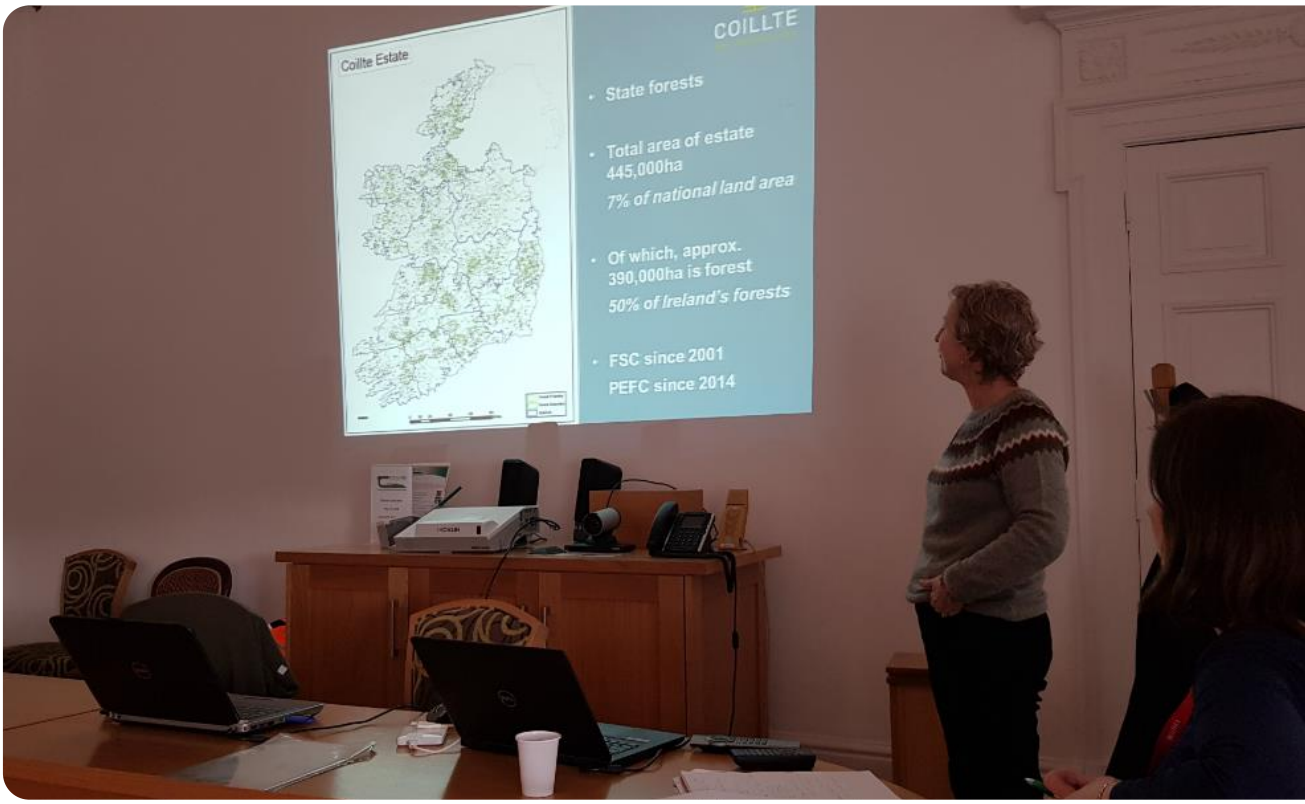
Documents/tools

- Workshop presentations
- Donadea site information
- Tree microhabitat catalogue
- Donadea Marteloscope data (paper and tablet)
- I+ Tablets

Photo (Ted Wilson 2 and 3; Andreas Schuck 1, 4 and 5)

- Workshop at Teagasc (Oak Park); Group photo Donadea Forest Park, Co Kildare (1); Donadea Marteloscope (2 and 3); Proposed Marteloscope at Oak Park (4)

Activity C-2


Coillte Estate
COILLTE
State forests
Total area of estate
445,000ha
7% of national land area
Of which, approx.
390,000ha is forest
50% of Ireland's forests
FSC since 2001
PEFC since 2014


The Oak

Title – Exchange on a Marteloscope exercise planning and implementation in Sihlwald Switzerland

Where

Location
City of Zürich /Foundation Wildnispark Zürich

Name of Marteloscope
Sihlwald

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [X] Education [ ]
Presentation [ ] Other [field trip]

Aim of activity
Exchange on experiences with Marteloscopes for training and developed IT tools.

Further details
During the visit to Sihlwald the participants presented their experiences with training courses and their didactic concepts . Also they presented the IT Tools they developed and discussed the pros and cons of their use. Especially interesting was technology developed by HAFL which with the help of a computer or tablet allows a user to virtual, interactive tours through a Marteloscope site based on the principle of "google street view“. Selected forests are documented and archived photographically over a period of several years. Users can then visit these forests digitally at any time and from any location, as if they were on the spot. Sylvotheque.ch thus becomes a kind of virtual library of the forest, and opens up completely new perspectives for foresters. Further the application can be applied also to perform on site exercises in similar to I+ trainer software. For more detail visit the following website: http://www.sylvotheque.ch/wiki/index.php?title=Hauptseite

Who

Participants [4] of whom from EFI [1]
One country [ ] multi-national [X]
Country/countries of origin: Switzerland, Germany

Participants further details
Prof Christian Rosset: Silviculture and Forest Planning; Dr. Thibault Lachat: Forest Ecology

Participant list

Name	Affiliation
	Berner Fachhochschule - Hochschule für Agrar-, Forst- und Lebensmittelwissenschaften -Abteilung Waldwissenschaften (HAFL)
	Berner Fachhochschule - Hochschule für Agrar-, Forst- und Lebensmittelwissenschaften -Abteilung Waldwissenschaften (HAFL)
	WSL
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

The exchange was fruitful and resulted in the following action points: (1) Share access to websites and IT software, (2) initiate an exploratory workshop with few selected experts to exchange on training concepts for various target groups and investigate options for organising an event on concepts and best practiies in utilsiing Marteloscopes in training and education, (3) allow access to Marteloscope sites and their use via different IT tools and (4) organising a joint training event with students and persentation of IT tools

Docs

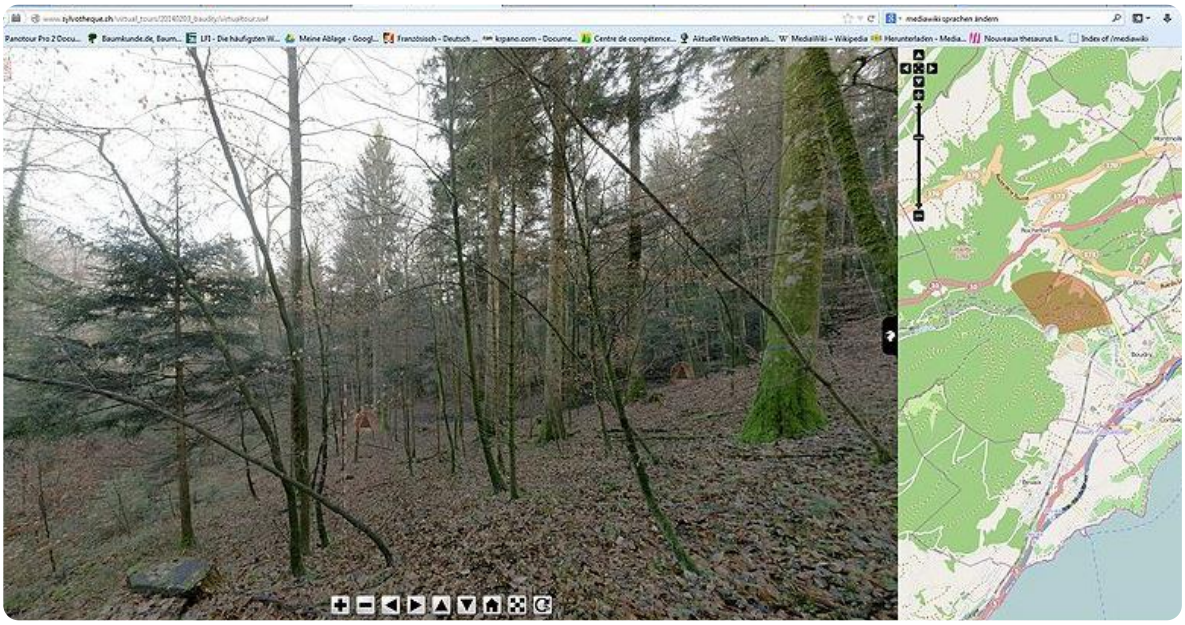
Documentation

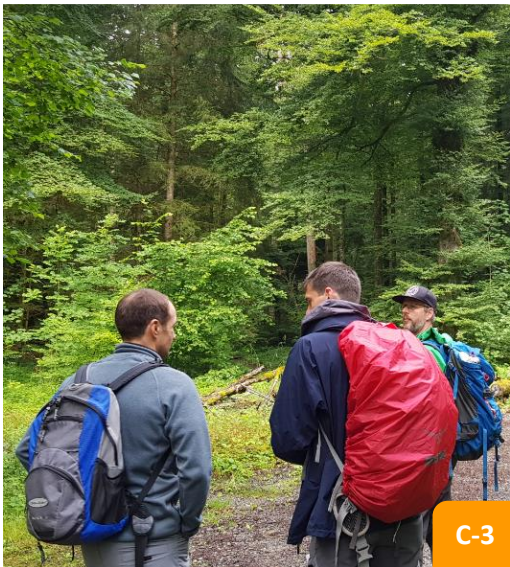
Documents/tools

- I+ Tablets and website (www.iplus.efi.int)
- Sylvotheque.ch

Photos (sylvotheque.ch; Andreas Schuck)

- Screenshot website sylvotheque.ch, Visit to Sihlwald





Title – Train the trainers in the Irish Marteloscope Donadea-MHF

Where

Location
Donadea Forest Park, Co Kildare

Name of Marteloscope
Donadea-MHF

What

Activity type
Training [X] Marteloscope exercise [ ] Exchange of Experts [X] Education [ ]
Presentation [ ] Other [ ]

Aim of activity
Training the trainers in the newly established Marteloscope Donadea-MHF as preparation for official training exercise with Coillte personnel end of September 2019.

Further details
This visit was the third in the frame of an Exchange of Experts programme *(*previous visits: *Freiburg, Germany 13.09.2018 - see Activity Sheet A16; Teagasc, Oak Park, Carlow 14-15.02.2019 – see Activity Sheet C2*), during which the newly established Donadea-MHF Marteloscope, located at the Donadea Forest Park (County Kildare), was taken into operation. The site will be mainly used to communicate the approaches of Continuous Cover Forestry (CCF) and how biodiversity conservation measures can be incorporated into managed forests. The exchange included as main activities an on site data check, setting out the training framework for the upcoming exercise end of September 2019 as well as further planned events. Further an in depth introduction was given on the use of the I+ software. Trained were representatives of Coillte, ISN and ISN/Pro Silva Ireland.

Who

Participants [5] of whom from EFI [1]
One country [X] multi-national [ ]
Country/countries of origin: Ireland

Participants further details

Participant list

Name	Affiliation
	Coillte
	ISN
	Teagasc and UCD
	PTR Ltd, ISN, Pro Silva Ireland
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

The exchange of experts visits lead not only to a Marteloscope in Ireland but introduced the Integrate activities including the growing policy network. The concept of integrative forest management is well in line with the aims in Ireland to promote CCF. There are now best options using the Marteloscope (in future maybe also additional sites) to educate on both CCF principles and how biodiversity measures can be included there as well. Also the network of forest and nature conservation managers has been expanded and the participation of Irish representatives in future Integrate policy is highly likely.

Docs

Documentation

Documents/tools

- Donadea-MHF info sheet
- I+ Tablets

Photos (Andreas Schuck)

- Group photo Donadea Forest Park, Co Kildare; Donadea-MHF Marteloscope


21
20
18
16
19

Title – ONF Foresters and Nature Conservation Managers visit Ebrach Forest Enterprise

Where

Location

- Bavarian State Forest Enterprise Ebrach

Name of Marteloscope

What

Activity type

Training [ ] Marteloscope exercise [ ] Exchange of Experts [X] Education [ ]
Presentation [ ] Other [2 day excursion]

Aim of activity

French foresters from ONF, nature conservation managers, contractors and representatives from local municipalities were introduced to the integrative forest management concept applied in the Bavarian State Forest Enterprise Ebrach.

Further details

The EoE was organised as a two day excursion event. Major aim was to stimulate discussions with the host forest enterprise but very much also amongst the French participants themselves given their different roles and professional backgrounds. Excursion stops addressed (1) the role of strict forest reserve as reference areas for integrative forest management, (2) the dead wood concept, (3) the balancing act between producing high quality timber and designating habitat trees and (4) innovative recreation concepts. All topics were put not only in the context of economic impacts for the enterprise ("what does it cost") but also in long-term benefits towards more resilient, species rich forests. Further visits took place to the educational forest centre "Steigerwaldzentrum", a local field research station linked to the University of Würzburg and scientific field trials..

Who

Participants [18] of whom from EFI [1]
One country [ ] multi-national [X]
Country/countries of origin: France, Germany

Participants further details

Participant list

Name	Affiliation
	ONF (Deputy Director, Régional Level)
	ONF (Regional Environment Project Manager),
	ONF (Forest Service Manager, Sarrebourg Agency)
	ONF (Environment Project Manager, Sarrebourg Agency)
	ONF (Head of the Bitche Territorial Unit)
	Direction Régionale de l'Aménagement, de l'Environnement et du Logement - DREAL (Head of the Water, Biodiversity and Landscape Department)

Name	Affiliation
	Direction Régionale de l'Aménagement, de l'Environnement et du Logement - DREAL
	Parc Naturel Régional des Vosges du Nord (Headmistress)
	Parc Naturel Régional des Vosges du Nord (Natura 2000 Project Manager)
	Parc Naturel Régional des Vosges du Nord (Natura 2000 Project Manager)
	Parc Naturel Régional des Vosges du Nord (Regional Forest Charter Project Manager)
	Parc Naturel Régional des Vosges du Nord (Nature Reserve Technician)
	Parc Naturel Régional des Vosges du Nord (Chief Manager of the Nature Reserve)
	Mayor of Sturzelbronn
	Forest Company Owner (skidding operations)
	BaySF
	Bay SF
Andreas Schuck	EFI

Reply

Feedback, remarks and potentials for collaboration

Feedback was positive from all sides. The participants from France appreciated the many different excursion stops as they did the extensive discussions with the local host. They noted in the wrap up that they will take home a lot of information as food for thought, especially relating to the stepping stone concept applied in Ebrach. Highlighted was the interplay of the enterprise with research to scientifically underpin their management measures. Particularly the deadwood concept, the intermix of nature conservation elements within managed forests (stepping stones, habitat trees etc.) were especially highlighted Economic impacts of nature conservation were openly discussed in the context of current policy developments as were the extreme drought/heat years of 2018/19 and their impacts on silviculture and management planning. The host welcomed the very lively discussion at every excursion stop. This active engagement manifested itself in the need to drop a few excursion stops! The participants expressed there sincere thanks to the hosts from the Ebrach Forest Enterprise and extended their invitation to host their Ebrach colleagues in Alsace/Lorraine in 2020.

Docs

Documentation

Documents/tools

- none

Photos (Andreas Schuck 1-3; Loic Duchamp 4)

- Impressions from the Exchange of Experts visit to the Bavarian State Forest Enterprise Ebrach

Other activities

Title – Integrate+ documentary film is shown at the 7th Life Sciences Film Festival

Where

Location
Czech University of Life Sciences, Prague Czech Republic

Name of Marteloscope

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [X]
Presentation [ ] Other [Participation in international film contest]

Aim of activity
Aim of entering the I+ documentary film to the 7th Life Sciences Film Festival was to give further visibility to the topic of integrative forest management.

Further details
The film documentary "Wise use of our forests: the integrative approach" produced by Daniel Kraus and Andreas Schuck (EFI) was featured at the 7th Life Sciences Film Festival *('International Festival of Documentary Films on Life Sciences'*) in Prague. The film was selected by the festival committee out of more than 1300 entered films. It was one of 27 publicly viewed during the festival in competition for the LSFF Grand Prix Awards.

Who

Participants [ ] of whom from EFI [ ]
One country [X] multi-national [ ]
Country/countries of origin: Czech Republic

Participants further details
The film was shown on the 19th of October. Due to other commitments Daniel Kraus (BaySF) and Andreas Schuck (EFI) were not able to participate in person.

Participant list

Name	Affiliation
Andreas Schuck (film editor)	EFI
Daniel Kraus (film editor)	Bayerische Staatsforsten

Reply

Feedback, remarks and potentials for collaboration

The Integrate+ documentary film was one of 27 publicly viewed during the festival in competition. It was shown on the 19th of October in a session jointly with five other films. In the end it was not selected as the winning film out of all 27 but was in good company with the overall winner of the LSFF 2017 Grand Prix "The World According to Termites". The film editors Andreas Schuck and Daniel Kraus received positive feedback from the festival organiser who conveyed that it was very well received by the audience and the jury. The organiser of the LSFF asked the film editors whether it could be shown at the upcoming LES Fest - forest film festival in the city of Hradec Králové, Czech Republic on 2nd of December 2017. The editors agreed.

The movie was shown also at the LesFest event in Králové, Czech Republic (02.12.2017). A press release described the film as enjoyable and packed with information. It visits forests from Sweden to Spain and consults scientists and foresters on how to reconcile nature conservation and timber production in Europe's forests. It is true that by using our forests wisely can guarantee that they provide what we value most now and in the future. (https://www.facebook.com/events/165187564066458/).

Docs

Documentation

Documentary film link (http://integrateplus.eu/)
Documentary film script link (http://www.integrateplus.eu/img_integrate/filmscript.pdf)
Film festival programme (http://lsff.cz/festival-programme-2017/?lang=en)

Screenshot

- Integrate documentary film

Activity D-1

- List of the 27 selected films shown at the International Festival of Documentary Films on Life Sciences in Prague. The Integrate + documentary film was selected for competition out of more than 1300 entered films.

LIFE SCIENCES FILM FESTIVAL

OFFICIAL SELECTION
LIFE SCIENCES FILM FESTIVAL
PRAGUE 2017

	English Title	Country	Director
1	Coffee Time	Slovenia	Jurij Gruden
2	Let There Be Light	Canada	Mila Aung-Thwin, Van Royko
3	The Berrymakers	Austria	Camillo Meinhart
4	Intelligent Trees	Germany	Julia Dordel, Guido Tölke
5	Alaotra: Endangered Treasures of Madagascar	Germany	Julia Dordel, Guido Tölke
6	What the Health	USA	Kip Andersen, Keegan Kuhn
7	Wise Use of Our Forests: The Integrative Approach	Germany	Daniel Kraus and Andreas Schuck
8	Bugs: Nature's Little Superheroes	Germany	Björn Platz
9	My Life with a Robot	France	Thiabut Sève
10	Invisible Frontier	Belgium, Argentina	Nicolás Richat, Nico Muzi
11	InGenio, Science in Everyday Life	Chile	Marcelo Kiwi
12	The Living Skin of Planet Earth - Geoderma	Czech Republic	Ladislav Miko, Ivan Střiteský
13	The Salmon Forest	USA	Ben Hamilton
14	Rice Noodles	China	Zeng Jianping, Chen Qianzhang, Lan Yunjian
15	Milk – Facts, Figures and Beliefs	Germany	Winfried Oelsner
16	Good - Better - Vegan?	Germany	John A. Kantara
17	The World According to Termites	Czech Republic	Jan Hošek
18	Saving the Gene Pool	China	Shi Xinyue
19	Even Big Data Starts Small	USA	Geoff Haines-Stiles
20	Superplants: How to Make Money By Saving The Environment	Germany	Klaus Uhrig, Till Krause
21	Seven Sins of Civilization	Slovakia	Ľubomír Viluda - Ivan Kršiak
22	GIN: The Movie	United Kingdom	BVU Ltd
23	The Burning Bog	Canada	Jimmy Thompson
24	iRony	Australia	Radheya Jegatheva
25	Barbecue	Australia	Matthew Salleh
26	The End of Snow	USA	Morgan Heim
27	Cyborgs Among Us	France, Spain	Rafel Duran

Title – Forest visit with the German Federal Minister of Food and Agriculture (BMEL) Julia Klöckner

Where

Location
Stadtwald Tegel, Berlin, Germany

Name of Marteloscope

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [ ]
Presentation [ ] Other [press event and field visit]

Aim of activity
Forest visit with German Federal Minister of Food and Agricultuer Julia Glöckner in Berlin presenting the topic integration of nature conservation to forest.

Further details
German Federal Minister of Food and Agriculture Julia Glöckner presented to the Press the national forest strategy for the coming years, introduced the new national forest ambassador Mr. Cajus Julius Cäsar and noted that the BMEL has a number of international project ongoing with emphasis on integrative forest management which have been implemented by the European Forest Institute. The announcement was then followed by questions and a press talk where Andreas Schuck had the opportunity to present the project activities around nature conservation as an integrative part of forest management. The press talk was then followed by a visit to the forest where the head of the Forest Enterprise Tegel, Mr Karl Marx presented multifunctional forest management as the key to sustainability. Andreas Schuck presented the "I+" software as a training tool for making more educated decisions when it comes to decision making in forest

Who

Participants [20+] of whom from EFI [1]
One country [X] multi-national [ ]
Country/countries of origin: Germany

Participants further details
Besides the German Federal Minister of Food and Agriculture Julia Glöckner and Gaius Julius Cäsar (newly appointed Forest Ambassador) representatives from the BMEL (Clemens Neumann, Klaus Heider and Matthias Schwoerer), Karl-Heinz Marx (Forest Enterprise Tegel), policy officials, communications teams and the press (TV, Radio, Newspapers) were present.

Participant list (selected)

Name	Affiliation
	German Federal Minister of Food and Agriculture (BMEL)
	National Forest Ambassador (BMEL)
	BMEL
	BMEL
	BMEL
	BMEL
	Forest Enterprise Tegel, Berlin , Germany
Andreas Schuck	EFI
Other	Ministry officials, Representatives Forest Enterprise Tegel, Press (TV, Radio, Newspapers), Communication representatives

Documentation

Documents/tools

- I+ Tablet and Microhabitat catalogue App

Docs

Photo (photothek.de)

- Forest walk with German Federal Minister of Food and Agriculture Julia Glöckner and Forest Ambassador Cajus Caesar. Andreas Schuck (European Forest Institute) points out tree microhabitats on an old oak tree.
  https://www.bmel.de/DE/Wald-Fischerei/Forst-Holzwirtschaft/_texte/Forstwirtschaft-Nachhaltigkeitsziele.html

Photo (ARD Tagesthemen 21.06.2018)

- Press talk: Federal Minister of Food and Agriculture Julia Glöckner, Forest Ambassador Cajus Caesar and Andreas Schuck (European Forest Institute).
  https://www.ardmediathek.de/tv/Tagesthemen/tagesthemen/Das-Erste/Video?bcastId=3914&documentId=53349358

Photo (photothek.de)

- Forest walk with German Federal Minister of Food and Agriculture Julia Glöckner and Forest Ambassador Cajus Caesar. Andreas Schuck (European Forest Institute) explains the I+ software for implementing virtual tree exercises in forest training sites.
  https://www.efi.int/news/trip-forest-german-federal-minister-klockner-2018-06-22

Title – Promoting Youth Scientific Career Awareness and its Attractiveness through Multi-stakeholder Cooperation –MultiCO -Final Conference

Where

Location
Joensuu, Finland

Name of Marteloscope

What

Activity type
Training [ ] Marteloscope exercise [ ] Exchange of Experts [ ] Education [ ]
Presentation [ ] Other [scientific conference]

Aim of activity
MultiCO is a project funded by the European Commission. It includes partners working together from five countries: UK, Finland, Estonia, Germany and Cyprus. Its main aim is to promote the awareness of a range of careers for all young people that involve scientific skills. They work with partners in industry, business and professions to establish 'stories' from those in work, in order to create interesting scenarios that can be linked to curriculum topics and presented to students in lessons. The aim is to stimulate students' engagement in science learning through the use of scenarios and at the same time raise their awareness and interest in career paths that involve science. In addition, they to work with teachers, parents and students themselves to incorporate their ideas in the design of scenarios, so that these are relevant to students from different cultures and communities. This project widens the opportunities for students and advances their understanding of science and possible careers in it. The project started in August 2015 and ends in November 2018. The conference in question presents the results of the project together with contributions from stakeholders and teachers affiliated with the project.

Further details
For the detailed conference agenda, please see: http://www.multico-project.eu/events.

Who

Participants [40] of whom from EFI [1]
One country [ ] multi-national [X]
Country/countries of origin: Finland, Estonia, Germany, Cyprus, United Kingdom, USA

Participants further details
Mostly the participants represented the project partners, but also stakeholders and teachers affiliated with the project.

Participant list

Name	Affiliation
Tommi Suominen	EFI
Conference participants	various

Reply

Feedback, remarks and potentials for collaboration

A key aim of presenting the posters was to foster interest in the science education research community for adopting the Integrate+ tools for teaching use with school students. For science education research this presents an opportunity to study e.g. learning, stimulation of interest in science subjects in the students through out-of-school learning, using digital devices. The given presentation tried to open to the audience the role of computational thinking in different professions facing structural changes due to digitalisation, from the view point of software development. Both of these topics were agreed with conference organisers, with the specific aim to give stimulus to future collaboration on project proposals in the context of upcoming (EU) calls. The presentations also worked to make EFI known to the present consortia, to make it easier for them to invite us into proposals in the future. A concrete follow-up action was that Professor Annette Scheersoi from Rheinische Friedrich-Wilhelms-Universität Bonn (Fachdidaktik Biologie, Nees-Institut) was invited to visit EFI's Bonn office the following week, 18th September 2018 for discussing concrete items, where collaboration on I+ Software/Marteloscopes can be started.

Docs

Documentation

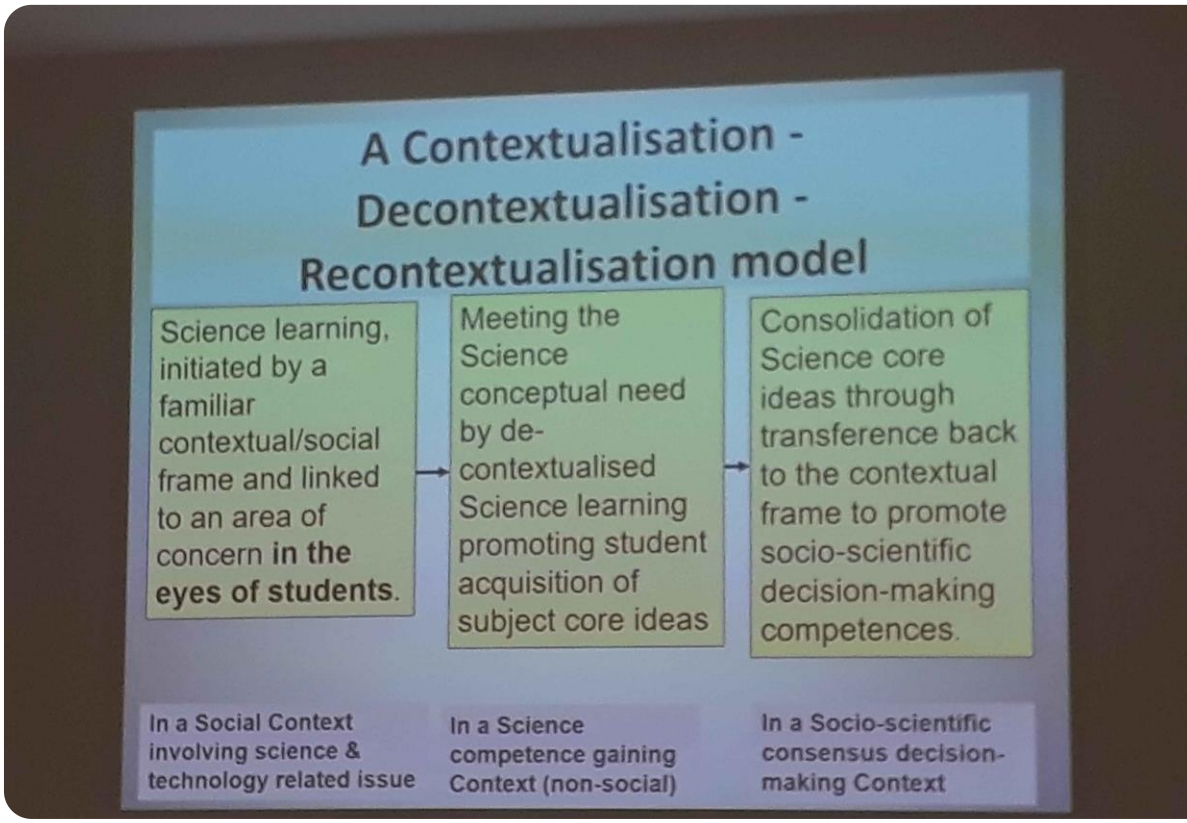
Documents/tools

- Posters
- News blog

Photo (Tommi Suominen)

- Posters presented at the conference by Tommi Suominen on 10.9.2018

Photo: Science learning model from presentation by Dr. Heather King (King's College London)



Title- Establishment of Marteloscopes

***Activity:** Number of Marteloscopes*

Action

By April 2020 96 sites have been established in 15 countries.

INFORMAR

HOME I+ SOFTWARE STORE MARTELOSCOPES AND DATA

DOCUMENTATION

Marteloscope site information

ID #	Country	Marteloscope Name	Number of trees (ha)	Volume (m3/ha)	Charateristics	Information Sheet	Marteloscope Booklet
1	BE	Groenendaal	178	388.9	Planar / colline beech-oak forest	BE_InfoSheet_Groenendaal	BE_Groenendaal_Booklet
2	BE	Tessenderlo	436	247.4	Planar / pine forest	BE_InfoSheet_Tessenderlo	
3	CH	Dischma	488 (1.5 ha)	1266.2 (1.5 ha)	Subalpine spruce-larch forest	CH_InfoSheet_Dischma CH_InfoSheet_Dischma_en	
4	CH	Goumoens	280	584	Submontane beech-oak forest	CH_InfoSheet_Goumoens	CH_Goumoens_Booklet CH_Goumoens_Booklet_de
5	CH	Sihlwald	358	626.8	Mixed mountain forest with fir, beech and spruce	CH_InfoSheet_Sihlwald	

Photo (Marie Wittmer-Eigenbrodt): Marteloscope Calden, Hessen Germany.

Action

Title – Publications produced jointly with the Integrate network

***Activity:** Tree Microhabitat catalogue (language translations)*

- Fák mikroélőhelyeinek katalógusa - Referencialista terepi felvételezéshez (Hungarian)
- کاتالوگ درختان زیستگاهي خردزیستگاه‌های درختی - فهرست زمین مرجع (Persian / Farsi)
- Catálogo de microhabitats em árvores - Guia de Campo de referência (Portuguese)
- Каталог мікрооселищ на деревах - Практичний посібник (Ukranian)
- Puun pienelinympäristöt - Opas maastoon (Finnish)
- Catalogul microhabitatelor din arbori - Lista de referinţă (Romanian)
- Catalogus van boommicrohabitats - Veldgids (Dutch)
- Каталог на микрохабитати кај дрвјата - Референтна листа (North Macedonian)
- Ağaç mikro habitatları kataloğu – Referans alanı listesi (Turkish)

***Activity:** Tree Microhabitat Phone Applications (new languages)*

- TreMs Phone App in Czech, Portuguese, Finnish, French and Turkish

***Activity:** Publications (excerpt)*

Kraus D., Schuck A., Bebi P., Blaschke M., Bütler R., Flade M., Heintz W., Krumm F., Lachat T., Larrieu L., Lehnerova L., Levin M., Mergner U., Pach M., Paillet Y., Pyttel P., Rydkvist T., Santopuoli G., Sever K., Sturm K., Vandekerkhove K., Winter S., Witz, M. (2017). Spatially explicit database of tree related microhabitats (TreMs). Version 1.2. Integrate+ project. Version 1.6. Institut National de la Recherche Agronomique (INRA). Occurrence Dataset https://doi.org/10.15468/ocof3v accessed via GBIF.org on 2017-07-31

Santopuoli, G., Schuck, A., Kraus, D., di Cristofaro, M., Lasserree, B., 2017. Assessing the trade-offs between biodiversity conservation and timber production for supporting a multifunctional forest management. Conference poster. XI Congresso Nazionale SISEF: La foresta che cambia - Ricerca, qualità della vita e opportunità in un paese in transizione 10-13 Ottobre 2017 – Roma, Italy.

Action

Activity 3: ***Publications (excerpt) cont.***

Kraus, D., Schuck, A., Krumm, F., Bütler, R., Cosyns, H., Courbaud, B., Larrieu, L., Mergner, U., Pyttel, P., Varis, S., Wilhelm, G., Witz, M., Zenner, E. and Zudin, S., 2018. Seeing is building better understanding - the Integrate+ Marteloscopes Integrate+ Technical Report. Marteloscopes (2018) 26:3.

Schuck, A, Kraus, D., 2018. Marteloskope und Bedeutung der Baum-Mikrohabitate. AFZ-DerWald Nr. 3/2018. S. 12.

Schuck, A., Kraus., A., 2018. Mikrohabitatstrukturen als Schlüssel zur Erhaltung von gefährdeten Arten in Wirtschaftswäldern - Erfahrungen aus dem internationalen Projekt Integrate+. Feuchtwälder im Klimawandel – Status und Zukunft – Fachtagung des Projektes „Fit für den Klimawandel – Maßnahmen für eine nachhaltige, naturnahe Anpassung feuchter Wälder im Münsterland an Klimaveränderungen“.15-16.02.2018. Münster. Tagungsband. S. 19-21.

Pyttel P., Kraus, D., Schuck, A., Krumm, F., Bauhus, J., 2018. Mit „Marteloskopen“ lehren und lernen. AFZ-DerWald 4/2018. 26 – 29.

Santopuoli G., di Cristofaro M., Kraus D., Schuck A., Lasserre B., Marchetti M., 2019. Biodiversity conservation and wood production in a Natura 2000 Mediterranean forest. A trade-off evaluation focused on the occurrence of microhabitats. iForest 12: 76-84. – doi: 10.3832/ifor2617-011 [online 2019-01-24]

Krumm, F., Lachat T., Schuck, A., Bütler, R., Kraus, D., 2019. Marteloskope als Trainingstools zur Förderung und Erhaltung von Habitatbäumen im Wald. Schweizerische Z. Forstwes. 170 (2019) 2: 86-93.

Activity 4: ***New Marteloscopes - Information Sheets***

ID 02: Tessenderlo (Flanders, Belgium)
ID 10: Chlumska hora (Czech Republic)
ID 83: Trutnov (Czech Republic)
ID 11: Ribera Salada (Catalonia, Spain)
ID 17: Waldhaus (Bayern, Germany)
ID 18: Sägbrunn (Bayern, Germany)
ID 19: Wachenroth (Bayern, Germany)
ID 45: Poppenwind (Bayern, Germany)
ID 21: Lukasberg (Niedersachsen, Germany)
ID 22: Pferdeköpfe (Niedersachsen, Germany)
ID 23: Waak’sches Ufer (Niedersachsen, Germany)
ID 24: Wallmannsort (Niedersachsen, Germany)
ID 25: Windelberg (Niedersachsen, Germany)
ID 40: Ebergötzen (Niedersachsen, Germany)
ID 27: Sandkrug (Brandenburg, Chorin, Germany)
ID 28: Hessenhagen (Brandenburg, Germany)
ID 35: Möllergrab (Brandenburg, Germany)
ID: 37: Gorinsee (Brandenburg, Germany)
ID 36: Maienpfuhl (Brandenburg, Germany)
ID 84: Spechtwald (Brandenburg, Germany)
ID 38: Viergemeindewald (Rheinland Pfalz, Germany)
ID 90: Schatzkästchen (Rheinland Pfalz, Germany)
ID 91: Tränenwald (Rheinland Pfalz, Germany)
ID 89: Hallenbestand (Rheinland Pfalz, Germany)
ID 31: Hubertusstein (Nordrhein Westfalen, Germany)
ID 32: Vierhausen (Nordrhein-Westfalen, Germany)
ID 33: Donnerscher Weg (Nordrhein-Westfalen, Germany)
ID 34: Berbketal (Nordrhein-Westfalen, Germany)
ID 42: Rotengrubener Weg (Sachsen, Germany)
ID 81: Burkhardtswald (Sachsen, Germany)
ID 46: Bieberstein (Hessen, Germany)

Action

***Activity 4:** Marteloscope Information sheets (cont.)*

ID 41: Calden (Hessen, Germany)
ID 43: Von der Heydt (Saarland, Germany)
ID 82: Eppelborn (Saaarland, Germany)
ID 44: Hermsdorf (Berlin, Germany)
ID 48: Villars-Santenoge (France)
ID 54: Bechat (France)
ID 55: Bousson (France)
ID 56: Mouledous (France)
ID 57: Ornezan (France)
ID 94: Puvenelle (France
ID 68: Cserepfalu (Hungary)
ID 69: Donadea-MHF (Ireland)
ID 71: Bissen (Luxembourg)
ID 95: Gruenewald (Luxembourg)
ID 96: Mersch-Est (Luxembourg)
ID 73: Ustronie (Poland)
ID 74: Zielonka (Poland)
ID 92: Pilawa (Poland)
ID 93: Sekocin (Poland)
ID 58: East Boranja I (Serbia)
ID 59: East Boranja II (Serbia)
ID 60: East Boranja III (Serbia)
ID 61: Jamena I (Serbia)
ID 62: Petkovica I (Serbia)
ID 63: Petkovica II (Serbia)
ID 64: Petkovica III (Serbia)
ID 65: Višnjicevo I (Serbia)
ID 66: Višnjicevo II Serbia)
ID 85: Goc I (Serbia)
ID 67: Goc II (Serbia)
ID 86: Goc III (Serbia)
ID 87: Goc IV (Serbia)
ID 88: Goc V (Serbia)
ID 79: Devin (Slovakia)
ID 80: Devínska Kobyla (Slovakia)
ID 78: Studenec (Slovenia)

***Activity 5:** New Marteloscope booklets*

- Manětínská vrchovina (Pilsen, Czech Republic, English version)
- Falkenberg (Vosges du Nord, France; French version)
- Hessenhagen (Brandenburg, German version)
- Sandkrug (Brandenburg, German version)
- Eberswalde (Brandenburg, German version)
- Viergemeindewald (Rheinland Pfalz, German version)
- Jägerhäuschen (Nordrhein Westfalen, German version)

***Activity 6:** Integrate+ Film (language translations)*

- Wald verantwortungsvoll nutzen: der integrative Ansatz (2018)
- Sage usage de nos forêts: l'approache integrative (2018)

Action

Title – Other Marteloscope related activities

Activity: Meeting University Freiburg, Germany – Set up of two new Marteloscopes planned (5th of April 2018)

- **Where:** University of Freiburg
- **Who:**

  Andreas Schuck (EFI)
- ***What:*** Establishment of two further Marteloscopes in Rheinland Pfalz. One would be placed at the Educational Forest Centre at the Forest Enterprise Hachenburg, the second site is still to be identified. Further the idea was discussed possibly organise a European wide silviculture trainer workshop

Activity: Official opening of the first Marteloscope in Brandenburg, Germany (19th of April 2018)

- **Where:** State of Brandenburg, Germany;
- **Who:** Ministry of Rural Development, Environment and Agriculture – Land Brandenburg
- **What:** Establishment of four Marteloscopes for providing silviculture training and education for professionals in forestry and nature conservation, "semi-professionals" (e.g. forest-farmers-school; forest-owner-associations; forest-farmer-associations) as well as outreach to educational institutions and the general public. The coordination of a activities will be placed at the 'Landeskompetenzzentrum Forst Eberswalde' for coordinating training events, providing hardware and information on Marteloscopes, press and communication activities.

Photo (Martin Duhr)

- Knowledge transfer in forestry using digital tools. Minister Vogelsänger opens Eberswalde Martlesocope.

Action

***Activity:** Meeting at LWF Freising, Germany – Coordination meeting (6th of April 2018)*

- **Where:** Bayerische Landesanstalt für Wald und Forstwirtschaft (LWF), Freising, Germany
- **Who:** (LWF), (FSTSW), (TUM), (BaySF), (AELF-FU); (HSWT) Andreas Schuck (EFI)
- **What:** Exchange on experiences with Marteloscopes: The aim of the event was to exchange knowledge and experiences on the subject of Marteloscopes and to identify best possible synergies and discuss on potential options for collaboration across institutions.

***Activity:** Planning event for establishing Marteloscopes in the Forest Education and Research Centre Arnsberger Wald (4th of April 2018)*

- **Where:** Landesbetrieb Wald und Holz Nordrhein-Westfalen - Forest Education and Research Centre Arnsberger Wald
- **Who:** (Wald und Holz NRW); Andreas Schuck (EFI)
- **What:** Exchange on plans in Arnsberg for establishing 3 Marteloscope sites; Integrate project and "I+" software presentation; field visit to the three potential sites

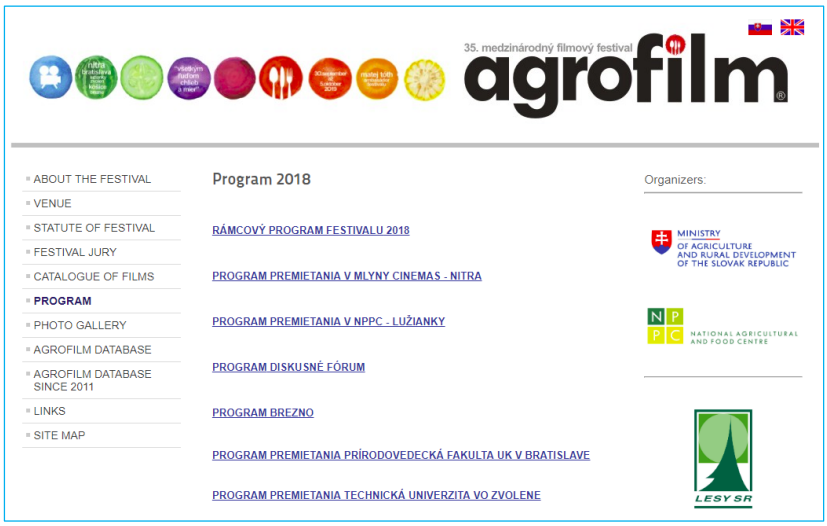
Photos (Bertram Leder)

- The three Marteloscopes sites. Natural forest community (1) Asperulo-Fagetum, (2) Luzulo-Fagetum and (3) is a planted pure Spruce stand.

Action

Activity: Agrofilm Forum 2018 (1st – 6th of October 2018)

- **Where:** Brezno, Slovak Republic
- **Who:** Organisers of the Agrofilm Forum are the Ministry of Agriculture and Rural Development of the Slovak Republic the National Agricultural and Food Centre and Lesy SR.



- **What:** Entry of the Film 'Wise use of forests: the integrative approach' to the film festival (Andreas Schuck, EFI). In the end 84 film were shown one of which was the Integrate film. It was screened and reviewed on 02.10.2018 at the Technical University Vole. Unfortunately no prize was won in the competition.

Activity: Marteloscope exercise in Cserepfalu, Hungary (Autumn 2018)

Where: Bükki Nemzeti, Cserepfalu Marteloscope
Who: (Bükki Nemzeti)
What: Following the establishment of the Marteloscope in the Bükki National Park in Hungary a first Marteloscope exercise was conducted with forest officers. The Marteloscope was well received as a training tool. It will surely see more such exercises in the future. No EFI participation. (Photo: Tamás Frank).

Action

***Activity:** Scoping visit for investigating collaboration and joint project applications in school education (6th of November 2018)*

- **Where:** Jägerhäuschen Marteloscope, Regional Forest District Office Rhein-Sieg-Erft; Kottenforst forest district, North Rhine Westphalia, Germany
- **Who:** (Didactic Studies Biology, Nees-Institut - Rheinische Friedrich-Wilhelms-Universität Bonn, Germany) three doctoral students, (Regional Forest District Office Rhein-Sieg-Erft), Andreas Schuck, Jakob Derks and Joost de Koning (EFI)
- **What:** A demonstration was given on the concept of Marteloscopes, how are they applied in conducting education and training events for different user groups. They also had the opportunity to perform tree selections with the I+ tablet software. The field visit was concluded with discussions on how Marteloscope visits could be embedded in school education. As a next step it was agreed to organise a follow-up meeting to investigate possible avenues of collaboration e.g. by preparing joint project applications.

Photo (Andreas Schuck)

- Gettting familiar with Marteloscopes and the "I+" software.

***Activity:** Marteloscope use in silviculture training in Baden Württemberg (21st of January 2019)*

- **Where:** Regierungspräsidium Freiburg
- **Who:** (ForstBW); (RPF); ob (RPF); (ForstBW); (ForstBW); (WSL); Andreas Schuck (EFI)
- **What:** Investigating possibilities of utilising Marteloscopes and the "I+" software for silviculture training in Baden Württemberg. The participants being both coordinators, and silviculture trainers were very much interested in the concept, methodology and tools. They will investigate during 2019 what further steps can be taken and if it is possible to establish further sites. Very positive was seen that the software is freely available. This is especially interesting as all forest managers will be equipped with tablets in the coming year (same types are used in the Informar project). It was agreed to keep in contact and conduct as needed further meetings and test exercises in the 3 existing Marteloscope sites Rosskopf, Mooswald and Klosterwald.

Action

***Activity:** Scoping visit to SaarForst for selecting 2 Marteloscope sites (12th of February 2019)*

- **Where:** Saarforst Central Office (Von der Heydt 12, 66111 Saarbrücken, Germany)
- **Who:** (SaarForst); (Ministry of Environment and Consumer Protection, Saarland), local forest district manger, inventory team, Andreas Schuck (EFI)
- **What:** The meeting at Saarforst had two aims. One was the presentation by Andreas Schuck on the concept of Marteloscopes, what can they be used for, how does the training software work, how is it applied in training, what are important criteria for Marteloscope site selection and how are they best set up. The meeting and discussion was then followed by a field trip. Four pre-selected sites by Saarforst were visited and evaluated for their suitability as Marteloscopes. Andreas Schuck made the point that the sites need to be viewed in the light of SaarForst's aims for use in training. This helped to narrow down the number to two sites (one of which was seen as optional but not priority at present). It was stated that one site having the right composition was not located well. So there were ideas already for selecting a comparable site at another location. This means there are 2 (plus 1 optional) sites selected. Data collection will commence during March 2019.

Photo (Andreas Schuck)

- Marteloscope site selection (SaarForst).

***Activity:** Visit to forest district Eibenstock for assisting the installation of 3 Marteloscope sites (12th of March 2019)*

- **Where:** Eibenstock Forest District
- **Who:** (SachsenForst), (Erfurt University), (Eberswalde University), Jakob Derks (EFI)
- **What:** The visit to Eibenstock was organized to help guide and assist three students who are each in the process of writing a bachelor or master thesis on integrated forest management, using Marteloscopes as a tool. Jakob Derks gave an introductory presentation on the Integrate Marteloscope network and the I+ software. The 3 students are installing a Marteloscope site as part of their work, supervised by district forester Andreas Pommer. The sites will cover various forest typologies: one is located in a typical even-aged spruce stand, one in a very old spruce-dominated mixed stand, and one is planned in a deciduous stand. The idea of Andreas Pommer is to use these sites as models for training on integrated forest management, focusing on stand diversity and resilience. It will be the first Integrate Marteloscopes in Sachsen, although the state already has a number of other forest training sites.

Action

Photo (Jakob Derks)

- Martelscope site visits in Eibenstock.

Activity:** Tree microhabitat inventory in the Marteloscope site Berlin-Tegel **(13th – 14th of March 2019)

- **Where:** Forest District Office Berlin Tegel
- **Who:** (Forest District Office Berlin Tegel), Andreas Schuck, Jakob Derks (EFI)
- **What:** Andreas Schuck and Jakob Derks travelled to Berlin to conduct the inventory of tree microhabitats in Berlin's first Marteloscope, in the Tegel Forest District. The other Marteloscope data had already been collected by forester in training Michelle Rzadkowski, supervised by the Head of the Forest District Karl-Heinz Marx. The first morning consisted of an introduction to the benefits and advantages of Marteloscopes and how their management could be integrated into the current practices and activities at the district. The message came across that a Marteloscope site in the capital city of Germany could prove invaluable when it comes to bridging the gap with urban forest users but also with policy makers.

Photo (Jakob Derks)

- Tree microhabitat assessment in Tegel Forest.

Action

***Activity:** Silvicultural training session for forester candidates of Switzerland (26th of August 2019)*

- **Where:** Sihlwald Marteloscope, Wilderness park Sihlwald, Canton of Zürich (Switzerland)
- **Who:** (Bern University of Applied Sciences, Forest Science Unit, Switzerland), (Forestry Training Center Lyss, Switzerland, Silviculture and Ecology), (Swiss Federal Institute for Forest, Snow and Landscape Research WSL, Switzerland)
- **What:** A demonstration to students was given on the concept of Marteloscopes with special emphasis on tree microhabitats. The afternoon field trip followed a presentation by Thibault Lachat on the theory related to microhabitat structures. The I+ Tablet-Software was introduced to the students who than in groups of 4 conducted a predefined exercise. The session was concluded with extensive discussions on how such exercises can be applied in practice and education for practitioners.

Photo (Thibault Lachat)

- Discussion on exercise results with students from the Bern University of Applied Sciences

***Activity:** Training events during the Summer/Autumn 2019 in the Marteloscope Falkenberg, France (August to November 2019)*

- **Where:** Vosges Nord/Lorraine; Forêt de Bitche, Marteloscope Falkenberg
- **Who:** (Parc Naturel Régional des Vosges du Nord (PNRVN), various groups of foresters, environmental engineers, nature managers, general public
- **What:** Numerous events took place in the Marteloscope Falkenberg during 2019. Those included: a group of pre-selected participants (30/08/2019); two groups of foresters (10/09/2019) mainly forest engineers and environmental professionals; field event for the general public (15/09/2019); four groups of high school students (October 2019); one full week with 5 groups (1 group of RNF nature managers, 4 groups of public foresters) with the participation of Laurent Larrieu (November 2019).

Action

***Activity:** Marteloscope site selection in the states of Brandenburg and Hessen (19th to 21st of November 2019)*

- **Where:** Hatzfeldt-Wildenburgschen Forstverwaltung - District Massow (Brandenburg) and Gut Hohenhaus near Herleshausen (Hessen)
- **Who:** (AFI), (AgroParisTech), (Naturepen), (Hatzfeldt-Wildenburgschen Forstverwaltung), (LFB Brandenburg), (Gutshof Hohenhaus), (Hessen Forst), Andreas Schuck (EFI).
- **What:** In the frame of the FNR supported project "*Ökonomische und ökologische Nachhaltigkeit durch naturgemäße Waldwirtschaft – Anlage von Dauer-beobachtungsflächen und Marteloskopen in Deutschland im Rahmen eines europäischen Netzwerkes*" (coordinated by ANW), EFI will install 3 Marteloscope sites. The will be established in two private forests: (1) Gut Hohenhaus in Hessen and (3) Hatzfeldt-Wildenburgschen Forstverwaltung Brandenburg while the third is set up in the State Forest of Mecklenburg-Vorpommern (to be selected at a later stage).

Photos (Andreas Schuck)

- Seletcted sites in Hatzfeldt-Wildenburgschen Forstverwaltung (upper) and Gutshof Hohenaus (lower)

Action

Activity: Selection of 5 Marteloscope sites in Luxembourg (2nd of December 2019)

- **Where:** Near City of Luxembourg (forest districts Gruenewald, Mersch, Bissen, Clervaux, Medernach and Biwer)
- **Who:** (Administration de la Nature et des Forets), (Local forester), Sergey Zudin and Andreas Schuck (EFI)
- **What:** In the frame of a project implemented for Pro Silva Luxembourg EFI will establish 5 Marteloscope sites. 10 potential sites were visited during a scoping trip. The 5 most suitable sites were jointly selected.

Photo (Andreas Schuck)

- One of the selected sites in Luxembourg

Taken from the Film "Wise use of forests: the integrative approach" (Filmhaus Berlin)

Informar is an interdisciplinary project with the purpose to understand and demonstrate the driving forces and potential of integrated forest management approaches under conditions of climate change and related risks. The project seeks to build and maintain a learning architecture between scientists, policy makers and practitioners as a tool to combine both nature conservation and wood production.

Informar is funded by the German Federal Ministry of Food and Agriculture (BMEL) running from April 2017 until April 2020.

European Forest Institute, 2020

www.informar.eu
www.iplus.eif.int