

Integrate+ training, excursions and exchanges

Summary sheets



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Note: In the published version of Technical Paper No. 19 most names of participants are hidden due to data privacy. Organisation names are visible.

Information on the project and its outputs:

integrateplus.org

Title photo and three small photos on page IV (bottom): Andreas Schuck; Section photos (A, B and D): Andreas Schuck; Section photo C: Frank Krumm

Disclaimer: The present technical paper lists all activities implemented in the frame of the demonstration project 'Establishing a European network of demonstration sites for the integration of biodiversity conservation into forest management' 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.

European Forest Institute, 2016

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Introduction

The Integrate+ project (*'Establishing a European network of demonstration sites for the integration of biodiversity conservation into forest management'* - Dec 2013 – Dec 2016) aimed at identifying good practice examples and concepts for integrative forest management. It encouraged transnational exchange and initiated the establishment of demonstration sites, so called Martelosopes, in main forest types in Europe. By developing innovative IT tools (mobile training software applications), practitioners were able to perform virtual tree selection exercises in those demonstration areas. The tools allowed immediate feedback on decisions in terms of impacts on habitat quality and economic implications. Thus such a European network of demonstration sites provides unique opportunities for field visits and exchange programmes. Exactly this was one main work module of Integrate+. The project facilitated for knowledge and information sharing, exchange of experiences and collaboration among scientists and forest managers through a well designed training and exchange programme. The following tools were applied in the course the project:

- professional exchanges
- field excursions
- training exercises
- various types of events

Integrate+ inquired with its network and interest groups on their needs. Targeted excursions to and between network partners (national and cross border) were frequently requested. Integrate+ organised and facilitated most of these events. They were often built around field visits and in cases supported by seminars, workshops or conferences. All activities vibrantly stimulated discussions and often resulted in follow-up actions e.g. return visits, Marteloscope establishment, tree microhabitat catalogue translations and joint publications to name a few. Many of the virtual tree selection exercises in the Martelosopes were recorded. They serve as input for analysing learning effects in the course of such exercises. This research activity is implemented jointly with the network partner Swiss Federal Institute for Forest, Snow and Landscape Research.

The aim of this technical paper is to briefly present the main activities that took place between 2015 and 2016. They are presented as summary sheets and give information on (1) the aim of the activity, (2) the network partners involved, (3) feedback received and (4) proposals for further collaboration. Supporting documents are available at: integrateplus.org



Some additional information

The paper is divided into the categories ‘*Marteloscope training*’, ‘*excursions and field trips*’, ‘*exchange of experts*’ and ‘*other activities*’. Not all activities could be clearly allocated to one of the four categories as more than one were applicable. An example which occurred several times was that during excursions and field trips also Marteloscope visits and training exercises took place. Such events are listed only once. Also participants to these events were only assigned one time in order to avoid double counting.

- *Marteloscope training*: training in an Integrate+ Marteloscope.
- *Excursion and field trips*: targeted excursions which in cases were linked to a conference or meeting; some of the field trips also included Marteloscope visits and exercises.
- *Exchange of experts*: exchange of one or more experts between two countries; ideally the visit to one country was followed by a counter visit (this was not always the case).
- *Other activities*: activities that could not be allocated to one of the above categories; some were spin-off events resulting from Integrate+ (with minor or no direct involvement of Integrate+); for those without Integrate+ involvement no figures are available; Integrate+ film trips are also included here.

During 2015 and 2016 37 events of different nature took place in numerous countries and locations: 11 Marteloscope exercises, 11 excursions and field trips, 8 exchange of experts and 7 other activities. The below table does not include spin-off events with minor or no Integrate+ participation. The figures below intend to give a rough indication on the Integrate+ project outreach. Note that the table also includes participants of larger Integrate+ events such as national and international conferences and workshops.

Categories	Research	Practice / Administration	Education	Mixed (not assignable)*
Marteloscope training (n=11)	19	75	42	0
Excursions and field trips (n=11)	48	76	0	288
Exchange of experts (n=8)	10	64	0	0
Other activities (n=7)	3	23	11	198
Total (n=37)	80	238	53	486

*mostly larger events (e.g. conferences and workshops with and without field trips/Marteloscope exercises)

One or more participants were recorded from the 28 countries: Austria, Belgium, Bulgaria, Canada, Czech Republic, Denmark, Finland, France, Georgia, Germany, Hungary, Islamic Republic of Iran, Italy, Japan, Latvia, Luxembourg, The Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, United States. Many of the events took place in Germany. Other countries that hosted events included Belgium, Czech Republic, France, Iran, Luxembourg, Poland, Slovenia, Spain, Sweden and Switzerland.



Marteloscope training

A - Marteloscope
training



Title - Foresters perform **Marteloscope exercise** during the **Tri – Regio excursion**

Location

Freiburg City Forest, Baden Württemberg

Name(s) of Marteloscope(s)

Rosskopf

Activity type

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

Aim of activity

Presenting the Integrate+ project and performing Marteloscope exercises with forest practitioners.

Further details

Since nearly 30 years forest managers and representatives of forest administrations meet in the course of a cross-border forestry forum in the three country triangle France, Germany and Switzerland. They use this opportunity to exchange experiences on pressing forestry and forest management issues and how they are addressed in their respective countries and regions. On the 22nd of October 2015 more than 20 foresters visited the Freiburg City Forest. The Head of Freiburg City Forest gave an introduction to Douglas fir management. It was followed by a lively discussion on how Douglas fir management is seen and applied in other regions. The following excursion point was a visit to the Integrate+ Marteloscope 'Rosskopf'. The Tri-Regio group was introduced to the Marteloscope concept. The Deputy Head of Freiburg City Forest provided an outline for a virtual management exercise. Task given was to maximize economic return while identifying existing/potential habitats trees. Divided into three groups the participants implemented the virtual exercise.

Participants [**27**] of whom from Integrate+ project team [3]

One country [] multi-national [**X**]

Country/countries of origin: **France, Germany, Switzerland**

Participants further details

Participant list

Name	Affiliation
22 Tri-Regio foresters (no further details available)	Various administrations
	Freiburg City Forest
	Freiburg City Forest
Andreas Schuck, Alexander Held, Hannes Schmitt	EFICENT

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 Martelosopes could be applied for topics addressing forest protection measures.

Documentation**I+ documents/tools**

- Marteloscope booklet 'Rosskopf' (EN, DE)
- Poster 'Rosskopf' (EN)
- I+ tablet software and I+ Excel simulator

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)

Photo (Andreas Schuck)

- Participants investigating whether to harvest the tree or if it displays tree microhabitats which justifies designating it as a habitat tree



Title - Tree microhabitat training for colleagues from the Czech Republic

Location

City of Lohr, Spessart region, Bavaria

Name(s) of Marteloscope(s)

Lohr

Activity type

Training [X] Marteloscope exercise [] Exchange of Experts [] Education [X]

Presentation [] Other []

Aim of activity

The aim was to train three Czech colleagues from the Forest Management Institute (FMI) in the identification and description of tree microhabitats. The training by the Integrate+ team took place in the course of the German – Czech Strategic Dialogue 2015 – 2016.

Further details

Three Martelosopes will be established in different regions of the Czech Republic in the context of the Strategic Dialogue between the Czech Republic, and the Federal Republic of Germany - Working Group 9 “Forest” (represented by Ministry of Agriculture of the Czech Republic and the German Federal Ministry of Food and Agriculture). Integrate+ was selected as forest related cooperation activity for Working Group 9. Besides the training two strictly protected forest areas (‘Metzgergraben’ and ‘Rohrberg’) were visited. It allowed to show the Czech experts most of the microhabitats listed in the I+ Tree Microhabitat Catalogue. Further an introduction was given to the I+ tablet software.

Participants [7] of whom from Integrate+ project team [3]

One country [] multi-national [X]

Country/countries of origin: Czech Republic, Germany

Participants further details

A Bavarian State Forest (BaySF) nature conservation expert also joined the training event.

Participant list

Name	Affiliation
	Forest Management Institute (FMI)
	Forest Management Institute (FMI)
	Forest Management Institute (FMI)
	BaySF
Daniel Kraus, Andreas Schuck, Frank Krumm	EFICENT

Reply

Feedback, remarks and potentials for collaboration

The training was well received and now allows the experts from the Forest Management Institute (FMI) to assess tree microhabitats for the three Czech Martelosopes. Further important outputs of the collaboration agreed upon were to produce (1) three Marteloscope booklets, (2) translate the tree microhabitat catalogue into Czech language and (3) to organise professional exchanges of forest professionals between Czech Republic and Germany. In October 2016 a high level policy conference will take place in Prague. Aims are to present the results of bilateral collaboration and sign a joint declaration on European forests.

Documentation

I+ documents used

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

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)

Photo (Andreas Schuck)

- From left to right: FMI colleagues working with the tree microhabitat catalogue

Docs



Title - Integrating Marteloscope sites in **silviculture training**

Where

Location

Bavarian State Forest Enterprise Ebrach

Name(s) of Marteloscope(s)

Steinkreuz

What

Activity type

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

Aim of activity

Introduction to Martelosopes and their potential application in general followed by field applications and discussions on how to use Martelosopes and the accompanying virtual software within the Bavarian silviculture training programme.

Further details

In order to address the above aim the participants engaged in performing virtual selection exercises using both the 'I+ tablet software' and the 'I+ Excel simulator'.

Participants [**5**] of whom from Integrate+ project team [2]

One country [**X**] multi-national []

Country/countries of origin: **Germany**

Who

Participants further details

Participant list

Name	Affiliation
	Department 'Silviculture and Mountain Forest of the Bavarian Institute for Forest and Forest Management (Bayerische Landesanstalt für Wald und Forstwirtschaft, LWF)
	LWF
	LWF
Daniel Kraus, Andreas Schuck	EFICENT

Reply

Feedback, remarks and potentials for collaboration

The participants were impressed by the richness of the collected data in the Marteloscopes, the interactive software tools (tablet and Excel simulator) and their visual outputs. Valuable feedback was given on how to further fine-tune and tailor the I+ software to best fit training needs: That included in particular how Marteloscope applications can best serve silvicultural training of foresters and forest owners (municipalities, forest associations, private owners). They highlighted that Marteloscopes can serve silvicultural training in particular through a set of forest stands displaying different development phases. Those sites could then actually be smaller in size (e.g. 0.25 ha) and located in close proximity to one another. The suggestions given are of high relevance especially in view of further fields of application of Integrate+. It was agreed to continue exchange and seek opportunities for joint training exercises in the near future. The head of the department 'Silviculture and Mountain Forest' of the Bavarian Institute for Forest and Forest Management and two participating silvicultural trainers, noted that the 'I+ Excel simulator' may be more suitable for training use as their main addressees are usually well acquainted with Excel. For larger groups it is more likely to have available enough laptop computers rather than tablet computers. It was agreed that once the 'I+ tablet software' has its functionalities fully operational, that includes result pages in pdf format and export functions, they would be willing to test the I+ tablet software once again.

Documentation**I+ documents/tools used**

- Marteloscope booklet 'Steinkreuz' (DE)
- I+ tree microhabitat catalogue (EN)
- I+ tablet software and I+ Excel simulator

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)

Photo (Andreas Schuck)

- Silvicultural trainers performing a virtual tree selection exercise in the Marteloscope 'Steinkreuz'

Docs



Title - Marteloscope exercises and tree microhabitat training

Location

Freiburg City Forest, Baden Württemberg

Name(s) of Marteloscope(s)

Mooswald and Rosskopf

Activity type

Training ☒ Marteloscope exercise ☒ Exchange of Experts ☐ Education ☐
Presentation ☐ Other ☐

Aim of activity

Training in tree microhabitat identification and description using the I+ tree microhabitat catalogue. Applying the training in the course of virtual tree selection exercises in the Martelosopes 'Mooswald' and 'Rosskopf'.

Further details

The tasks given for the two very different Martelosopes 'Mooswald' (Oak – hornbeam forest) and 'Rosskopf' (White fir - beech forest with Douglas fir) where to identify each 10 habitat trees while ensuring the removal of 10 trees for timber sale.

Participants ☒ of whom from Integrate+ project team ☐

One country ☐ multi-national ☒

Country/countries of origin: Italy, Spain, (Germany)

Participants further details

The group was very varied in their professional backgrounds. The group included forest managers, representatives from forest research and education and biologists (both from research and practice).

Participant list

Name	Affiliation
	CNR, National Research Council (Italy)
	CREA, Council for Agricultural Research and Economics (Italy)
	CNBFVR, National Centre for the Study and Conservation of forest Biodiversity, Ministry of Agriculture and Forestry - National Forest Service (Italy)
	CREA, Council for Agricultural Research and Economics (Italy)
	UNIMOL, University of Molise (Italy)
	Centre de la Propietat Forestal, Government of Catalonia (Spain)
	Universidad de Cordoba, Dpt. of Forest Engineering (Spain)
	Universidad de Cordoba, Dpt. of Forest Engineering (Spain)
Frank Krumm, Andreas Schuck and Daniel Kraus	EFICENT

Feedback, remarks and potentials for collaboration

“Marteloscopes are powerful training tools for calibration, identifying tree microhabitats and especially for observing economic and ecological consequences of different management strategies”. We were given the task to identify ten habitat trees and the same number for harvesting”, the participant from CNBFVR remarked. “The I+ software allowed us to select in a user-friendly way all trees and mark them for retention or removal. Afterwards we could directly display the exercise results as a pdf. It gave us insight into the consequences of our tree selections and allowed to extensively discuss the different groups’ results” was further noted. “I see many synergies to work together, which we look forward. Examples could be such training tools which are very valuable for education and I would welcome especially for students” a colleague from Universidad de Cordoba acknowledged. A researcher from CNR said, “we are willing to translate the tree microhabitat catalogue to Italian, as we have definite need for such a document in our ongoing projects”.

Documentation**I+ documents/tools**

- Marteloscope booklets 'Mooswald' and 'Roskopf' (EN)
- I+ tree microhabitat catalogue (EN)
- I+ tablet software

Results from Marteloscope exercises

- Four exercise results: two from each Marteloscope (internal documentation)

Other

- Written feedback (activity report) from participants following the activity (internal documentation)
- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)

Photo (Andreas Schuck)

- From left to right: Exercise participants checking their selection results



Reply

Docs

Title - Marteloscope exercises 'Falkenberg'

Location

Forêt de Bitche, Réserve Naturelle Nationale des Rochers et Tourbières, Parc naturel régional des Vosges du Nord, France

Name(s) of Marteloscope(s)

Falkenberg

Activity type

Training ☒ Marteloscope exercise ☒ Exchange of Experts ☐ Education ☐
Presentation ☐ Other ☐

Aim of activity

Implement two virtual tree selection exercises relevant for the current management aims of the forest reserve and two virtual tree selection exercises with increased harvesting volume.

Further details

The first two exercises were not fixed and allowed the participants to perform their own selection exercise based on the underlying management aims. The following exercises aimed at (1) applying an integrative management approach by selecting habitat trees and removing 40-50 m³ of standing volume for trees having reached target diameter; (2) removal of poorly formed trees and trees having reached target diameter (70 - 100 m³ of standing volume).

Participants [9] of whom from Integrate+ project team [2]

One country ☒ multi-national ☐

Country/countries of origin: France, (Germany)

Participants further details

The manager of the Réserve Naturelle Nationale des Rochers et Tourbières and his team participated in the exercises. Most of the team members were not foresters, but ecologists and biologists working in Natura 2000, riparian forests and wildlife management.

Participant list

Name	Affiliation
	Réserve Naturelle Nationale des Rochers et Tourbières
	Réserve Naturelle Nationale des Rochers et Tourbières
	Réserve Naturelle Nationale des Rochers et Tourbières
	Réserve Naturelle Nationale des Rochers et Tourbières
	Réserve Naturelle Nationale des Rochers et Tourbières
	Réserve Naturelle Nationale des Rochers et Tourbières
	Réserve Naturelle Nationale des Rochers et Tourbières
Daniel Kraus, Andreas Schuck	EFICENT

Reply**Feedback, remarks and potentials for collaboration**

The Marteloscope exercises were well received and allowed the participants to get insight to their potential applications. It was highlighted as very innovative that the tablet software is interactive and allows to create output files with all relevant exercise results directly in the stand. This is quite different to having to prepare the result file on a laptop or desktop after the exercise has ended. The learning effect of the exercises was that based on careful selection and 'virtual removal' of trees (40 - 75 m³) little impact was visible on the overall habitat value. It was noted that the catalogue of tree microhabitats is well elaborated and will find use by personnel of the Parc naturel régional des Vosges du Nord.

It was suggested to organise further training events in the autumn 2016 targeting to have ONF representatives participating. A visit to Freiburg City forest was also discussed and will be put to the planning schedule of Integrate+. Further it was agreed to produce a booklet on the 'Falkenberg' Marteloscope by the autumn 2016.

Documentation**I+ documents**

- I+ tree microhabitat catalogue (EN, DE)
- I+ tablet software and I+ Excel simulator

Results from Marteloscope exercises

- Four exercise results (internal documentation)

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)

Photo (Andreas Schuck)

- Participants in discussion on which tree to designate as habitat tree and which one best to harvest

Docs

Title – Tree microhabitat assessment training and Marteloscope exercises with Swiss National Forest Inventory experts

Location

Freiburg City Forest, Baden Württemberg

Name(s) of Marteloscope(s)

Mooswald

Activity type

Training ☒ Marteloscope exercise ☒ Exchange of Experts ☒ Education ☐
Presentation ☐ Other ☐

Aim of activity

Training activity for tree microhabitat assessment with the aim of improving the Swiss National Forest Inventory protocols based on the I+ catalogue of tree microhabitats. A virtual tree selection exercise was performed in order to explore the potential of the tool and investigate options on how the resulting data can be applied for research activities.

Further details

First action item was to introduce the catalogue of tree microhabitats followed by a discussion. A national forest inventory requires clear thresholds to be reported and those in a comparable format. Thus there is a need for clear criteria. During the Marteloscope exercise this was discussed at representative trees in 'Mooswald'. In addition, the exercise was used to calibrate the experts through performing individual assessments based on the underlying management aims in the 'Mooswald' district. The exercise aimed at (1) applying an integrative management approach by selecting habitat trees and removing 30 m³ of standing volume for trees having reached target diameter and (2) selecting the ten most valuable habitat trees.

Participants ☒ of whom from Integrate+ project team ☐

One country ☒ multi-national ☐

Country/countries of origin: Switzerland, (Belgium, Germany)

Participants further details

Participant list

Name	Affiliation
	Swiss Federal Institute for Forest, Snow and Landscape Research
	Swiss Federal Institute for Forest, Snow and Landscape Research
	Swiss Federal Institute for Forest, Snow and Landscape Research
	Swiss Federal Institute for Forest, Snow and Landscape Research
	Swiss Federal Institute for Forest, Snow and Landscape Research
Frank Krumm, Daniel Kraus, Lucie Vitkova, Hannes Schmitt	EFICENT

Where

What

Who

Feedback, remarks and potentials for collaboration

The theoretical introduction to the catalogue and the I+ software was followed by fruitful discussions. The event was much appreciated by both sides with valuable feedback to the I+ team. The Marteloscope exercise was well received and allowed the participants to get insight to potential applications. The tablet software was highlighted as very innovative and the applicants liked the fact that it allows interactive use and the creation of output files with all relevant exercise results directly in the stand.

In conclusion the WSL experts proposed to include the criteria 'tree microhabitats', as developed and published by Integrate+ (see: 'catalogue of tree microhabitats') to their inventory assessments. This approach will allow further improving the comprehensiveness of their NFI data with respect to biodiversity relevant tree specific microhabitat structures.

Documentation**I+ documents/tools**

- Marteloscope booklet 'Mooswald' (EN)
- Tree microhabitat catalogue (EN, DE)
- I+ tablet software

Results from Marteloscope exercises

- Two exercise results (internal documentation)

Photo (WSL)

- Investigating a cavity on an old oak which displays besides many habitat structures also a high economic value – identification of a so called "*conflict tree*"



Title – Marteloscope exercises with Freiburg University students (Chair of Silviculture)

Location

Freiburg City Forest, Baden Württemberg

Where

Name(s) of Marteloscope(s)

Mooswald

Activity type

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

What

Aim of activity

The aim of the activity was to introduce the international master programme students from the University of Freiburg to the concept of integrative forest management i.e. the embedding of nature conservation measures into managed forest. The Marteloscope as a tool for education and training was applied with the students. Further the tree microhabitat catalogue was introduced.

Further details

The students were divided in groups of two and given the task to identify the 10 most valuable trees in terms of economic return (two groups) while looking also at potential elite trees. The remaining three groups were asked to select the 10 most valuable habitat trees.

Participants [13] of whom from Integrate+ project team [2]

One country [] multi-national [X]

Country/countries of origin: Germany, Canada, Poland, Romania, Switzerland

Participants further details

International master programme students, University of Freiburg.

Participant list

Name	Affiliation
	University Freiburg - Chair of Silviculture (supervisor)
10	International Master Programme students
Daniel Kraus, Andreas Schuck	EFICENT

Who

Feedback, remarks and potentials for collaboration

The exercise outcomes were assessed by the students as very enlightening! They fully understood the potential applications of Martelosopes as educational and training tools and enjoyed working with the 'I+' software and the Excel simulator. The tree microhabitat catalogue was seen as easily applicable in the field and helpful for identifying structures that were either not known or difficult to assess. The wrap-up session during which the groups presented their results was lively. Especially interesting for them was to see in how far by thorough observation economic results can be similar while the removal of habitat structures can vary considerably. The same applied to the group selecting tree microhabitats. In the course of designating habitat trees one group fixed one third of the total economic value of the stand with their selection while the others had a more balanced result.

Feedback from students was that they would have enjoyed additional virtual tree selection tasks and thus a longer training session. The students' supervisor thanked Daniel Kraus and Andreas Schuck and hopes to see more such events with hopefully more time as expressed by the international master students.

Documentation**I+ documents/tools**

- Marteloscope booklet 'Mooswald' (EN)
- Tree microhabitat catalogue (DE/EN)
- I+ tablet software
- I+ Excel simulator 'Mooswald' (DE)

Results from Marteloscope exercises

- Five exercise results: (internal documentation)

Photo (Andreas Schuck)

- Discussing the results from the virtual tree selection exercise in 'Mooswald'



Reply

Docs

Title – IFSA students perform virtual tree selection exercises and receive tree microhabitat training at the 'Rosskopf' Marteloscope

Location

Freiburg City Forest, Baden Württemberg

Name(s) of Marteloscope(s)

Rosskopf

Activity type

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

Aim of activity

Introduce to the purpose of setting up Martelosopes. Performing virtual tree selection exercises in order to illustrate the use of Martelosopes and the I+ tablet software. Explain the role of tree microhabitats and train students in identifying them with the help of a catalogue. Stimulate discussion directly in the forest stand on silvicultural options based on the given tasks.

Further details

Participants [**12**] of whom from Integrate+ project team [1]

One country [] multi-national [**X**]

Country/countries of origin: Germany, Portugal

Participants further details

International forestry student association (IFSA) - Local committee Freiburg

Participant list

Name	Affiliation
IFSA LC Freiburg group (10)	IFSA LC Freiburg at Forestry Faculty, University of Freiburg
	Chairman IFSA LC Freiburg
Hannes Schmitt	EFICENT

Reply**Feedback, remarks and potentials for collaboration**

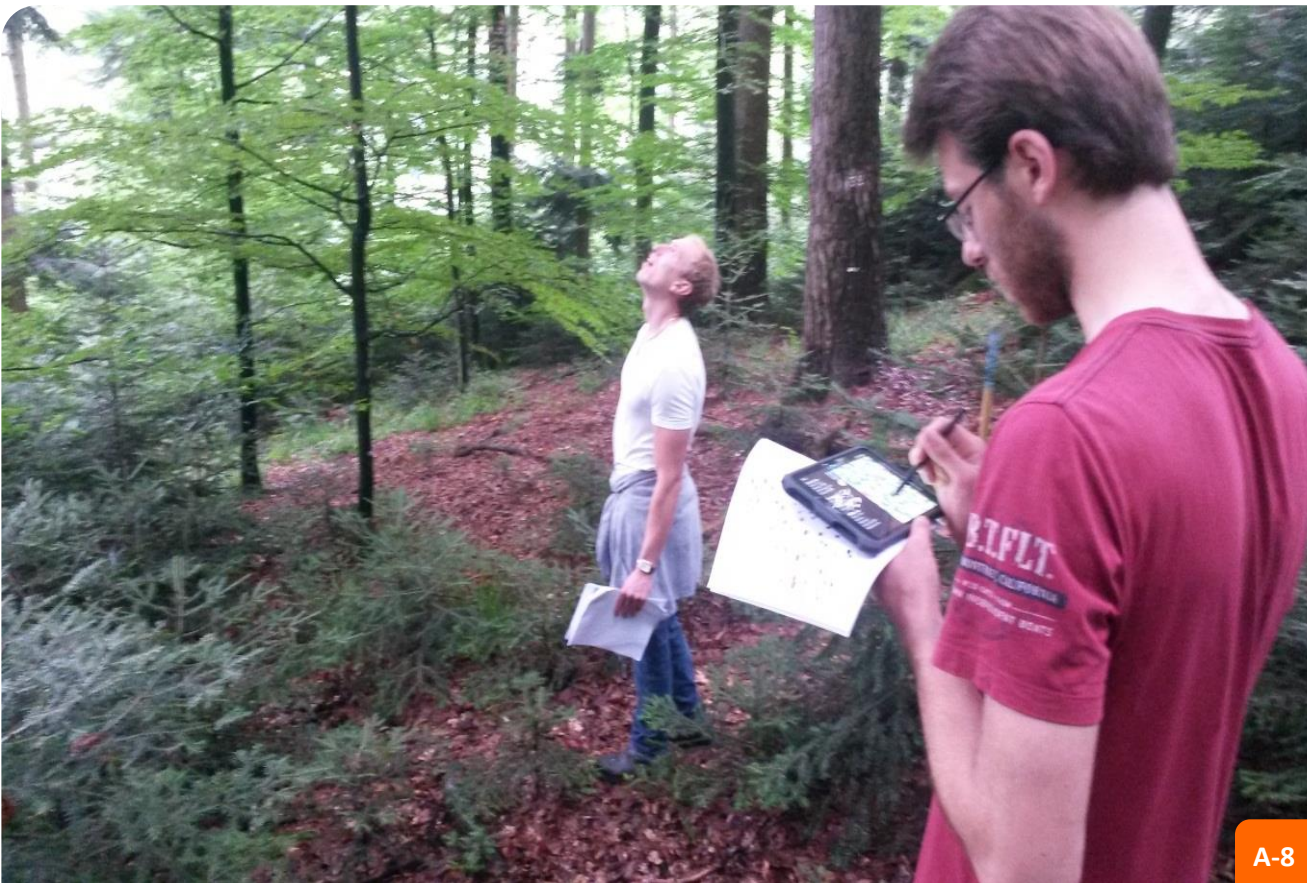
The exercise was supplemented by lively exchange based on the different results although having been given the same silvicultural task. Especially interesting for the IFSA participants was the display of the results by the I+ tablet software directly in the stand. The outcomes sparked discussions on what silvicultural approaches in general can be taken at 'Rosskopf'. Revisits to single trees were conducted to elaborate on microhabitats found or overlooked. It was noticeable that the students handled the tablets and I+ software very efficiently and with great enthusiasm. This interest was underpinned by several participants asking if there is a possibility to borrow the tablets for further training events.

Docs**Documentation****I+ documents/tools**

- Marteloscope booklet 'Rosskopf' (EN)
- What is a Marteloscope 1-pager (EN)
- I+ tablet software
- I+ Newsletter (EN)

Photo (IFSA participant)

- IFSA participants perform virtual tree selection exercises in the 'Rosskopf' Marteloscope



Title – Marteloscope exercise in State Forest Ettenheim, Germany

Location

State forest district Ettenheimmünster, Baden Württemberg, Germany

Where

Name(s) of Marteloscope(s)

Ettenheim

Activity type

Training [☒] Marteloscope exercise [☒] Exchange of Experts [☐] Education [☐]
Presentation [☐] Other [☐]

What

Aim of activity

Training activity for the application of silvicultural measures while considering structural and habitat development.

Further details

The Marteloscope exercise was organised for communal and state foresters from Baden Württemberg who apply close to nature principles. They were interested in learning on how to increase the amount of tree microhabitats in particular in forests where management focusses on timber production.

Participants [☒ 9] of whom from Integrate+ project team [☐ 1]

One country [☒] multi-national [☐]

Country/countries of origin: Germany

Who

Participants further details

ANW Germany (sub-unit Baden Württemberg) enquired for a Marteloscope exercise in a 60-80 years old beech forest to train silvicultural decision making based on close to nature principles. The Integrate+ Marteloscope 'Ettenheim' near Offenburg in South-western Germany, provides both the requested forest type. It is poor in structures and habitats which is not uncommon in such forests.

Participant list

Name	Affiliation
	RP Freiburg
	Stadt Heilbronn
	Forst BW
	ANW
	LRA Ortenaukreis
	FA Tübingen
	LA Tübingen
	WSL
Frank Krumm	EFICENT

Feedback, remarks and potentials for collaboration

The introductory presentations and the subsequent discussions were conducted with great enthusiasm. All participants supported with good input how to improve forester's performances when applying silvicultural measures. In the course of the practical exercises the I+ tablet software was well received.

All participants agreed on its usefulness as a training tool. *"No other training activity has ever stimulated and challenged me in this way as has this Marteloscope exercise"*, expressed one of the participating foresters in an email sent to Integarte+ a few days after the exercise. Another participant explained why he thinks that the combination of a real situation and the tablet computer makes so much sense for foresters, *"it is very helpful and beneficial to be able to apply different scenarios but still have the real situation present"*. The tablet software was highlighted as very innovative. The participants appreciated especially that it allows interactive use and the creation of output files with all relevant exercise results directly in the stand. *"Tree selection is what foresters do on a daily basis and cannot be just simulated. In training exercises like the one we participated, the software visualises immediately the results of our selections. An excellent basis for fruitful discussions!"*

Documentation

I+ documents/tools

- Tree microhabitat catalogue (DE)
- I+ tablet software
- Integrate+ Info Sheet 'Ettenheim'

Results from Marteloscope exercises

- Exercise results (internal documentation)

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)

Photo (WSL)

- ANW group intensively discussing the results of their exercise in the Marteloscope in Ettenheim



Title – Marteloscope exercises Sihlwald, Switzerland

Location

Sihlwald, Foundation Wildnispark Zürich (Switzerland)

Name(s) of Marteloscope(s)

Sihlwald

Activity type

Training [☒] Marteloscope exercise [☒] Exchange of Experts [☐] Education [☒]
Presentation [☒] Other [☐]

Aim of activity

Training activity for tree microhabitat assessment and for silvicultural decision making, with the aim to improve the overall capacity of forestry students representing a complex situation in a multi-purpose forest.

Further details

The students were particularly interested in learning about tree microhabitats. 'Sihlwald' forest is of special interest as it is located in an important water catchment area close to the City of Zürich. It makes management decisions more challenging water quality issues need to be considered when managing such forests.

Tree microhabitats were introduced and discussed in detail at representative trees. Data collection in the course of permanent forest inventories need clear, measureable thresholds for tree microhabitat structures. They require reporting in a comparable format (re-measurement) which imply clear assessment criteria. This topic was discussed in depth based on examples of selected microhabitat structures at the Marteloscope 'Sihlwald'.

Participants [25] of whom from Integrate+ project team [2]

One country [☒] multi-national [☐]

Country/countries of origin: Switzerland

Participants further details

Thibault Lachat, Professor for Forest Ecology at the 'School of Agricultural, Forest and Food Sciences (HAFL)', requested for a Marteloscope exercise for his forestry students at 'Sihlwald'. The students should train their abilities to make educated decisions in multi-purpose forests.

'Sihlwald' forest reserve is a good show case as different forest functions need to be taken into consideration in forest management. Although declared a reserve, the forest meets these criteria. Last management interventions do not date back very long with the aim of promoting high quality timber production. Since they ceased other management activities have taken place. The area is of high relevance for the provision of drinking water and constitutes a popular place for recreation with the city population. Many school children and nature interested people visit the park. They in particular require supportive infrastructure and information. Therefore, the local partner, the Wilderness Park 'Sihlwald' welcomed the establishment of a Marteloscope as an education and training tool.

Where

What

Who

Participant list

Name	Affiliation
	School of Agricultural, Forest and Food Sciences (HAFL)
	Wildnispark, Sihlwald
	Wildnispark, Sihlwald
20 students	School of Agricultural, Forest and Food Sciences (HAFL)
Frank Krumm and Daniel Kraus	EFICENT

Feedback, remarks and potentials for collaboration

An introduction to ‘Sihlwald’ and multi-purpose forest management was given to the students followed by lively discussions. They focussed in specific on options of applying silvicultural tools, profound ecological knowledge and monitoring activities to tree habitat structures and their contribution to nature conservation. The Marteloscope was explained, discussed in detail and followed by a set of hands-on exercises.

Having such a tool was regarded as very beneficial for ‘virtually’ investigating effects of different management measures directly in the forest. The students expressed that the tablet software is innovative and easy to use. “It is great to see the results of one’s management intervention immediately, and that in the field! Outputs were actually quite diverse although we had the same task! We could then revisit some of the crucial trees to discuss the reasons leading to our different decisions.

Documentation

I+ documents/tools

- Tree microhabitat catalogue (DE)
- I+ tablet software
- Integrate+ Info Sheet ‘Sihlwald’

Photo (Frank Krumm)

- Impression from the Marteloscope in ‘Sihlwald’ located near the City of Zürich dominated by old Silver fir and some large beech trees



Reply

Docs

Title – **Natura 2000 excursion** of Hungarian delegation to Bavaria including a visit to **Marteloscope Steinkreuz**

Location

Bavarian State Forest Enterprise, Ebrach

Where

Name(s) of Marteloscope(s)

Steinkreuz

Activity type

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

What

Aim of activity

Introduction to Martelosopes as tools to better understand management effects on biodiversity relevant structures in Natura 2000 sites.

Further details

From 15 - 19 November 2016 a Hungarian delegation visited Bavaria in the frame of the Life+ project 'LIFEinFORESTS' to learn more about various aspects of Natura 2000 and its implementation in forest management. The delegation from Hungary consisted of a mixed group from nature conservation, National Park authorities forestry and private forest owners. 16th and 17th of November were reserved for a visit to Bavarian State Forest Enterprise Ebrach to see a biodiversity concept that goes beyond Natura 2000 principles: Ulrich Mergner, head of the enterprise in Ebrach received the group on 16th of November for an introduction to the concept. He focussed on deadwood and habitat trees as important descriptors for habitat quality in Natura 2000 sites in Bavaria. The following day, the group was introduced to Martelosopes and their potential applications in general, followed by an extensive group exercise at the Marteloscope 'Steinkreuz'. The afternoon was complemented by Klaus Kaufmann from AELF Würzburg with more information about Natura 2000 management in the whole Steigerwald region.

Participants [**34**] of whom from Integrate+ project team [1]

One country [**X**] multi-national []

Country/countries of origin: **Hungary**

Who

Participants further details

The group included representatives from Bükk National Park Directorate, Duna-Ipoly National Park Directorate, Kiskunsag National Park Directorate, Europa Media Non-Profit Ltd., the Hungarian Forestry Association, National Association of Private Forest Owners and Forest Managers and Pilisi Parkerdő Zrt.

Participant list

Name	Affiliation
	Bükk National Park Directorate
	Organizer
	Private forest owner
	AELF Würzburg
	Bavarian State Foerst Enterprise Ebrach
Daniel Kraus	EFICENT

Feedback, remarks and potentials for collaboration

The group was impressed by the possibilities a demonstration site like a Marteloscope can provide. The group expressed their impression through the following statements:

“Thank you for your excellent practice on the Marteloscope method. Could you send us the “results” of our group work? We would very much appreciate to have the results as we can then discuss further on the tool of Martelosopes and how we may be able to utilise them in our work back home. Great!” (various participants)

“We discussed already during the exercise implementation that we would like to invite you to Hungary. We could then exchange on options to establish a similar Marteloscope practise for some other forests in Hungary. Is this possible e.g. in spring 2017?” (Bükk National Park Directorate).

Documentation

I+ documents/tools

- Tree microhabitat catalogue (EN, DE)
- I+ tablet software
- Steinkreuz booklet
- Field guide Steigerwald

Photo (Daniel Kraus)

- Hungarian participants learning about the Ebrach ‘Trittstein’ Concept followed by Marteloscope exercises in Steinkreuz



Reply

Docs



Excursions and field visits



B - Excursions
and field trips

Title - **Presenting Integrate+ progress** to BMEL including a visit to an I+ Marteloscope

Location

Bavarian State Forest Enterprise Ebrach

Name(s) of Marteloscope(s)

Steinkreuz

Activity type

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

Aim of activity

Presentation of the integrative forest management concept applied in the Bavarian State Forest Enterprise Ebrach, the progress made with Marteloscope establishment and the I+ tablet software developed for performing virtual tree selection exercises.

Further details

A presentation was given by the manager of the Bavarian State Forest Enterprise Ebrach, Ulrich Mergner on how they address biodiversity conservation within managed forests. A combination of strictly protected areas, a network of 'stepping stone' habitats, linear elements and crown cover areas derived from habitat trees and dead wood management are core elements of the concept. It was followed by visits to strict forest reserves and the Integrate+ Marteloscope 'Steinkreuz'. The 1 ha large site for which all trees were measured and habitat and economic values were assessed, allowed BMEL and GIZ representatives to test a first version of the software application developed by the Integrate+ team. The application runs on a tablet and can be used for performing virtual tree selection exercises. It allows visualising results of a virtual exercise both in economic terms and in changes to the habitat value of the stand.

Participants [**11**] of whom from Integrate+ project team [4]

One country [**X**] multi-national []

Country/countries of origin: **Germany**

Participants further details

Participant list

Name	Affiliation
	BMEL
	BMEL
	BMEL
	GIZ
	GIZ
	BaySF
	Journalist 'Main-Post'
Daniel Kraus, Alexander Held, Frank Krumm, Andreas Schuck	EFICENT

Who

Where

What

Feedback, remarks and potentials for collaboration

BMEL and GIZ thanked Ulrich Mergner and the Integrate+ team for the opportunity to visit Ebrach and see first results from the Integrate+ project.

The BMEL, acknowledged that the demonstration sites are very useful as educational tools to better understand effects of management options including their effects into the future. The participants noted that the tablet based I+ software application is very helpful in the course of exercises and for discussion on site and gave the Integrate team good feedback for its further development. It was proposed to repeat such excursions and exercises and inviting also representatives from other relevant ministries and administrations. This will allow to convey to different actors how such a tool can contribute towards more transparent and objective discussions on the topic of biodiversity conservation in managed forests in Europe.

Documentation

I+ documents/tools

- Marteloscope booklet 'Steinkreuz' (DE)
- General I+ brochure (EN)
- I+ tablet software and I+ Excel simulator

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)
- New article in Main-Post:
http://www.integrateplus.org/uploads/images/Mediacenter/main_post_june_2015.pdf

Photo (Main - Post)

- From left to right: Exchanging on how the I+ tablet software can be used when performing virtual tree selection exercises



Reply

Docs

Title - Presentation of Integrate+ and the use of Marteloscopes at Pro-Silva Luxembourg Symposium

Location

Heringermillen, Luxembourg (Pro Silva Luxembourg Symposium); Excursion to forest sites around Heringermillen

Name(s) of Marteloscope(s)

Activity type

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

Aim of activity

Presenting the goals, concept and methodology of Integrate+ and promoting the use of Marteloscopes for silvicultural training exercises. Introduction of I+ tablet software for performing virtual tree selections exercises on site. Proposal for tools to promote integrated forest management approaches in Luxembourg.

Further details

Integrate+ communication and dissemination; launching of eventual cooperation and providing support to Pro Silva Luxembourg. Pro Silva was interested in investigating options of integrating more biodiversity aspects into forest management practices.

Participants [approx. 50] of whom from Integrate+ project team [2]

One country [] multi-national [X]

Country/countries of origin: Luxembourg, Belgium, France, Germany

Participants further details

The group consisted mainly of forest managers, forest owners and foresters in training.

Participant list

Name	Affiliation
	President ProSilva Luxembourg
	ProSilva Luxembourg
	Forest Manager and Head of Nature Conservation Unit, Saar State Enterprise (Germany)
	Head of Bavarian State Forest Enterprise Ebrach (Germany)
	Deputy Head Bavarian Forest National Park (Germany)
District foresters	Luxembourg and Saar State Enterprise (Germany)
Pro Silva members	Forest owners from Luxembourg
Andreas Schuck, Hannes Schmitt	EFICENT

Feedback, remarks and potentials for collaboration

A lively discussion emerged after the presentation with good feedback from all participants. Ulrich Mergner, who was invited as key note speaker to the symposium, provided additional input on the practical use of Marteloscopes and the software and his positive experience in using them as a demonstration and training tools for forest practitioners and other user groups (Marteloscope 'Steinkreuz'). One topic lively debated was whether an indication on the monetary value could be provided also for the habitat value of a tree in addition to the habitat value scoring.

Strong interest was expressed by Pro Silva Luxembourg for establishing one or several demonstration sites jointly with the Integrate+ project. A participant from Pro Silva and Forest Manager with the Luxembourg Administration for Nature and Forests stated that he will be happy to act as contact for proposing potential site locations and participate in the set-up of Marteloscopes. The I+ team welcomed the proposal and hopes for this to become a reality.

Documentation**I+ documents/tools**

- Poster: Marteloscopes (EN)
- Tablet with I+ software
- Various Marteloscope booklets (EN)
- General Integrate+ information material (EN)

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)
- Feedback report from participants (internal documentation)

Photo (Symposium participant)

- Poster presentation by Andreas Schuck and Hannes Schmitt during the excursion to the 'Heringermillen' forest



Title - Forestry delegation from Georgia visits **Integrate+ demonstration site** in Freiburg City Forest

Location

Freiburg City Forest, Baden Württemberg

Where

Name(s) of Marteloscope(s)

Rosskopf

Activity type

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

What

Aim of activity

Integrate+ presentation and Marteloscope exercise as part of Georgian delegations study tour to South-western Germany. Topics included exchange on forest management concepts and practical implementation of multifunctional forest management with emphasis on biodiversity relevant aspects. General support and input was provided with reference to the ongoing reform of the Georgian forest sector.

Further details

In the course of the visit to 'Rosskopf' the Integrate+ project was introduced. A discussion took place on how much forest area would seem reasonable to strictly protect in order to ensure biodiversity conservation and to what extent integrative forest management approaches could actually contribute. The I+ team presented integrative forest management based on the outcomes of the Integrate publication. Targets combining various elements at landscape to single tree level were discussed including e.g. stepping stone habitats, linear elements, habitat trees and dead wood accumulation embedded in matrix with close-to-nature managed forests and different types and sizes of strictly protected areas.

Examples of former tree selection exercises at the 'Rosskopf' were presented which were conducted by students, state foresters and silvicultural trainers. The Georgian delegation was then encouraged to implement an own virtual tree selection exercise. It was then followed by a lively discussion on the exercise results and lessons learned from those.

Participants [**24**] of whom from Integrate+ project team [5]

One country [] multi-national [**X**]

Country/countries of origin: **Georgia, Germany**

Participants further details

Among participants of the Georgian forestry delegation was the Deputy Minister of Environment and Natural Resources and other high level decision-makers from the forest policy sector, accompanied by GIZ forest experts.

Who

Participant list

Name	Affiliation
	Deputy Minister of Environment and Natural Resources
	Head of Forest Policy Service, MENRP
	Head of National Forestry Agency
	Deputy Head of National Forestry Agency
	Chief Specialist of Maintenance and Reforestation Department
	Chief Specialist of Forest Policy Service
	Head of Legal Department of NFA
	Head of Maintenance and Reforestation Department, MENRP
	Acting Head of Akhmeta Forest Unit of NFA
	Chief Forester of Kakheti NFA
	Director, GIZ SMB Project
	Project Expert, GIZ SMB Project
	Office Manager GIZ SMB Project
	Forest Expert, GIZ
	Forest Expert, GIZ
	Translator
	Organizational support
	Organizational support
	Freiburg City Forest
Daniel Kraus, Andreas Schuck, Alexander Held, Frank Krumm, Hannes Schmitt	EFICENT

Feedback, remarks and potentials for collaboration

Participation in the Marteloscope training was enthusiastic. The immediate feedback on the consequences of silvicultural decisions was much appreciated and sparked a constructive exchange amongst the participants and the I+ team. The group acknowledged in particular the assigning of habitat values to each tree in addition to the economic value. They expressed the Marteloscope and I+ software tool being an effective training tool and also a powerful vehicle for communication between research, policy and practice.

They expressed strong interest in setting-up Martelosopes in Georgia. Integrate+ sees a viable opportunity for future actions to introduce and test the Marteloscope approach also internationally in particular in the framework of development projects.

Reply

Documentation

I+ documents/tools

- Marteloscope booklet 'Rosskopf' (EN)
- I+ tablet software and I+ Excel simulator

Results from Marteloscope exercises

- Six group exercise results (internal documentation)
- Written feedback from participants (email correspondence)

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)
- Statement in the 'Messages from the Network' section of the I+ Newsletter No. 2

Photo (Andreas Schuck)

- Georgian delegation during the presentation of Integrate+ followed by an introduction to the virtual tree selection exercise in 'Rosskopf'





Title – Marteloscope presentation in the course of an ‘EFI ThinkForest’ event in the Sonian forest (Brussels)

Location

The Sonian forest (Zoniënwoud – Forêt de Soignes) is located in the centre of Belgium, right at the border of Brussels, today being almost completely surrounded by residential areas. It covers around 4,500 ha.

Name(s) of Marteloscope(s)

Groenendaal

Activity type

Training [] Marteloscope exercise [] Exchange of Experts [] Education []
Presentation [**X**] Other [**EFI ThinkForest field trip**]

Aim of activity

Using Martelosopes as a tool for stimulating the discussion on the effects of environment and forest related policies for forest management, biodiversity conservation and other services and their potential trade-offs.

Further details

The Marteloscope presentation took place as part of the ‘EFI ThinkForest’ event ‘science-policy in action: the role of European forests’ in the Sonian Forest near Brussels. The visit to the impressive beech dominated Marteloscope 'Groenendaal' had the role of stimulating discussion and awareness raising on the multiple demands towards forests ‘on site’. Especially considering Europe’s aim towards a green economy will require the consideration of trade-offs in order to meet the varying demands. Main emphasis was given to how forestry can contribute to biodiversity conservation, besides through set-aside forest areas, in its day to day management.

Participants [**57**] of whom from Integrate+ project team [2]

One country [] multi-national [**X**]

Country/countries of origin: **Austria, Belgium, Czech Republic, Finland, France, Germany, Latvia, The Netherlands, Norway, Spain, Sweden**

Participants further details

The excursion was attended by participants from the European Parliament, EU administrations, national and international interest groups, researchers, forest administrations and practical foresters.

Participant list

Name	Affiliation
See ThinkForest event	See ThinkForest event
Daniel Kraus, Andreas Schuck	EFICENT

Where

What

Who

Reply**Feedback, remarks and potentials for collaboration**

The exchange between the participants from research, policy and practice focused on the consequences of existing and emerging European, national and local policies for practical forest management in particular towards providing wood while maintaining ecological and societal values of forests. This became obvious when participants learned that the Sonian forest has more than 2 million visitors every year.

The value of Martelosopes as a demonstration and training tool was highlighted for 'virtually' investigating and visualising consequences of current or new forest management strategies. The participants agreed that they can, in this way, stimulate a constructive dialogue between policy makers, researchers and practitioners.

Documentation**I+ documents/tools**

- Marteloscope booklet 'Groenendaal' (EN)
- General Integrate+ booklet (EN)
- 'What is a Marteloscope' flyer (EN)
- 'Groenendaal' Marteloscope poster (EN)
- I+ tablet software

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)
- News article on EFI Website (http://www.efi.int/portal/news___events/news/?bid=2164)
- Participant list (internal documentation)

Photo (Andreas Schuck)

- Daniel Kraus presenting the Marteloscope 'Groenendaal' to the 'ThinkForest' event participants



Title - Integrate+ field excursion to Ebrach with 'Naturschutzbund Deutschland (NABU)' representatives

Location

Bavarian State Forest Enterprise, Ebrach and Iphofen Communal Forest (coppice with standards)

Name(s) of Marteloscope(s)

Steinkreuz

Activity type

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

Aim of activity

Important activities applied by Integrate+ project are field excursions and Marteloscope exercises. They aim at facilitating and enhancing the exchange of expertise between regions and across country borders. The taking home of new and innovative ideas from research and practice and building networks for future collaboration and exchange are equally important. Target groups are forest practitioners, nature conservation managers, researchers, administrators and policy makers.

Further details

The excursion was organised for a delegation of NABU foresters around the topic "Biodiversity in managed forests". Also guests from Lübeck and Göttingen City Forest took part in the field trip. The following topics were addressed during the visit to Ebrach:

- the management of beech forests under climate change, species diversification and approaches for forest biodiversity enrichment
- visit to the Marteloscope 'Steinkreuz' with exercises and demonstration of the I+ tablet-software
- management of beech forests under climate change with focus on the role and management of deadwood, tree species composition and harvesting methods
- innovative approaches on how to organize wood harvest

Participants [15] of whom from Integrate+ project team [2]

One country [X] multi-national []

Country/countries of origin: Germany

Participants further details

The participating foresters had diverse professional backgrounds. They represented state forest administrations, communal forest owners and nature conservation associations.

Where

What

Who

Participant list

Name	Affiliation
	Forest Enterprise Weilheim
	Biosphere Reserve Schwäbische Alb
	Rural District Office Böblingen
	Rural District Office Böblingen
	Forestry Consultant
	Lübeck City Forest
	Forest District Horb
	Forest District Bernau
	Forest Enterprise City of Nagold
	Lübeck City Forest
	Göttingen City Forest
	NABU, Baden Württemberg
	City Forest Pfullingen
Daniel Kraus, Alexander Held	EFICENT

Feedback, remarks and potentials for collaboration

The ‘Naturschutzbund Deutschland - NABU’, deals with nature conservation in general giving forests and forestry special interest. This is expressed in the form of a full time position for a forestry expert at NABU Baden-Württemberg. The NABU also certifies forest management if it follows certain NABU specified criteria. These criteria led to an early contact between NABU and EFI in the course of the Integrate+ project. Integrate+ team members visited field days organised by NABU.

A group of 13 foresters from state owned and communal forests arrived in Ebrach and spent two days in the field. The agenda started off with an introduction to the forest enterprise in general, followed by the forest biodiversity and stepping stone concept of Ebrach. A Marteloscope exercise at 'Steinkreuz' was performed, sparking extensive discussions with Ebrach district foresters. The second day closed the event with a short visit to the ‘coppice with standards forests’ of Iphofen.

A welcome addition to the group and the discussions were the chief foresters of the City Forests of Lübeck and Göttingen. Their input and sharing of experience from “urban” forestry and their well-known biodiversity and forest management added an additional view and perspective to the field trip.

Reply

The Marteloscope software tool “I+” was well received and all exercise applications worked smoothly. As one outcome it was agreed that a follow-up should take place to the Lübeck City Forest to learn more about their management concepts and also visit their Marteloscope ‘Lauerholz’.

Documentation

I+ documents/tools

- Marteloscope booklet 'Steinkreuz' (DE)
- Steigerwald field guide (EN)
- Tree microhabitat catalogue (DE)
- I+ tablet software
- Integrate publication 'In Focus: Integrative approaches as an opportunity for the conservation of forest biodiversity' (DE)

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)

Photo (Alexander Held)

- Foresters in discussion during the NABU field visit to BaySF Ebrach ('Steinkreuz')





Title - Integrate+ field excursion with Chilean forest experts to Freiburg City Forest

Location

Freiburg City Forest, Baden Württemberg

Name(s) of Marteloscope(s)

Rosskopf

Activity type

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

Aim of activity

Important activities applied by the Integrate+ project are Marteloscope exercises. They aim at facilitating and enhancing the exchange of expertise between regions and across country borders. The particular goal of this event was to exchange on highly relevant forestry issues in Chile, Germany and other countries in Europe. The Integrate+ project and the philosophy behind the building of a European demonstration site network was presented as was the virtual tools and how they can be applied.

Further details

The excursion was organised for a delegation of forest experts from the Instituto Forestal (INFOR), Chile. The following topics were discussed and exchanged upon during the field visit:

- Close to nature forest management approaches and their applicability to Chilean forests
- Retention and restoration management
- Means for knowledge transfer, training and education
- Options for collaboration between INFOR and the Integrate+ project

Participants [4] of whom from Integrate+ project team [2]

One country [X] multi-national []

Country/countries of origin: Chile, (Germany)

Participants further details

The participants represented research (from INFOR Concepción) and regional forest management (INFOR Coyhaique).

Participant list

Name	Affiliation
	Instituto Forestal (INFOR), Chile
	Instituto Forestal (INFOR), Chile
Andreas Schuck, Daniel Kraus	EFICENT

Where

What

Who

Reply**Feedback, remarks and potentials for collaboration**

The field visit yielded intensive discussions on forest management concepts applied in Germany and Chile. In particular, the situation in the XIth Region of *Aysén del General Carlos Ibáñez del Campo* was highlighted in which no management is conducted in native forests. For such forests an adapted stepping stone management concept could be a good model in order to ensure biodiversity conservation and forests stability while producing timber. This is especially relevant as the region experiences often uncontrolled harvesting in particular for collecting fuelwood. Such activities often result in a degradation of these native stands. As an outcome the Chilean delegation expressed their interest to investigate modes for cooperation jointly with Integrate+. Ideas that were developed included, the establishment of Martelosopes in typical native forest types and designing a demonstration/training site on landscape scale for testing/studying adapted stepping stone concepts in Region XI. Any such activity would be preceded by a visit from a Chilean delegation (including forest industry land owners, private forest owners, policy and state administration representatives, forest managers and researchers) to gain insight to the stepping stone concept which is applied in the Bavarian State Forest Enterprise Ebrach. It was agreed by all participants to stay in contact on these ideas during 2016.

Documentation**I+ documents/tools**

- Marteloscope booklet 'Rosskopf' (EN)
- Tree microhabitat catalogue (EN)
- I+ tablet software

Other

- EFI News (No. 1 Volume 24, March 2016 1): Article p. 19: "Integrative forest management for restoring old-growth forests of Chile"
- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)

Photo (who)

- Daniel Kraus and Andreas Schuck presenting Integrate+ to Chilean delegation at 'Rosskopf' including an exercise performed with the I+ tablet software

Docs

Title – Study trip of German foresters to primeval and managed forests of the Islamic Republic of Iran

Location

- Kheyrood Experimental Forest of Tehran University (Noshahr City), Mazandaran Province
- Shastkola Experimental Forest of Gorgan University, Gorgan City, Golestan Province
- Lohve province

Name(s) of Marteloscope(s)

Activity type

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

Aim of activity

The aim of the field excursion and seminar at the Iranian Research Institute of Forests and Rangelands was to allow German forest managers to learn about forestry and forest management in Iran and in return give insight to current forest issues in Germany/Bavaria with emphasis on integrative forest management concepts. The visit to primeval oak and beech forest should give the participants a better understanding in how far management may allow to incorporate characteristics of late development and breakdown/decay stages of natural forests.

Further details

The excursion included visits to main forest types of the Hyrcanian forest region along the Caspian Sea up to the higher elevations of the Alborz mountains. Besides the regional specific forest communities like *Parrotio-Carpinetum*, *Zelkovo-Quercetum* or *Buxo-Quercetum* the main interest was with Oriental beech forests (*Fagetum hyrcanum*) both managed and primeval. Since management of the Hyrcanian beech forests only started in the 1960s there are still significant tracts of these forests largely untouched by human intervention. The main challenge in the Caspian forests was to convert primeval forest to high value timber stands, and first trials with shelterwood cuttings were considered unsuccessful. More recent approaches are based on single tree to group selection methods, and interventions are carried out extremely careful. Harvest rates are oriented at 1% of the total volume annually, with the consequence that sometimes only a few trees are felled in one cut but with large individual volumes. Both logging and timber extraction are carried out with low impact on remaining stand and soils.

The discussions with the German excursion participants targeted mainly on harvest intensities and the resulting structures. Timber qualities seemed to be satisfactory though not comparable to stands with a long selection history. In the remaining primeval forests stands which were visited during the excursion in the forest districts *Kheyrood*, *Shastkola* and *Lohve* the discussions evolved around the total volumes in the different development stages. Also the abundance of biodiversity relevant structures noted, such as the high deadwood amounts and huge variety and number of tree microhabitats. Surprising information presented by the hosts was that a recent decree from the Ministry of Environment has limited the harvest of trees to only defected and damaged old trees in order to preserve the vitality of Iranian forests. This stands in strong contrast to the view of Iranian forest researchers and forest managers.



Who

Participants [field excursion and seminar approx. 48] of whom from Integrate+ project team [2]

One country [] multi-national [X]

Country/countries of origin: Islamic Republic of Iran, Germany

Participants further details

The participants of the field excursion were the head of Bavarian State Forest Enterprise, Ebrach and three of his forest district managers. The hosts and guides were both the Associate Professor, Forest Research Division and Head of International Affairs and Public Relations from the Research Institute of Forest and Rangelands (RIFR) accompanied by RIFR researchers and a senior researcher from the University of Gorgan and some of his colleagues. They all ensured a highly competent introduction to Iranian forests, their management concepts and pressing issues. The field trip and the following seminar stimulated fruitful discussions, exchange of experiences and a willingness to seek future collaboration.

Participant list

Name	Affiliation
	Research Institute of Forest and Rangelands (RIFR), Tehran, Islamic Republic of Iran
	University of Gorgan, Islamic Republic of Iran
	Bavarian State Forest Enterprise Ebrach
	Bavarian State Forest Enterprise Ebrach
	Bavarian State Forest Enterprise Ebrach
	Bavarian State Forest Enterprise Ebrach
Daniel Kraus, Andreas Schuck	EFICENT
RIFR and University representatives	approx. 40 (senior researchers, department heads, PhD researchers)

Feedback/ remarks and potentials for collaboration

The field excursion and the following seminar at RIFR were extremely valuable to the forester's delegation from Germany. They were able to visit jointly with Iranian forest scientists and managers old growth and primeval beech and oak forests and discuss first hand on management concepts, forest protection, biodiversity and ongoing research activities. During the field trip and the seminar, a set of proposals for cooperation were elaborated:

- The tree microhabitat catalogue was well received and a translation into Farsi will be looked into. RIFR regards it as a highly educational tool for the use in field exercises for students and training of forester managers.
- The Head of the Bavarian State Forest Enterprise Ebrach, invited RIFR and members of its departments to visit Ebrach forest and learn about its biodiversity concept.

Reply

Activity B-7

- The German excursion participants proposed to send an open letter to the Iranian Environment Ministry related to current policy developments. Policy targets to remove less vital, deformed and dead trees in order to increase the health and vitality of Iranian forests should be reconsidered. This would create a situation, that we now have in European forests. Forests lack especially such late development phases including stand breakdown and decay stages and following gap dynamic regeneration. Such are the ones with the highest species abundance and diversity.
- Following the presentations by Andreas Schuck (*'To integrate or to segregate? – Integrative approaches as an opportunity for the conservation of forest biodiversity'*) and Daniel Kraus (*The Marteloscope – an innovative concept for silvicultural training*) a lively discussion emerged amongst the 40 seminar participants.

Documentation

I+ documents/tools provided

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

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)

Photo (RIFR)

- Exploring a primeval Fagetum hyrcanum forest in the forest district Kheyrood

Docs



Photo (BaySF)

- Lively discussion in a small group at one of the excursion stops addressing targeted harvest intensities, deadwood accumulation, biodiversity relevant structures and corresponding species



Photo (Andreas Schuck)

- Seminar presentations by Integrate+ team members (Andreas Schuck and Daniel Kraus) at RIFR



Title - Excursion to Pahernik forest, including an introduction to the Pahernik Marteloscope

Location

Pahernik Forest, Hudi kot, Municipality Radlje ob Dravi 2360, Slovenia

Name(s) of Marteloscope(s)

Pahernik

Activity type

Training [] Marteloscope exercise [X] Exchange of Experts [] Education [X]

Presentation [X] Other [Excursion: Pahernik forest]

Aim of activity

Educational field visit to Pahernik forest and presentation of its close to nature forestry approach. An introduction to forestry engineer Franjo Pahernik was given as he is regarded a pioneer of close to nature forestry in Slovenia. The excursion participants visited the 'Pahernik' Marteloscope getting first-hand information on the value of demonstration sites.

Further details

The main purpose of the excursion to the Pahernik forest was to show the interested public what close to nature forestry actually means. They were introduced to the principles of close to nature forestry and its challenges today and in the future.

The excursion started off at the Regional Museum of Koroška, where participants learned about the Pahernik family and organisations such as Pro Silva Slovenia and the Pahernik Foundation. In the forest participants were then divided into two groups. At the first excursion stop Prof. Jurij Diaci (University of Ljubljana, Department of Forestry) gave detailed insight to the close to nature forestry concept. He explained why it is important and how local foresters in their daily work implement the close to nature principles. The Slovenian Forestry Institute hosted the second stop. The experts presented the 'Life Gen Mon' project which incorporates a forest genetic monitoring system while putting special emphasis on forest pedagogy and environmental education of children. The participants took part in an educational exercise with the aim of understanding the complexity of the forest ecosystems.

The third stop was the 'Pahernik' Marteloscope set up jointly with Integrate+. The rationale of Martelosopes was presented giving special emphasis to tree related microhabitats, dead wood and biodiversity. During the visit a tree selection exercise was performed using the a tablet based software specifically designed for use in Martelosopes. A lively discussion followed the tree selection exercises. Participants with a forestry background were very much interested in the tree related microhabitats and the underlying 'Catalogue of tree microhabitats'. Forest owners found the Marteloscope particularly attractive as it also allowed to see tree selection results in terms of economic return. A general discussion took place around dead wood and habitat trees and their importance for biodiversity and forest resilience.

At the fourth stop, one of the largest trees in Slovenia was shown, the 'Pahernik spruce'. The excursion finished with the serving of a traditional forestry dish called "frika" – corn polenta with cheese and cracklings.

Where

What

Who

Participants [50] of whom from Integrate+ project team [1]
One country [] multi-national [X]
Country/countries of origin: Slovenia, Japan

Participants further details

Participant list

Name	Affiliation
	University of Ljubljana, Department of Forestry
	Prosilva Slovenia
	Slovenian Forest service
	Slovenian Forest service
	Slovenian Forest service
	Pahernik foundation
	Slovenian Forestry Institute
	Slovenian Forestry Institute
	Shizuoka University, Japan
	Secondary Forestry school
	Regional Museum of Koroška
	n.a.
	n.a
	n.a
Kristina Sever	EFICENT (2015-2016)

Feedback, remarks and potentials for collaboration

The university representative stated that the excursion had been extremely rewarding. Foresters became very interested in Integrate+ and its tools and outputs. Especially emphasised were the topics forest biodiversity in managed forests and the introduction to tree related microhabitats. They expressed the wish to receive the 'Catalogue of Tree Microhabitats available in electronic version. That was done immediately following the field trip.

There was the wish by the university representative to receive the I+ software package for the 'Pahernik' Marteloscope. He was invited to the Integrate+ Conference end of October 2016 where he will be able to further test and receive the I+ tablet software. He was very pleased to see that many young people took part in the excursion both as speakers and participants. All participants were pleased with the organisation and the educational aspect of the excursion. The beauty, naturalness, conservation and management of the Pahernik forest impressed especially also the visiting professor from Japan.

Reply

Activity B-8

Docs

Documentation

I+ documents/tools

- Marteloscope booklet 'Pahernik' (EN)
- Tree microhabitat catalogue (SE)
- 'Pahernik' Marteloscope poster (EN)

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)

Photos (participant from Regional Museum of Koroška)

- Group 2 at the Marteloscope location taking part in a selection exercise





Title – Tree microhabitat training and Marteloscope exercise at the ‘Forstwissenschaftliche Tagung (FowiTa)

Location

Freiburg City Forest

Name(s) of Marteloscope(s)

Mooswald

Activity type

Training [] Marteloscope exercise [**X**] Exchange of Experts [] Education []
Presentation [**3 at the various conference sessions of FowiTa**] Other []

Aim of activity

To present the Integrate+ project, the use of Marteloscopes and the role of tree microhabitats for biodiversity conservation during the excursion day of the Forest Science Symposium (FowiTa) held in Freiburg.

Further details

Using Marteloscopes as a tool for discussing silvicultural decision-making in forest management was well in line with FowiTa’s main theme of ‘evidence-based forestry’. Implementing a Marteloscope exercise allowed participants from forest management and science to exchange on options for integrating biodiversity and nature conservation measures to managed forests. What are feasible options, what consequences to expect in terms of economic return and stand habitat value? The discussion was lively concluding that tools such as Marteloscopes can support to evidence based forestry and silvicultural concepts.

Participants [**approx. 34**] of whom from Integrate+ project team [**2**]

One country [] multi-national [**X**]

Country/countries of origin: **Austria, Switzerland, Germany**

Participants further details

Participant list

Name	Affiliation
	University of Freiburg, Chair of silviculture (FowiTa organiser)
	University of Freiburg, Chair of silviculture (FowiTa organiser)
Daniel Kraus, Hannes Schmitt	EFICENT (excursion co-organiser)
Approx. 30 excursion participants	Various

Feedback/ remarks and potentials for collaboration

The exercise and its results were followed by constructive discussions amongst all participants and the Integrate+ representatives. The participants showed particular interest in the tree microhabitat catalogue and the mobile Marteloscope tablet software. The participants attested that the Marteloscope and its tools are well suited for both teaching and training.

Documentation

I+ documents/tools provided

- Poster 'Katalog der Baummikrohabitate' (Catalogue of tree microhabitats) (DE)
- Tablets equipped with I+ software
- 'Mooswald' Marteloscope booklet (EN)
- Tree microhabitat booklets (DE, EN)

Photo (FowiTa)

- Discussing the 'Mooswald' Marteloscope exercise with FowiTa participants



Title – Discussing innovative approaches on the **integration of biodiversity conservation into forest management** in Křivoklát forest

Location

Křivoklát forest (managed by Forests of the Czech Republic, State Enterprise)

Where

Name(s) of Marteloscope(s)

Křivoklát Marteloscope and **Křivoklát “Trittstein”** demonstration site

Activity type

Training [] Marteloscope exercise [**X**] Exchange of Experts [] Education [**X**]
Presentation [**1 presentation at Prague international conference**] Other []

What

Aim of activity

Organisation of a high level political event in Prague (Title: “Integration of biodiversity enhancement in sustainable forest management in the framework of the EU Forest Strategy”) in the frame of the Strategic Dialogue between the Federal Republic of Germany and the Czech Republic with both Ministers of Agriculture present. A field excursion took place to present the activities and outcomes of the bilateral collaboration during the last one and a half years facilitated by Integrate+.

Further details

During the first day an excursion took place to Křivoklát forest where the “Trittstein concept” was demonstrated to the about 70 conference participants. The innovative concept applied in the Bavarian State Forest Enterprise Ebrach was established in Křivoklát forest as a demonstration activity. The concept successfully combines wood production and biodiversity conservation with the result of ensuring economic return while enhancing species richness and distribution. It builds on the designation of tree groups displaying high ecological value, individual habitat and veteran trees and actions for both conserving and accumulating deadwood within a managed forest area. The “Křivoklát Trittstein” site was established jointly by Ulrich Mergner, Head of the Ebrach State Forest Enterprise, the Czech Forest Service and Czech Forest Management Institute and the Integrate+ team. The plan is to use the site as a showcase for education and training and as stimulus for investigating viable integrative forest management concepts for Czech forests. Thus the exchange of knowledge and experiences is serving as bottom-up policy support!

In the adjacent ‘Křivoklát’ Marteloscope the Integrate+ team presented the tablet based training software for performing virtual tree selection exercises.

On the second day of the conference Federal Minister of Agriculture, Christian Schmidt and his counterpart Marian Jurečka, Czech Minister of Agriculture highlighted the importance of forests and the multitude of ecosystem services they provide. They emphasized the value of cross border co-operation in the forestry sector as a means for knowledge transfer. Director of the European Forest Institute, Marc Palahí, stated that sustainable forest management plays a dual strategic role: supporting both the development towards a bio-economy by providing wood resources while enhancing biodiversity.

Who

Participants [approx. 72] of whom from Integrate+ project team [3]

One country [] multi-national [X]

Country/countries of origin: Germany, Czech Republic, Switzerland, Austria, Italy, Belgium, Finland, Spain, Bulgaria, Romania, Sweden, United Kingdom

Participants further details

Participants represented a large variety of institutions, administrations, ministries and forest enterprises both at regional, national and European level.

Participant list

Name (speakers and panellists)	Affiliation
	German Federal Ministry of Food and Agriculture
	Ministry of Agriculture, Czech Republic
	Ministry of Agriculture, Czech Republic
	German Federal Ministry of Food and Agriculture
	European Forest Institute
	European Commission - DG Agri.
	European Commission - DG Env.
	Forest Management Institute, Czech Republic
	Swiss Federal Research Institute
	Czech University of Life Sciences
	Bavarian State Forest Enterprise, Ebrach
	Forests of the Czech Republic, State Enterprise
	Initiative Waldnaturschutz Integrativ
	Swedish Forestry Agency
	Swiss Federal Research Institute
	Forest Management Institute, Czech Republic
Daniel Kraus, Andreas Schuck, Frank Krumm	EFICENT

Feedback/ remarks and potentials for collaboration

Main outcomes of the Czech – German collaboration were (1) the establishment of four Martelosopes in different forest types in the Czech Republic for silvicultural training, (2) two cross border expert exchanges for sharing knowledge and experiences on biodiversity conservation in managed forests, (3) a set of training events, (4) the set up of a “Trittstein” demonstration site and (5) the elaboration of numerous documents including the Czech translation of the tree microhabitat catalogue.

Reply

At the conference the two ministers, Christian Schmidt and Marian Jurečka, signed the “Prague Declaration on Forest” which emphasises the continuation of the dialogue between the two countries and welcomes continuous support by the European Forest Institute. Thomas Haußmann from the German Federal Ministry of Food and Agriculture and Tomas Krejzar from Czech Ministry of Agriculture having coordinated the strategic dialogue activities in collaboration with Integrate+ drew a positive conclusion of the last 1.5 years’ collaboration. They thanked the Integrate+ team for the excellent work and emphasised that they look forward to continue on the basis of these achievements.

One central achievement has been the stimulation of cross border networking between researchers, forest administrations and forest managers of both countries but also with experts from other countries. Such network exchange is at the heart of Integrate+ and its constantly growing network.

Documentation

I+ documents/tools provided

- Křivoklát demo site booklet (EN/CZ)
- Tablets equipped with I+ software
- Tree microhabitat booklets (EN/CZ)
- Integrate publications (EN/DE)

Other

- Czech Republic News:
http://eagri.cz/public/web/mze/tiskovy-servis/tiskove-zpravy/x2016_cesky-a-nemecky-ministr-zemedelstvi.html
<http://www.lesaktualne.cz/lesnictvi/prazska-deklarace-podporuje-biologickou-rozmanitost-lesu>
<http://www.silvarium.cz/lesnictvi/spoluprace-mez-cr-a-nemeckem-ma-podporit-biologickou-rozmanitost-lesu>
<http://www.parlamentnilisty.cz/politika/politici-volicum/Ministr-Jurecka-Spoluprace-s-Nemeckem-se-osvedcila-budeme-v-ni-pokracovat-457571>
- News on Integrate+ website (<http://www.integrateplus.org/activities.html>)
- News on EFI website: (http://www.efi.int/portal/news___events/news/?bid=2627)

Photo (Martin Smrž from Ministry for Agriculture)

- Participants of the field excursion to Křivoklát forest during the international conference “Integration of biodiversity enhancement in sustainable forest management in the framework of the EU Forest Strategy” in Prague



Photo (top: Martin Smrž; bottom: Andreas Schuck)

- Top: Discussion in the Marteloscope Křivoklát; Bottom: Opening speeches by Federal Minister of Food and Agriculture of Germany Christian Schmidt and Minister of Agriculture of the Czech Republic Marian Jurečka.



Title – Integrate+ Conference at Steigerwald Centre, Handthal, Bavaria

Location

Steigerwald Centre, Handthal, Bavaria and the Bavarian State Forest Enterprise Ebrach

Where

Name(s) of Marteloscope(s)

Steinkreuz during the excursion in Bavarian State Forest Enterprise Ebrach

Activity type

Training [] Marteloscope exercise [**X**] Exchange of Experts [] Education [**X**]
Presentation [**Organisation of the Integrate+ international conference including presentations**] Other [**field excursion**]

What

Aim of activity

The Integrate+ conference invited its network members to discuss and exchange on the project results, its extensive network activities and most importantly reflect on viable options on how to continue what has been initiated by Integrate+ beyond 2016.

Further details

In his opening address Thomas Haußmann from the Federal Ministry of Food and Agriculture (BMEL) made reference to the highly relevant work of Integrate+ and emphasized it as an important basis for international discussions on forest biodiversity and forest management. He cited in particular the cooperation of Integrate+ within the Czech-German Strategic Dialogue. Daniel Kraus in the name of the Integrate+ team then introduced the project outcomes and gave an outlook on the three symposium days. Contributions from the Scientific Advisory Board of Integrate+ were also presented during the first day: (1) *Kurt Bollmann* from the Federal Research Institute for Forest, Snow and Landscape (WSL) in Switzerland explained the significance of a network of different nature conservation tools at landscape level in order to ensure the conservation of biodiversity on a large scale. (2) *Bengt-Gunnar Jonsson*, professor of biology at the Sundsvall University of Central Sweden, and co-author of a fundamental work on biodiversity in deadwood, reported on the successes of active measures in managed forests that serve the purpose of enhancing nature conservation where appropriate habitats are still lacking. (3) *Laurent Larrieu*, biodiversity expert of the French Institute for Agronomy Research (INRA) in Toulouse, emphasized the importance of microstructures on trees that provide crucial habitats for a broad range of species. During the late afternoon the “I+” tablet based training software was introduced by IT experts from the European Forest Institute. It was complemented by a presentation by Swiss colleagues, Hannes Cosyns and Tobias Schulz, who are investigating learning effects following training in demonstration sites, so called Martelosscopes.

The day was concluded with a reception at the highest point of the Steigerwald tree canopy walk. It offered the participants a spectacular view of the surrounding landscape.

The second day was dedicated to the Integrate+ network. Contributions by network partners provided insight to the various activities and applications that resulted from this cooperation. Presentations were given e.g. by colleagues from Belgium, Italy, Spain, the Czech Republic, Finland and Slovenia. Urs-Beat Brändli from the Swiss National Forest Inventory (LFI) reported on how the Martelosscopes established in the course of Integrate+ were utilized for the training of biodiversity-relevant structures in the LFI. One of the highlights of the day was the presentation of the Ebracher “Trittstein Concept” (“stepping stone concept”) by Ulrich Mergner (Bavarian State Forest – BaySF).

It was followed by an excursion during which he illustrated the concept in more detail. Mergner, as member of the Integrate+ Scientific Advisory Board, hosted numerous international groups within the framework of the project. He also conducted many training courses in his Martelosscopes. The participants acknowledged the innovative “Trittstein concept” and noted that such does not find many equivalents across Europe. They were especially impressed that nature conservation argumentation is paramount and timber use is tailored to those.

Participants [approx. 75-80] of whom from Integrate+ project team [5]

One country [] multi-national [X]

Country/countries of origin: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Italy, The Netherlands, Norway, Russian Federation, Slovenia, Spain, Sweden, Switzerland, United States

Participants further details

Participants of various professional backgrounds took part in the Integrate+ Conference. They comprised of silviculture trainers, forest ecologists, conservation biologists, forest scientists, forest managers and representatives from forest administrations, nature conservation agencies and foundations.

Participant list

Name	Affiliation
	ANL, Germany
	Uni FR, Germany
	CPF, Spain
	WSL, Switzerland
	ONF, France
	WSL, Switzerland
	Private, Germany
	EPFL, Switzerland
	GRAF, Spain
	WSL, Switzerland
	Irstea, France
	RNF, France
	RNF, France

Name	Affiliation
	BaySF, Germany
	LfU Brandenburg, Germany
	BFW, Austria
	BMEL, Germany
	EFI, Germany
	Wald RLP, Germany
	ForstBW, Germany
	Nature Agency, Denmark
	Uni FR, Germany
	MIUN, Sweden
	Uni Tampere, Finland
	BaySF, Germany
	EFI, Germany
	Nature Agency, Denmark
	EFI, Germany
	BFH, Switzerland
	BFH, Switzerland
	INRA, France
	UHUL, Czech Republic
	CNBFVR, Italy
	FAUN, Germany
	CNR, Italy
	BaySF, Germany
	NW-FVA, Germany
	Uni Freiburg, Germany
	NRWGermany
	Uni Würzburg, Germany
	WUR, The Netherlands
	Irstea, France

Name	Affiliation
	CPF, Spain
	Uni Sofia, Bulgaria
	Uni Dresden, Germany
	TUM, Germany
	Uni FR, Germany
	EFI, Germany
	Uni FR, Germany
	SCA skog, Sweden
	Uni Molise, Italy
	EFI, Germany
	FVA, Germany
	WSL, Switzerland
	ProSilva, Austria
	Uni Ljubljana, Slovenia
	University of Buffalo, Uni FR, United States
	Uni Praha, Czech Republic
	Lesy CR, Czech Republic
	FSTSW, Germany
	INBO, Belgium
	EFI, Finland
	Staatsbosbeheer, The Netherlands
	PCF, Spain
	Inverde, Belgium
	WWF, Germany
	Wald RLP, Germany
	FMHO, Norway
	CNR, Italy
	EFI, Finland

Reply

Discussion and future options

During the final day of the conference participants exchanged views on how to continue with Integrate+ during the next years. Jörg Müller from the University of Würzburg drew attention to future challenges for integrative forest management and provided latest scientific findings, which need to be taken into account. Müller also warned against applying integrative concepts without being able to scientifically substantiate their effectiveness.

Subsequently, the symposium participants developed a strategy under the leadership of the conference moderator Margaret Shannon from the United States on how the established network can maintain the continuation of the vibrant exchange and learning culture and atmosphere initiated across country borders. It was noted also in the course of discussion that the Integrate topic will continue to play an important role at the European Forest Institute, giving more emphasis to the policy context at European level. The network, however, strongly emphasized the need and importance of exchanges, training opportunities and the sharing of knowledge and experiences for practitioners across borders and voiced that those should be supported by a permanent structure.

Docs

Documentation

I+ documents/tools used

- Marteloscope booklet 'Steinkreuz' (EN, DE)
- Steigerwald demonstration sites booklet (EN)
- Booklet: Integrate+ "the network" (EN)
- Integrate publication (EN, DE, FR)
- I+ tree microhabitat catalogue (EN, DE)
- I+ tablet software

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)
- Newspaper article Main Post
(http://www.integrateplus.org/uploads/images/Mediacenter/20161104_MainPost_Article_I+_Newspaper.pdf)

Photos (Frank Krumm, Andreas Schuck)

- Impressions from the Integrate+ Conference







Exchange of experts



C - Exchange of
Experts

Title - Exchange of Experts (EoE – Forest) between the Republic of Ireland and Germany including Marteloscope exercises

Location

Freiburg City Forest, Baden-Württemberg

Name(s) of Marteloscope(s)

Rosskopf

Activity type

Training [☒] Marteloscope exercise [☒] Exchange of Experts [☒] Education [☐]

Presentation [☐] Other [☐]

Aim of activity

Presentation of forest management concept applied in Freiburg City Forest with special focus on Douglas fir management. The 'Rosskopf' Marteloscope was visited including the implementation of virtual tree selection exercises using the I+ tablet software.

Further details

In addition the forest expert exchange between the Republic of Ireland and Germany was to get insight and better understanding on:

- Management of introduced tree species
- Conversion to mixed species forests
- Continuous cover forestry
- Freiburg City Forest concepts on embedding biodiversity conservation in managed forests
- Beech, Silver fir and Douglas fir management concepts

The Freiburg City Forest enterprise presented their applied management systems and gave insight to their forest management approach concerning Douglas fir. The 'Rosskopf' Marteloscope is located in that particular management area. Detailed information on the respective expertise and experience on the above topics was subject to a lively discussions.

Participants [9] of whom from Integrate+ project team [5]

One country [☒] multi-national [☐]

Country/countries of origin: Republic of Ireland, (Germany)

Participants further details

Participant list

Name	Affiliation
	Forest Service, Ireland
	Forest Service, Ireland
	Freiburg City Forest
	Unique
Alexander Held, Andreas Schuck, Frank Krumm, Daniel Kraus, Lucie Vitkova	EFICENT

Feedback, remarks and potentials for collaboration

The participants expressed clearly that the days spent with EFICIENT were very useful and relevant to their situation back home, where the conversion from Sitka spruce monoculture to mixed forests is high on the agenda. The Marteloscope exercises were seen as a very innovative tool, especially in combination with the use of tablet computers, but also when performing a pen and paper exercise with later entry to the Excel simulator. The added value of embedding the exercises in a forest study tour in a forest enterprise surrounding the Martelosscopes provided additional information and created extensive discussion and exchange knowledge. The high relevance of such shared experiences for Irish forest policy development and the establishment of future resilient and diverse forests were expressed several times. In-depth and focussed exchange on beech, Silver fir and Douglas fir in state and municipal forests, in combination with the Marteloscope exercises, made the 5 day visit as the Irish colleagues expressed “comprehensive and enriching”. Note: A return visit for German foresters to Ireland took place in February 2016. An additional exchange to support the development of a new forest and wildlife policy in Ireland planned for autumn 2016. The Exchange of Experts and the Marteloscope exercises thus laid a sound foundation for future network activities between EFI and the Irish Forest Service.

Documentation

I+ documents/tools

- Marteloscope booklet ‘Rosskopf’ (EN, DE)
- Tree microhabitat catalogue (EN, DE)
- I+ tablet software and I+ Excel simulator

Results from Marteloscope exercises

- Exercise results (internal documentation)

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)
- Feedback report from participants (internal documentation)

Photo (Lucie Vitkova)



Title - Exchange of Experts visit: Tomas Rydkvist (Svenska Cellulosa Aktiebolaget, SCA) to the Bavaria State Forest (BaySF)

Location

Silviculture Department (Freiburg University); Freiburg City Forest, Baden Württemberg; Bavarian State Forest Enterprise Ebrach

Name(s) of Marteloscope(s)

Rosskopf (brief visit); Steinkreuz

Activity type

Training ☐ Marteloscope exercise ☐ Exchange of Experts ☒ Education ☐
Presentation ☐ Other ☐

Aim of activity

Using the 'Exchange of Experts' as tool for sharing knowledge and experiences on forest conservation and integrative management approaches from Central and Northern Europe.

Further details

Tomas Rydkvist gave a lecture for a course organised by the Silviculture Department (Freiburg University) where he presented the management concept of SCA and his work related to fire management and biodiversity conservation. He visited the 'Rosskopf' Marteloscope where he learned about the local deadwood concept and close-to-nature forest management.

Ulrich Mergner, the Head of the Bavarian State Forest Enterprise Ebrach hosted Tomas and the Integrate+ team. He gave insight to the enterprise's integrative forest management approach and their corresponding 'stepping stone' and 'deadwood conservation' concept. The Integrate+ team introduced the Marteloscope 'Steinkreuz'. Further the strict forest reserve 'Kleingelein' was visited serving as a learning site for forest managers in terms of forest dynamics and deadwood formation in late successional stages. The 'exchange of experts' visit of Tomas was concluded by a guided tour through the Steigerwaldzentrum.

Participants ☒ of whom from Integrate+ project team ☐

One country ☒ multi-national ☐

Country/countries of origin: Sweden, (Germany)

Participants further details

Tomas Rydkvist works at SCA, being the largest private forest owner in Europe (2.6 million ha). He is a conservation specialist for the 'Medelpads' district and responsible for all restoration activities. Those include e.g. the creation of habitat trees and deadwood and applying prescribed burning. He has vast experience in restoration methods which are of high value Integrate+.

Participant list

Name	Affiliation
	SCA (Sweden)
	BaySF (Germany)
	BaySF (Germany)
	BaySF (Germany)
	BaySF (Germany)
Daniel Kraus, Andreas Schuck, Frank Krumm	EFICENT

Where

What

Who

Feedback, remarks and potentials for collaboration

Tomas Rydkvist expressed that, *"in these few days in Ebrach I have learned a great deal on how integrative approaches can be implemented to forest. Applying dead wood concepts and embedding them to management planning (including work/visitor safety) I found very innovative". Also learning about the use of Marteloscopes and the I+ software was a very good experience. This gives me a clear understanding on how to use our Marteloscope 'Löran'. So to wrap up - lots of take home messages for me resulting from the exchange of experts visit"*, he concludes. Tomas also much appreciated the open and lively discussions on differences and similarities of conservation approaches at both SCA and Ebrach. Ensuring the availability of training sites for forest managers such as the strict forest reserve 'Kleinengelein' he found most impressive.

Having had the possibility of a guided tour through the Steigerwaldzentrum (exhibition concept and the wooden building architecture) by Tobias Hahner (Deputy Manager) was utmost importance to Tomas in view of their newly opened 'Njurunda Coast Conservation Park' on SCA land.

Documentation**I+ documents/tools**

- Marteloscope booklet 'Steinkreuz' (EN)
- I+ tablet software and I+ Excel simulator

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)

Photo (Frank Krumm)

- Visiting strict forest reserves and the Marteloscope 'Steinkreuz'.



Reply

Docs

Title - Exchange of Experts from Czech Republic to Germany with Marteloscope exercises

Location

Bavarian State Forest Enterprise Ebrach; Freiburg City Forest, Baden Württemberg

Name(s) of Marteloscope(s)

Steinkreuz (Bavarian State Forest Enterprise Ebrach) and Rosskopf (Freiburg City Forest, Baden Württemberg)

Activity type

Training [X] Marteloscope exercise [X] Exchange of Experts [X] Education []
Presentation [] Other [Guided excursions]

Aim of activity

Presentation of the integrative forest management concept applied in the Bavarian State Forest Enterprise Ebrach (with special focus on beech management) and Marteloscope exercises. Presentation of the forest management concept applied in the Freiburg City Forest (with special focus on Douglas fir management) and Marteloscope exercises.

Further details

A further target of the activity was to stimulate the exchange of scientific and practical knowledge amongst the participants on: (1) management of introduced tree species, (2) conversion to mixed species forests, (3) continuous cover forestry, (4) biodiversity in managed forests, (5) beech, Silver fir, Douglas fir management, (6) silviculture training in Martelosscopes for the above species and (7) educational concepts applied (of particular interest to representatives of the Czech Forest Training School).

The forest enterprises presented the overall forestry context and their applied management systems in which the Martelosscopes are located. Detailed information on experiences on the above list were presented and intensively discussed.

Participants [15] of whom from Integrate+ project team [5]

One country [] multi-national [X]

Country/countries of origin: Czech Republic, Switzerland, (Germany)

Participants further details

Where

What

Who

Participant list

Name	Affiliation
	Czech Academy of Sciences – Czech Globe, Czech Republic
	Municipal Forests Pelhřimov, Czech Republic
	Training Forest Enterprise Masaryk Forest Křtiny, Czech Republic
	Training Forest Enterprise Masaryk Forest Křtiny, Czech Republic
	Mendel University Brno, Czech Republic
	Municipal Forests Opočno, Czech Republic
	Church Forests Enterprise, Czech Republic
	Church Forests Enterprise, Czech Republic
	VÚLHM, Opočno, Czech Republic
	VÚLHM, Opočno, Czech Republic
	Swiss Federal Institute for Forest, Snow and Landscape Research, Switzerland
Lucie Vitkova, Alexander Held, Frank Krumm and Daniel Kraus (Ebrach), Andreas Schuck and Hannes Schmitt (Freiburg)	EFICENT

Feedback, remarks and potentials for collaboration

The participants expressed clearly that the exchange organised by Integrate+ were very useful and relevant to their situation back home, where the conversion from spruce monoculture to mixed forests is high on the agenda. The Marteloscope exercises were seen as a very innovative tool, especially in combination with the tablet computers. The added value of embedding the Marteloscope exercises in a forest study tour provided additional information and created intensive and fruitful discussions. The relevance of the shared experiences for Czech forest policy development and the establishment of future resilient and diverse forests were expressed several times. The in-depth and focussed exchange on beech, Silver fir and Douglas fir made the 4 days comprehensive as they covered both state and municipal forest enterprises.

A return visit for German foresters to the Czech Republic will be organised (see C6). It was expressed by representatives from the Training Forest Enterprise Masaryk Forest Křtiny (Mendel University Brno) that they would very much support the establishment of an Marteloscope in their forest as they regard it as highly relevant for forestry education. Based on the lively wildlife management discussions it is further envisaged to organise an additional exchange to support the development of a new wildlife policy in the Czech Republic. Preliminary date is autumn 2016 (see C8). In summary, the Exchange of Experts laid the foundation for a multitude of future joint activities.

Reply

Documentation

I+ documents/tools

- Marteloscope booklet for 'Steinkreuz' and 'Roskopf' (EN)
- I+ tree microhabitat catalogue (CZ)
- I+ tablet software and I+ Excel simulator

Results from Marteloscope exercises

- 16 exercise results: 8 from each Marteloscope (internal documentation)

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)
- Feedback report provided by Exchange of Experts participants (internal document)

Photo (Lucie Vitkova)

- Group photo after the Marteloscope exercise at 'Rossopf' (Freiburg City Forest)





Title - German – Czech Strategic Dialogue: [Exchange of Experts](#) Czech Republic to Germany including excursion and [Marteloscope exercises](#)

Location

Bavarian State Forest Enterprise Ebrach

Name(s) of Marteloscope(s)

[Steinkreuz](#)

Activity type

Training [] Marteloscope exercise [☒] Exchange of Experts [☒] Education [☒]
Presentation [] Other [[Excursion: State Forest Enterprise Ebrach](#)]

Aim of activity

Field visit to the Bavarian State Forest Enterprise Ebrach to learn about the integrative forest management concept that is applied there. The concept is based on the Bavarian State Forest Strategy. Second focus was to expose the experts to the tool of Martelosscopes. Third aim was to elaborate a plan for the return visit to the Czech Republic end of June.

Further details

The excursion to the enterprise included a general introduction and a presentation of the integrative forest management concept. This was then illustrated by field visits. First stop was the strict forest reserve 'Waldhaus' which is used as a learning site for observing the development of e.g. habitat structures and their importance for biodiversity and the role of dead wood in forest ecosystems. The dead wood concept in managed forests was then illustrated at the second stop 'Kapellenrangen'. The enterprise leaves the tree crown of harvested trees in the stand by cutting it at the first strong branch. This approach allows to actively increase the amount of lying dead wood. Further stops were: (1) tree dimensioning for high quality timber combined with nature conservation measures; (2) the world's oldest experimental plot (thinning experiment with three thinning gradients A, B and C) which is now highly relevant to study the effects of thinning intensities on tree microhabitat development; and (3) a site where participants were exposed to tree retention measures including artificial cavity experiment. Further throughout the excursion the Ebrach stepping stone concept, natural regeneration approaches, game management and single tree selection silviculture were discussed.

One main topic was the visit to the Marteloscope 'Steinkreuz'. Participants were divided into groups of two and asked to perform a management intervention based on their own professional expertise and standard management procedures. Task was to select 20 elite trees and 5 habitat trees on half of the Marteloscope area (0.5 ha). The results were discussed and complemented by the I+ team giving insight to the value of tree microhabitats and how to identify them on individual trees. After that the participants were asked to perform a second exercise with the same task in the other half of the Marteloscope site. The results were again presented by the groups. All acknowledged a learning effect in the course of tree selection.

The virtual tree selection results of the Marteloscope exercises feed into a post doc research project which Integrate+ is jointly implementing with the WSL.

Where

What

Who

Participants [20] of whom from Integrate+ project team [3]
One country [X] multi-national []
Country/countries of origin: Czech Republic, Germany

Participants further details

Participant list

Name	Affiliation
	ÚHÚL
	LČR
	LČR
	LČR
	LČR
	LČR
	ÚHÚL
	ÚHÚL
	LČR
	LČR
	Czech Ministry of Agriculture
	Translator (Czech Ministry of Agriculture)
	LČR
	Bavarian State Forest Enterprise Ebrach
	Bavarian State Forest Enterprise Ebrach
	Bavarian State Forest Enterprise Ebrach
	Federal Ministry of Food and Agriculture (BMEL)
Andreas Schuck, Frank Krumm, Daniel Kraus	EFICENT

Feedback, remarks and potentials for collaboration

The participants expressed clearly that the ‘Exchange of Experts’ organised by the Integrate+ and the Bavarian State Forest Enterprise Ebrach was extremely rewarding. Seeing the implementation of integrative forest management measures set out in the Bavarian forest strategy was impressive. The participants noted that they are taking home the motivation to investigate options for such measures in their own forests and will share their experiences with colleagues. Marteloscopes were seen as a very innovative tool to perform virtual tree selection exercises, especially in combination with the well-designed tablet computer software. In particular, the educational value was highlighted.

Reply

"Setting up a sufficient number of such Marteloscopes in Czech Republic will become a goal with high priority", expressed Tomas Kejzar from the Czech Ministry of Agriculture. He also said that he is looking forward to the return visit of German foresters to the Czech Republic which is planned to take place from the 27th to 29th of June 2016. He also invited to the Prague Conference in October 2016 which will conclude the Czech – German Strategic Dialogue cooperation. Thomas Haußmann noted that the strategic dialogue activity between the Czech Republic and Germany could serve to some extent as a model to initiate such working relations also with other EU countries on a more permanent basis. Mr. Haußmann also expressed that BMEL Minister, Christian Schmidt, ascribes such exchanges great importance. "There is a clear personal interest of the Minister on this matter", Thomas Haußmann continues.

Documentation

I+ documents/tools

- Marteloscope booklet for 'Steinkreuz' (EN)
- Steigerwald Demo Site - Field Guide (EN)
- I+ tree microhabitat catalogue (EN/CZ)
- I+ tablet software

Results from Marteloscope exercises

- 12 exercise results (internal documentation)

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)
- Newspaper article (<http://www.mainpost.de/regional/schweinfurt/Exportschlager;art769,9215065>)

Photo (Norbert Vollmann)

- The Czech participants of the Integrate+ 'Exchange of Experts' programme visiting the strict forest reserve 'Waldhaus'





Title – Exchange of experts Norway – Germany and field excursion: Climate change, forest resilience and wood markets – learning from experiences of forest owners in southern Germany

Location

Southern Germany: Unterbrunn (AELF Weilheim, Bavaria); Oberammergau (Forest Owner Association Oberammergau, LWF and BaySF Oberammergau, Bavaria); Private Forest Owner Association, Westallgäu (Bavaria); Osterwaldgenossenschaft Eglofs (Baden – Württemberg)

Name(s) of Marteloscope(s)

-

Activity type

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

Aim of activity

An important activity applied by Integrate+ are field excursions. They aim at facilitating and enhancing the exchange of expertise between regions and across country borders. The taking home of new and innovative ideas from research and practice while building networks for future collaboration and exchange are equally important. Target groups are forest practitioners, nature conservation managers, forest owners, researchers, administrators and policy makers.

Further details

The excursion organised for a delegation of Norwegian foresters included the following topics:

- the management of Norway spruce under climate change, species diversification and approaches for forest conversion
- visit to a Marteloscope of LWF in which the development of carbon stocks can be demonstrated based on different management regimes
- management of mountain forests under climate change with focus on the role and management of deadwood, tree species composition and harvesting methods
- innovative approaches on how to organize harvesting and marketing amongst small private forest owners including the creation of local markets for forest products
- conversion of even-aged stands to continuous cover forests in Norway spruce stands in a communal forest

Participants [16] of whom from Integrate+ project team [3]

One country [] multi-national [X]

Country/countries of origin: Norway, Germany

Participants further details

The participating Norwegian foresters had diverse professional backgrounds. They represented state forest administrations, private forest owners' associations and nature conservation/national park authorities.

Where

What

Who

Participant list

Name	Affiliation
	Fylkesmannen i Hordaland, Landbruk
	Fylkesmannen i Hordaland, Landbruk
	Fylkesmannen i Hordaland, Landbruk
	Fylkesmannen i Hordaland, Miljø og klima
	Fylkesmannen i Hordaland, Landbruk
	Vestskog SA
	Vestskog SA
	AELF, Weilheim (Bavaria)
	Private Forest Owner Association Oberammergau (Bavaria)
	LWF (Bavaria)
	BaySF Oberammergau (Bavaria)
	AELF Kempten and Forest Owners Association Westallgäu (Bavaria)
	Forst BW and Osterwaldgenossenschaft Eglofs (Baden – Württemberg)
Daniel Kraus, Andreas Schuck, Alexander Held	EFICENT

Feedback, remarks and potentials for collaboration

The motivation for the expert exchange was the Norwegian interest in converting spruce dominated monocultures towards multi-purpose, diverse and more resilient forest systems. This was addressed in the context of changing climatic conditions and wood markets and the fact that most of Norway’s forests are in private ownership. The agenda for the week was tailored to the requests of the group and included various forest sites with their respective forest managers in the mountains of Bavaria and the Allgäu region of Baden Württemberg. Private forest owners’ associations in various organizational forms were visited as were state forest enterprises.

The topics that were intensively discussed and focused on silvicultural concepts, biodiversity integration in managed forests, climate change and related forest risks, road construction in mountain forests, protection forest issues, shareholding of forest associations, forest history, wildlife management as well as types and mechanisms of state subsidies for private owners.

Reply

Reply

Feedback, remarks and potentials for collaboration (cont.)

The exchange of experiences was regarded as an important incentive for developing new approaches and laid the foundation for future exchange and cooperation. The field excursion provided good insight to applied integrative forest management and the need for further knowledge exchange was clearly formulated. The Integrate publication '*In Focus: Integrative approaches as an opportunity for the conservation of forest biodiversity*' served as reference.

The County Governor of Hordaland and the Norwegian Government have expressed their strong interest in the '*In Focus*' publication.

An order was placed for 20 books in English and 2 in German language. It was agreed with the Norwegian delegation to organise a return visit of German forest experts to Norway during 2017.

Docs

Documentation

I+ documents/tools

- I+ tablet software
- Integrate+ field excursions booklet (EN)
(http://www.integrateplus.org/uploads/images/Mediacenter/I-plus_Field-Excursions_Ogau-Norway.pdf)
- Integrate publication '*In Focus: Integrative approaches as an opportunity for the conservation of forest biodiversity*' (EN)

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)

Photos (Andreas Schuck)

- Norwegian delegation visits the Osterwaldgenossenschaft Eglofs in Baden – Württemberg (private forest cooperative Osterwald)



- Norwegian delegation at BaySF Oberammergau (right: Richard Baur from BaySF Oberammergau)



Title – German-Czech Strategic Dialogue: [Exchange of Experts](#) Germany to Czech Republic including excursion and [Marteloscope exercises](#)

Location

Czech State Forest – visit to different forest locations around the City of Pilsen

Name(s) of Marteloscope(s)

[Královský hvozd](#) and [Čečiny](#)

Activity type

Training [] Marteloscope exercise [☒] Exchange of Experts [☒] Education [☒]

Presentation [] Other [[Field excursion](#)]

Aim of activity

The main aim was to stimulate interaction amongst Czech and German forest professionals (knowledge exchange) in the course of the Czech – German Strategic Dialogue. This was achieved by conducting field visits to different locations of the Czech State Forest and get introduced to forest management concepts applied. This type of bilateral country cooperation and the implemented activities are, as observed, powerful showcases and may serve as model for future initiatives involving also more countries.

One of the main tools to stimulate expert exchange were the joint establishment of two Martelosopes. The 'Královský hvozd' Marteloscope is located in the Šumava mountain region and contains Norway spruce, Silver fir and European beech. The main topic addressed there is forest regeneration and options for maintaining current tree species composition. The 'Čečiny' Marteloscope is located close to City of Plasy and consists of Sessile oak and European larch. In addition it is embedded in a forest demonstration area. The demonstration area is used to educate foresters on assessing habitat structures and provide them with guidance on how to integrate biodiversity conservation into regularly managed forest.

Further details

The excursion to the Sumava region included a general introduction and presentation of the applied forest management in this part of the Czech Republic. During several stops in three different forest districts, the local foresters explained their management concepts and local challenges. Forest risks, such as fire and bark beetle were discussed as major drivers of the landscape. Also the creeping impact of game browsing and its consequences on forest management were thoroughly addressed. Tourism is an important income sector to which forest reserves and the scenic landscape provide their contribution. Forest management thus needs to be adjusted to ensure this recreation service. Further stops were: (1) management of disturbed areas in forest reserves. Lake Černé jezero and the set-aside area above the lake are an example on how forest managers control bark beetle infestations in forest reserves; (2) Stateček forest (958 m a.s.l.), a 140 years old forest was introduced to show how regeneration management is proceeding under varying site conditions; (3) the natural reserve Bílá strž with a scenic waterfall is located at the border between actively managed and set-aside forests and represents an area of touristic relevance but was affected by the windstorm Kyrill.

Where

What

The main topic was the visit to the ‘Královský hvozď’ and ‘Čečiny’ Martelosopes on the 28th of June. The aim of Martelosopes was presented as was the I+ application. Following that participants were divided into groups of three to four and performed a management intervention based on their own professional expertise and procedures. The task was to identify 10 habitat trees on half of the Marteloscope area (0.5 ha). The results were discussed and complemented by the I+ team giving insight to the value of tree microhabitats and how to identify them on individual trees. The purpose of this exercise was to stimulate discussion among the forest experts from Germany and the Czech Republic and to exchanges ideas on how they deal with their local management challenges. Game browsing was intensively discussed, but also silvicultural methods for enhancing regeneration processes and increasing the quantity and quality of tree related microhabitat structures while having sufficient economic return. The virtual tree selection results of the Marteloscope exercises feed into a post-doc research project which Integrate+ is jointly implementing with the WSL.

Participants [30] of whom from Integrate+ project team [2]
One country [] multi-national [X]
Country/countries of origin: Czech Republic, Germany

Participants further details

Note that only 17 (plus 2 Integrate+ team members) are listed as the other participants were present only at particular field stops and names not recorded. The group was of high professional expertise, in particular from forest management, as can be seen from the listing of affiliations.

Who

Participant list

Name	Affiliation
	Sachsenforst
	University of Life Sciences, Prag
	Sivicultural trainer, Rhineland – Palatinate
	Private Forest Owner
	State Forest Enterprise, Offenburg
	Bavarian State Ministry for Food, Agriculture and Forestry
	University of Freiburg, Institute of Silviculture
	ÚHÚL
	LČR
	LČR
	Czech Ministry of Agriculture
	Translator (Czech Ministry of Agriculture)
	LČR
	Bavarian State Forest Enterprise Ebrach

Name	Affiliation
	Bavarian State Forest Enterprise Ebrach
	Bavarian State Forest Enterprise Ebrach
	Federal Ministry of Food and Agriculture (BMEL)
Frank Krumm, Daniel Kraus and Andreas Schuck (EoE preparation; could not attend)	EFICENT

Feedback, remarks and potentials for collaboration

The German – Czech return visit was very well received by all participants. They expressed clearly that the ‘Exchange of Experts’ organised by the Integrate+ and the Czech Ministry of Agriculture / National Research Institute (ÚHÚL) was extremely rewarding and has led to further activities. The University in Prague will establish a further Marteloscope close to Prague with the purpose to teach students and other interested groups. Tablet computers have been acquired and will be used for running Marteloscope training in the different Czech demonstration sites.

The concept of silvicultural trainers, as applied in Germany, was considered of high interest by the hosts. Further it will be investigated on how the concept of the Bavarian State Forest Enterprise in Ebrach can be adapted and applied for particular forest districts in the Czech Republic.

The two neighbouring countries also face similar challenges with sika and red deer browsing which has serious impacts on regeneration but also on tree species richness. Therefore, further exchanges and training activities are foreseen in the future.

As a general conclusion, Martelosopes were seen as a useful tool to perform exercises in the field with immediate feedback of results which then stimulate discussions on important topics. As a next milestone within this German – Czech Strategic Dialogue, Tomas Kejzar from the Czech Ministry of Agriculture has invited to the Prague Conference in October 2016 which will conclude the Czech – German Strategic Dialogue. Thomas Haußmann confirmed that the Strategic Dialogue between the Czech Republic and Germany as it has been performed can serve as model also for other countries across Europe or even beyond.

Reply

Docs

Documentation

I+ documents/tools

- Marteloscope booklets and information sheets 'Královský hvozd' and 'Čečiny' (EN, CZ)
- Demo Sites - Field guide (EN, CZ)
- Tree microhabitat catalogue (EN, CZ)
- I+ tablet software

Results from Marteloscope exercises

- Exercise results (internal documentation)

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)

Photo (Frank Krumm)

- The Czech participants of the Integrate+ 'Exchange of Experts' programme discussing their exercise results in the Marteloscope of 'Čečiny'



Title - Exchange of Experts visit to the 'Rosskopf' Marteloscope in Freiburg City Forest

Location

Freiburg City Forest, Baden-Württemberg

Name(s) of Marteloscope(s)

Rosskopf

Activity type

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

Aim of activity

To use the 'Exchange of Experts' tool within the Integrate+ project for allowing the sharing of knowledge and experiences on forest conservation and integrative forest management concepts and practical approaches.

Further details

The exchange of experts meeting served two purposes. The first was to work on and finalise the 'Falkenberg' Marteloscope Booklet and the corresponding four page summary sheet. The second was to visit the 'Rosskopf' Marteloscope in the Freiburg City Forest to exchange experiences on good practice for organising training events: what type of events, how to set up exercises and what type of excursions may best complement. The participants of the Exchange of Experts also performed a Marteloscope exercise using the latest version of the tablet software. They were also impressed by the tree microhabitat smart phone application which showed very handy during the visit to the 'Rosskopf' Marteloscope.

Participants [5] of whom from Integrate+ project team [3]

One country [] multi-national [X]

Country/countries of origin: France, Germany

Participants further details

Participant list

Name	Affiliation
	Parc naturel régional des Vosges du Nord
Nicolas Dericbourg	Office national des forêts (ONF)
Andreas Schuck, Daniel Kraus, Alexander Held	EFICENT

Where

What

Who

Reply

Feedback, remarks and potentials for collaboration

It was agreed that the 'Falkenberg' booklet will be translated to French. It was noted that a translation of the smart phone application into French language would be very beneficial. Options for that will be investigated.

The participants proposed to organise further Marteloscope exercises during 2017 in 'Falkenberg'. They will also look into assembling a group from the northern Vosges forest administrations and nature conservation agencies in order to conduct a visit to the Freiburg City Forest its two Martelosopes 'Roskopf' and 'Mooswald'.

Documentation

I+ documents/tools

- Marteloscope booklet 'Roskopf' (EN, DE)
- I+ tablet software
- Integrate publications (FR)

Photo (Alexander Held)

- Performing a Marteloscope exercise at 'Roskopf'.

Docs



Title – Exchange of Experts Czech Republic to Germany (Bavaria): Conversion from spruce monoculture to continuous cover forestry

Location

Forest Enterprises in Bamberg, Lisdorf and Ebrach (Bavaria, Germany)

Name(s) of Marteloscope(s)

Activity type

Training [X] Marteloscope exercise [] Exchange of Experts [X] Education []
Presentation [] Other [[field excursions](#)]

Aim of activity

The Czech Republic is in the process of converting even aged, spruce/pine monocultures to more stable and resilient forest management systems. The conversion of spruce forests to mixed, uneven aged forests is a task on landscape scale. Bavaria, in particular the City Forest of Bamberg and the Castell Forest Enterprise have a 25 to 30-year history of such silviculture conversion. Today we can observe 12 to 16 different tree species in natural regeneration under Spruce over storey.

Further details

The key elements of a successful forest conversion are the balance of light and deer densities. Careful thinning and harvesting is providing enough light for natural tree regeneration to establish. Consequently the harvesting and thinning of the over storey has to happen in small and careful steps, not to decrease the stand stability too much at once. However, in the majority of forests, the deer densities are too high to allow also the browsing sensitive tree species to flourish. Both, the City Forest of Bamberg and the Castell Forest Enterprise consider hunting and managing deer one of their most important silvicultural tasks in that context. The visiting group of Czech foresters had a lively mix of activities during these two areas, including very professional organised driven hunts (see: <http://www.friskgo.org/media-center/organisation-of-driven-hunts-for-ungulates.html>).

Participants [13] of whom from Integrate+ project team [1]

One country [] multi-national [X]

Country/countries of origin: [Czech Republic, Germany](#)

Participants further details

Where

What

Who

Participant list

Name	Affiliation
	Forester Kocanda forest range (Kinský-Žďár Family Forest Estate)
	Lesia, a.s.
	Lesy České republiky, s.p
	Pelhřimov Forest Estate
	Doksy Forest Estate
	Global Change Research Institute, Czech Academy of Science, Brno
	ÖJV Bayern
	ÖJV Bayern
	ÖJV Bayern
	ÖJV Bayern; Forest Administration Castell
	ANW (Bamberg)
	BaySf Enterprise Forchheim
Alexander Held	EFICENT

Documentation

Other

- News article on FRISK-GO website (<http://www.friskgo.org/media-center.html>)

Photos (Alexander Held)

- Discussions on the conversion of spruce monocultures to continuous cover forests with emphasis on deer management





Other activities



D – Other
activities

Title - Educational visit of school students (10th grade) to the 'Mooswald' Marteloscope

Location

Freiburg City Forest, Baden-Württemberg

Name(s) of Marteloscope(s)

Mooswald

Activity type

Training [] Marteloscope exercise [] Exchange of Experts [] Education [X]

Presentation [] Other []

Aim of activity

The aim of the school visit was to sensitize the students to the different functions forest have and what kind of services they provide. Also the work of a forester and how she/he can contribute within managed forest to the conservation and enhancement of biodiversity.

Further details

With the help of the 'Mooswald' Marteloscope the Integrate+ team gave the students an introduction to the functions and services of forests. They were asked to give estimates on e.g. the number of trees in the Marteloscope, wood volumes, economic values and also what elements they consider important for biodiversity. That was easily possible as the corresponding data could be provided for each single tree. Also due to the numbering of all trees students could then identify them by themselves and check their own estimations.

Participants [23] of whom from Integrate+ project team [3]

One country [X] multi-national []

Country/countries of origin: Germany

Participants further details

Participant list

Name	Affiliation
Teacher and students	Angell Gymnasium, Freiburg
Andreas Schuck, Alexander Held, Daniel Kraus	EFICENT

Feedback, remarks and potentials for collaboration

The feedback given by the students from the Angell Gymnasium was very positive. They found it exciting not only to talk about forests and trees but also get tasks and do something. They enjoyed very much the use of the given equipment for measuring heights, diameters and have binoculars to identify habitat structures. They summarised their experiences as follows:

“now we have a better understanding of what a forest manager has to take into consideration when managing a forest”..... “it is really not easy to make all the right decisions for everyone as there are so many different interests”.....

They were able to understand, through both the hands-on tasks and the explanations from the Integrate+ team that an integrative forest management approach, where a variety of elements including protected forest sites, stepping stones, habitat trees and dead wood accumulation, provides a broad portfolio to address biodiversity conservation at landscape scale.

Documentation

I+ documents/tools

- General Integrate+ information material (EN)
- Measuring equipment (caliper, Vertex, measuring tape, binoculars)

Photos (Annette Schuck)

- Students measuring trees and hunting for tree microhabitats

Reply

Docs



Title - Scientific symposium on nature and species conservation within integrative forest management including a Marteloscope visit

Location

Steigerwaldzentrum, Handthal, Barvaria and Bavarian State Forest Enterprise Ebrach

Name(s) of Marteloscope(s)

Steinkreuz

Activity type

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

Aim of activity

Presenting the goals, concepts and planned outputs of the Integrate+ project and promoting Martelosscopes as helpful tools for implementing silvicultural training exercises.

Further details

The Integrate+ project organized a field visit to the Marteloscope ‘Steinkreuz’. It was part of the overall symposium excursion. Integrate+ acted as co-organiser of the event.

Participants [approx. 160] of whom from Integrate+ project team [4]

One country [X] multi-national []

Country/countries of origin: Germany

Participants further details

The symposium and the excursion attracted scientists, nature conservationists, forest managers, forest owners and representatives from forest and nature conservation administrations alike.

Participant list (selected individuals)

Name	Affiliation
	Executive Board Bavarian State Forest Enterprise (BaySF)
	Head of the Forest and Environment Policy Department, Bavarian State Ministry of Food, Agriculture and Forestry (StMELF)
	Head of the Bavarian State Forest Enterprise Ebrach
	Deputy Director of the Bavarian Forest National Park
Daniel Kraus, Andreas Schuck, Frank Krumm, Hannes Schmitt	EFICENT

Reply

Feedback, remarks and potentials for collaboration

This was the first opportunity for the Integrate+ team had to present the project in general and the Marteloscopes as training and educational tools to a large audience. The project was received by the symposium participants with interest. They gave valuable feedback during the discussion and asked to stay informed on the development of the Integrate+ project and its outcomes.

Docs

Documentation

I+ documents/tools

- General hand out on Integrate+ Marteloscopes (EN)
- Marteloscope poster 'Steinkreuz' (DE)
- Preliminary version of I+ tablet software

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)
- Article published in the local newspaper in German language (Main Post, 15.04.2015): http://www.integrateplus.org/uploads/images/activities/150428_MainPost%20Artikel_Fassen%20die%20%C3%B6kologischen%20Trittsteine%20richtig%20Fu%C3%9F%20im%20Steigerwald.pdf

Photo (Stefan Thierfelder)

- Andreas Schuck and Hannes Schmitt presenting the Integrate+ project and introducing the concept and possible applications of Marteloscopes



Title - Tree microhabitat assessment with high level expert in strict forest reserve 'Waldhaus'

Location

Bavarian State Forest Enterprise Ebrach (Strict Forest Reserve 'Waldhaus')

Name(s) of Marteloscope(s)

Activity type

Training [☒] Marteloscope exercise [☐] Exchange of Experts [☐] Education [☐]
Presentation [☐] Other [[expert visit](#)]

Aim of activity

In-depth tree microhabitat assessment training given by Dr. Laurent Larrieu to the Integrate+ team and Dr. Axel Reichert from BaySF.

Further details

Integrate+ team members and Axel Reichert (BaySF) recorded all tree microhabitats jointly with Laurent Larrieu (tree microhabitat specialist and Integrate+ Advisory Group member) on the 1 ha core area of the strict forest reserve 'Waldhaus'. The strict forest reserve has a total size of nearly 91 ha (established in 1978 and extended in 1998 to its current size). For the core area all information was already available for each tree including their geo-referenced location with the exception of tree microhabitats. A large variety of such tree microhabitats were recorded at 'Waldhaus'.

Participants [4] of whom from Integrate+ project team [2]

One country [☐] multi-national [☒]

Country/countries of origin: [France](#), [Germany](#)

Participants further details

Dr. Laurent Larrieu is a renowned researcher and expert on tree microhabitats; Dr. Axel Reichert is the nature conservation representative of BaySF.

Participant list

Name	Affiliation
Larent Larrieu	Institut national de la recherche agronomique, INRA (France)
Axel Reichert	BaySF
Daniel Kraus, Andreas Schuck	EFICENT

Reply

Feedback, remarks and potentials for collaboration

Having the full assessment both the Bavarian State Forest Enterprise Ebrach and the Integrate+ project can now use 'Waldhaus' as an excellent training site and reference area for various visiting groups including forest managers, nature conservation and inventory personnel. The Integrate+ Catalogue of tree microhabitats was tested by Laurent and seen as a very useful field guide in the course of the assessment.

Docs

Documentation

I+ documents/tools

- Integrate+ Catalogue of tree microhabitats (EN)

Results from Marteloscope exercises

- Tree microhabitat database for core area of strict forest reserve 'Waldhaus' (internal)

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)

Photo (Andreas Schuck)

- From left to right: Daniel Kraus and Laurent Larrieu in discussion on a rare tree microhabitat identified in the strict forest reserve 'Waldhaus'



Title – Integrate+ filming trips in several European countries

Locations

Various European countries including: *Sweden* (Biodiversity Park near Sundsvall); *Germany* (Forests of the Bavarian State Forest Enterprise Ebrach: Bavarian State Forest Enterprise Oberammergau, - Forests of the Ammer mountain range); *Spain* (Cat Serres de Cardó-el Boix, Catalonia); *Poland* (Gorczański Park Narodowy, strict forest reserve of Łabowiec)

Name(s) of Marteloscope(s)

Footage from [Steinkreuz Marteloscope](#) (Bavarian State Forest Enterprise Ebrach)

Activity type

Training [] Marteloscope exercise [] Exchange of Experts [] Education [**X**]
Presentation [[Integrate+ film](#)] Other [[Excursions to partner organisations](#)]

Aim of activity

The Integrate+ film aims at capturing the diversity of European forests in the context of wood production, nature conservation and their role in providing a wide range of services. Special emphasis is given to integrative forest management concepts which promote embedding nature conservation measures into managed forests. Taking into account societal demands by more adapted forest management approaches should lead towards an increased acceptance with the general public that biodiversity can well be incorporated also in managed forests alongside timber production. The principle of “seeing is building better understanding” to address this sensitive topic can be well met by the medium film.

Further details

The film will give particular attention to so-called tree habitat structures. Large quantities of deadwood and a high density of old microhabitat-bearing trees are characteristic elements of natural forests, in particular in old-growth phases. These phases are often absent or rare in managed forests. In selective harvests and thinnings, so called ‘defective’ trees displaying or potentially developing old-growth habitat structures are still often removed. Yet, an important share of forest biodiversity is strictly or primarily dependent on such elements for their survival, especially saproxylic species, being species depending on deadwood.

Also the role of natural disturbances, be they gap or large scale disturbances, are highlighted in the context of forest resilience. Management measures for enhancing such structural diversity in managed forest are shown in impressive images and are supported by interviews with specialists from research and practice.

Participants [**18+**] of whom from Integrate+ project team [2]

One country [] multi-national [**X**]

Country/countries of origin: [Germany \(Ebrach, Oberammergau\)](#), [Poland](#), [Spain](#), [Sweden](#)

Participants further details

Integrate+ was hosted by many of its network partner institutions. They organised locations, ensured permissions and provided experts for interviews. Colleagues from Gorczański Park Narodowy kindly provided film footage from both lynx and wolf.

Where

What

Who

Participant list

Name	Affiliation
	SCA, Sweden
	SCA, Sweden
	Bavarian State Forest Enterprise Ebrach, Germany
	Bavarian State Forest Enterprise Ebrach, Germany
	Bavarian State Forest Enterprise Ebrach, Germany
	Pau Costa Foundation, Spain
	Generalitat de Catalunya – Bomberscat, Spain
	Department of Forest Botany and Nature Conservation Agricultural University, Krakow, Poland
	Gorczański Park Narodowy, Poland
	Gorczański Park Narodowy, Poland
	Gorczański Park Narodowy, Poland
	Nawojowa Forest District
	Filmhaus Berlin
	Filmhaus Berlin
	Freelance camera man
	Freelance camera man
	Bavarian State Forest Enterprise Ebrach, Germany
	INRA, France
Andreas Schuck, Daniel Kraus	EFICENT

Feedback, remarks and potentials for collaboration

Integrate+ received excellent support from its network partners for selecting suitable sites, organising filming permissions, assisting in the logistics and providing experts for interviews. Besides a feature film a number of short educational film clips are planned for illustrating certain aspects that relate to integrating nature conservation measures into commercially managed forests. One e.g. will address work safety.

It will be ensured that proper credit is given to all institutions and individuals who have contributed to the film. Partner institutions will be encouraged to host links to the film from their respective websites.

Reply

Activity D-4

Photos (Andreas Schuck, Daniel Kraus)

- Impressions from the filming in various forest locations

Docs





Title – Workshop on active management of protected forest areas

Location

Mikulov, Czech Republic

Where

Name(s) of Marteloscope(s)

Activity type

Training [] Marteloscope exercise [] Exchange of Experts [X] Education [X]

Presentation [X] Other []

What

Aim of activity

There is an increasing awareness that simply setting aside forests for free development risks missing out on the conservation of associated biodiversity. Due to past land use and fragmented landscapes, natural disturbances and natural development processes cannot take place within small set-asides areas. To support natural values, measures to actively manage forests for biodiversity conservation are being developed. The meeting at Mikulov gathered researchers and practitioners working in this field for exchanging knowledge and experience throughout Europe (Website: <http://www.forumochranyprirody.cz/workshop/forest>).

Further details

The workshop consisted of seminar presentations and discussion sessions followed by field trips (afternoons). There were excursions to Pannonia in the Czech Republic, Slovak Republic and Austria. Some visited sites were located in Natura 2000, others outside of protected areas. They included broadleaved forests with active management procedures, pollard stands, coppice with standards and restored parklands. The applied active management and restoration measures were presented and discussed. Several target species including *Cerambyx cerdo* and *Osmoderma eremita* were found proving that applied management measures do contribute to creating required habitats for such species.

Participants [40] of whom from Integrate+ project team [2]

One country [] multi-national [X]

Country/countries of origin: Latvia, Sweden, Slovakia, Austria, Germany, Czech Republic, Norway, Finland, Hungary, United Kingdom, Georgia

Participants further details

The participants were mainly members of the network on primeval forests (PRIFOR) that is active since nearly 15 years. It has as aim to stimulate exchange gained knowledge on the topic of natural forest development. The vivid network originated in the countries of the boreal zone. It has now expanded also to include forests from other climatic zones. PRIFOR has therefore expanded I the recent past and organises workshops and doctoral schools throughout Europe.

Who

Participant list

Name	Affiliation
Bengt-Gunnar Jonsson (organiser)	Mid Sweden University
Workshop participants (40)	From 11 countries
Daniel Kraus, Frank Krumm	EFICENT

Feedback, remarks and potentials for collaboration

Integrate+ co-organised the meeting, assisted in setting up the workshop programme and actively supported its implementation. The main organiser and founder of PRIFOR, Bengt-Gunnar Jonsson, is also a member of the Integrate+ Advisory Group. The outputs of Integrate+, were communicated to the participants including available publications and software tools. The work of Integrate+ was regarded by the workshop participants as more than just a project. Agreement was reached that the project could serve rather as a programme or facilitation platform for linking nature conservation aspects with those of forest management (integrative forest management and active restoration measures).

Documentation

I+ documents/tools

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

Other

- News article on Integrate+ website (<http://www.integrateplus.org/activities.html>)
- Abstract book from workshop (<http://www.forumochranyprirody.cz/workshop/forest>)

Photo (Frank Krumm)

- Workshop participants discussing restoration measures during the field trip



Reply

Docs

Title – Establishment of test site in Křivoklát forest district, Czech Republic

Location

Křivoklát, Czech Republic

Name(s) of Marteloscope(s)

Křivoklát

Activity type

Training [] Marteloscope exercise [] Exchange of Experts [**X**] Education []
Presentation [] Other [establishment of test site]

Aim of activity

The exchange visit to Křivoklát was part of the Strategic Dialogue between Germany and the Czech Republic. Following the visit of the Czech Delegation to Ebrach, Germany in spring 2016 there was great interest to adopt the 'Ebrach Biodiversity Concept' on a test site in the Czech Republic. With similar pre-requisites such as high value old growth patches and a strong National Park discussion, Křivoklát forest district was chosen to adopt the elements of the integrative concept developed in Ebrach.

Further details

From the 10th to the 11th of August Ulrich Mergner (Head of Bavarian State Forest Enterprise Ebrach) visited Křivoklát forest district together with Daniel Kraus (Integrate+) to consult about how to adopt and implement the 'Ebrach Biodiversity Concept'. It comprises of several hierarchical elements that together form a interlinked network within managed forests. Such elements include deadwood islands and habitat trees, old growth patches and strictly protected forest reserves.

It was decided with the local forest administration to prepare a test site for the excursion planned for the high profile Prague Conference on 6th of October 2016. In this test site old growth patches were delineated and set aside. Those are embedded in between stands where a positive selection of habitat and elite trees was conducted. The results of the tree selection have been calculated and will be presented to the participants of the Prague Conference during the field excursion.

Participants [**4**] of whom from Integrate+ project team [1]

One country [] multi-national [**X**]

Country/countries of origin: Czech Republic, Germany

Participants further details

Josef Svoboda from Lesy CR (Czech state forest enterprise) was tasked from the director general and the Ministry of Agriculture to facilitate this exchange. He was accompanied by two of his colleagues.

Where

What

Who

Participant list

Name	Affiliation
	Lesy CR
	Bavarian State Forest Enterprise (BaySF) Ebrach
Daniel Kraus	EFICENT

Feedback, remarks and potentials for collaboration

See “further details” on previous page for more information.

Reply

Documentation

I+ documents/tools

- Tree microhabitat Catalogue (EN, CZ)
- I+ tablet software


Docs

Photos (Participant)

- Jointly preparing the Křivoklát test site for the Prague Conference



Activity D-6

- Selecting and marking habitat trees using the BaySF wave “” symbol



- Designating a stepping stone using the symbol “TT” as applied in BaySF





Title – Meeting with ‘Wald und Holz NRW’: joining the Integrate+ partner network and establishment of 2 Marteloscopes

Location

Regionalforstamt: Rhein-Sieg-Erft – North Rhine-Westphalia (NRW)

Name(s) of Marteloscope(s)

Activity type

Training [] Marteloscope exercise [] Exchange of Experts [] Education []
Presentation [X] Other [[planning meeting and field excursion](#)]

Aim of activity

To promote participation to the Integrate+ network and provide guidance and support for the selection of potential Marteloscope sites.

Further details

The meeting at the Regional Forest District Office ‘Rhein-Sieg-Erft’ was initiated by the ‘Ministry for Climate Protection, Environment, Agriculture, Conservation and Consumer Protection of the State of North Rhine-Westphalia (MKULNV NRW)’. MKULNV NRW participated in both Integrate+ conferences (Prague and Ebrach) during October 2016. In discussions during the events they proposed that ‘Wald und Holz NRW’ would be interested to join the Integrate+ partner network. This resulted in a visit of Daniel and Andreas on 28th of November 2016.

During the introductory meeting the Head of the Regional Office ‘Rhein-Sieg-Erft’ presented the forests of NRW, followed by highlighting the potential role of Integrate+ and Marteloscopes. It was noted that there are upcoming changes in silvicultural guidelines during the next years in NRW. It was also expressed that Marteloscopes and the corresponding IT tools could be valuable for education and training especially also in support of these developments. Daniel and Andreas gave an introduction to set-up use and experiences with Marteloscopes, presented the I+ software and explained the role of tree microhabitats for forest biodiversity.

Following a lively discussion, a field visit took place to 3 stands that could serve for establishing Marteloscopes: (1) a approx. 130-year-old beech forest, (2) a mixed broadleaved stand (developed from a former coppice with standards stand) including up to 200-year-old oaks and (3) a 60 to 70-year-old a Norway spruce – Douglas fir stand with mixed in broadleaves.

Participants [10] of whom from Integrate+ project team [2]

One country [X] multi-national []

Country/countries of origin: [Germany](#)

Participants further details

Participant list

Name	Affiliation
	Wald-und-Holz-NRW
	MKULNV NRW
	Wald-und-Holz-NRW
	Wald-und-Holz-NRW
	Wald-und-Holz-NRW
	Wald-und-Holz-NRW
	Wald-und-Holz-NRW
Daniel Kraus and Andreas Schuck	EFICENT

Feedback, remarks and potentials for collaboration

The meeting was very constructive. There was high interest in the tools developed by Integrate+ both from sides of 'Wald und Holz NRW' and the Environment Ministry of North Rhine-Westphalia.

Following the field visit to three sites it was agreed with Integrate+ to establish two Martelosopes during the remainder of 2016. The sites selected were the beech and oak stand with option to add the Norway spruce - Douglas fir at a later stage.

Integrate+ offered to provide expert support during the establishment phase and ensure both the publishing of Marteloscope information sheets and engaging 'Wald und Holz NRW' and the 'Environment Ministry of North Rhine-Westphalia' with the Integrate+ network.

Documentation

I+ documents/tools

- Various Integrate+ brochures and the tree microhabitat catalogue (EN/DE)

Photos (Andreas Schuck)

- Joint visit to the State forest 'Rhein-Sieg-Erft' to present Integrate+ and jointly make a pre-selection of suitable stands for establishing Martelosopes during November/December 2016

Reply

Docs





Activity D-8 Other activities (2015, 2016 and beyond)

Title – Marteloscope related activities initiated by Integrate+ network

Location(s)

- Bavarian State Forest Enterprise, Ebrach, Germany
- Sonian Forest, Brussels, Belgium
- Freiburg City Forest, Germany
- Office National des Forêts, France
- Universidad de Cordoba, Department of Forest Engineering, Spain
- Sihlwald, Switzerland

Name(s) of Marteloscope(s)

Steinkreuz (Ebrach, Germany); Groenendaal (Brussels, Belgium); Roskopf and Mooswald (Freiburg, Germany); Auberive (Auberive, France); Sihlwald (Zurich, Switzerland)

Activity type

Training [X] Marteloscope exercise [X] Exchange of Experts [] Education [X]
Presentation [X] Marteloscope establishment [X] Other [Excursions]

Aim of activity

One important aim of Integrate+ is that established Martelosopes are utilised by their owners also without participation of Integrate+ representatives. They are encouraged to make them known and attract other groups with various backgrounds from research, practice and policy to visit their sites in the form of information events, for conducting joint virtual tree selection exercises or other.

Further details

Activity types range from general field visits, presentations, training sessions, virtual trees selection exercises to educational events.

Participants [n.a.] of whom from Integrate+ project team [0]

One country [X] multi-national [X (encouraged)]

Country/countries of origin: to date activities/events take place at local/regional/national level; multi-national activities/ events are also promoted by Integrate+

Participants further details

The types of participants vary from forest practitioners, forest owners, forest and nature conservation administration representatives, foresters in training, national forest inventory personnel, students from universities and universities of applied sciences, to children and teenagers from local schools.

Where

What

Who

List of activities

Activity 1: *Freiburg City Forest (Germany) – Marteloscopes 'Roskopf' and 'Mooswald'*

- University of Freiburg – Faculty of Environment and Natural Resources – Institute of Forest Sciences – Chair of Silviculture
 - Implementation of 2 master theses jointly by the University of Freiburg and Integrate+; The theses included the set up of the 'Mooswald' and 'Roskopf' Marteloscope and the performance and analysis of a set of virtual selection exercises (2014/2015)
 - Marteloscope exercises are continuously conducted with university students in the course of targeted block seminars (2015/2016 and beyond)
- City Forest Freiburg
 - Marteloscope training exercises have taken place for local city foresters (during Autumn 2015)

Activity 2: *Bavarian State Forest Enterprise, Ebrach Bavaria (Germany) – Marteloscope 'Steinkreuz'*

- Marteloscope training exercises conducted both with local forest district managers and foresters in training (2015/2016 and beyond)

Activity 3: *Sonian forest near Brussels (Belgium) – Marteloscope 'Groenendaal'*

- Eurstafor visits the 'Groenendaal' Marteloscope (Spring 2016)
- Students from the University of Leuven visit 'Groenendaal' Marteloscope and perform exercises (18.05.2016)
- Delegation of Staatsbosbeheer (Dutch Forestry Agency) visits 'Groenendaal' Marteloscope for an introduction to learn about the range of potential applications (30.05.2016)
- Training events are being professionalised. They will be run by a trainer from Inverde/Nature Invest. He plans to intensively use the Marteloscope and I+ software tools starting 2017. Aims of training are e.g. to improve thinning and forest management skills of forest technicians and managers.

Photo (Frank Krumm)

- Marteloscope 'Sihlwald', Switzerland



List of activities (cont.)

Activity 4: *Office National des Forêts Agence Haute-Marne (France)* – Training events in Marteloscope 'Auberive'

- A silviculture exercise took place in the Marteloscope 'Auberive'
 - It was organised by AgroParisTech Nancy for students of the French Forestry Engineering School during the second week of June 2016
 - About 30 students participated in the field visit to Auberive which takes place every year

Activity 5: *University of Cordoba (Spain)* – Marteloscope establishment following visits to Martelosopes in Freiburg City Forest organised by Integarte+

- Implemented by Universidad de Cordoba, Dpt. of Forest Engineering; Sierra de Cazorla, Province of Jaen, southern Spain (during 2016)

Activity 6: *Sihlwald (Switzerland)* – Training in 'Sihlwald' Marteloscope for Swiss National Forest Inventory (LFI) personnel

- The Sihlwald is a nature reserve of national importance. Since 2009 it carries the official status of a so called "Nature Discovery Park - Park of national importance". The Marteloscope is located in this forest and has been utilised by the Swiss National Forest Inventory to investigate options for embedding tree microhabitat assessment in their NFI cycles.
- Further training events during 2016 took place and are planned for 2017

Activity 7: *Forests of Vosges du Nord (France)* – Training in 'Falkenberg' Marteloscope for ONF and Nature Conservation personnel

- Integarte+ was informed that Marteloscope training exercises are planned for 2017

Photos (Daniel Kraus)

- Tree microhabitats: fire scar and witches broom (Serres de Cardó-el Boix, Catalonia, Spain)



List of activities (cont.)

Activity 8: *Bensheim, Hessen Forst (Germany) – Establishment of the 'Märkerwald' Marteloscope*

- Integrate+ team provided guidance to Hessen Forst staff for setting up the Märkerwald Marteloscope. The Marteloscope was set up in a beech-oak forest addressing the topic of target diameter and habitat tree selections.

Activity 9: *Molise (Italy) – Establishment of the 'Pennataro' Marteloscope*

- The Marteloscope was established by the Department of Biosciences and Territory, University of Molise with guidance by the Integrate+ team. The Marteloscope is located in an oak-hornbeam forest. The topic of interest is 'improving the conservation and production function'.

Activity 10: *Tree microhabitat catalogue translations – Implemented by partners without requesting financial support*

- The tree microhabitat catalogue has been translated by numerous Integrate+ network partners without requests for financial support
- Languages/organisations conducting translations: French (INRA); Spanish (Pau Costa Foundation); Italian (CNR); Slovenian (University Ljubljana); Czech (ÚHÚL); Danish (Nature Agency, in progress); Farsi (Iranian Research Institute for Forest and Rangelands, planned)
- Example of Catalogue use: 1000 copies of the Italian tree microhabitat catalogue have been printed by CNR and distributed amongst their projects and networks

Activity 11: *Transaltion of I+ software (I+ trainer, I+ manager, TreMs phone app)*

- As the 'Groenendaal' Marteloscope is frequently used the process of making the I+ software available in local language (in this case Flemish) is ongoing. Translation is done by the Integrate+ network partner Inverde from Belgium.
- A French translation of I+ trainer and manager are currently under way (INRA)
- The TreMs phone app will be translated to Italian (CNR)

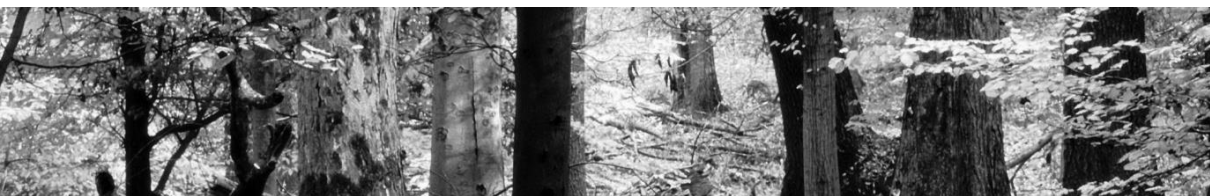
Photos (Björn Düseler)

- Marking a tree as methuselah; cutting at first strong branch of tree crown for deadwood accumulation



Integrate+ is a demonstration project funded by the German Federal Ministry of Food and Agriculture (BMEL) to establish a European network of demonstration sites for the integration of biodiversity conservation into forest management.

The Integrate+ project runs from December 2013 to December 2016 and builds on a partner network from research and practice with a focus on implementation of integrative management and enhancing transnational exchange of experiences.



European Forest Institute, 2016

www.integrateplus.org