Annex 1: Agenda

Mid-term Conference

30th November – 2nd December 2015

Venues: Kilkenny Castle, Kilkenny Medieval City, Ireland

JFK Memorial Park & Arboretum, Wexford, Ireland

Programme

www.simwood-project.eu

Monday 30th November

Open Session, Kilkenny Castle *External partners welcome*

13:00	Registration
14:00	Welcome and follow up on plenary meeting in Edinburgh
14:10	Keynote presentation on the Irish plan for wood mobilisation (Nuala Ní Fhlatharta, Head of Forestry Development, Teagasc)
14:40	SIMWOOD Project – introduction and status (Roland Schreiber, LWF)
15:10	Summary of regional profiles and focus studies (Áine Ní Dhubháin, UCD)
16:00	Refreshment break
16:15	The issue of evaluating mobilisation measures (David Edwards, FR)
16:30	Mobiliser demonstration (Richard Sikkema, JRC)
17:00	Discussion
17:30	Examples of pilot projects (introduction to poster session – 5 minutes each) (Morgan Vuillermoz, FCBA)
17:45	Refreshment break and parallel poster session on focus studies and pilot projects (held in the **Rivercourt Hotel**)
18:30	Close
19:30	Conference dinner at the Rivercourt Hotel

Tuesday1st December

Open Session continued *External partners welcome*

08:00	Depart Kilkenny
9:00-10:00	Kylemore, The Rower, Co. Kilkenny site: broadleaf forest management
10:30-11:30	Gusserane, Co. Wexford: forest management, firewood, woodchip
12:00	JFK Arboretum: lunch and drive up Sliabh Coillte

End of Open Session *Bus provided for non-SIMWOOD members*

Internal meeting, JFK Arboretum

Evaluation

13:00	Mobilisation literature and review (Anna Lawrence, FR)
13:30	Evaluation and presentation of the evaluation strategy (David Edwards, FR)
14:00	Baysien Belief Network (BBN) (Louise Sing, FR)

14:45	Modelling session (Mart-Jan Schelhaas, WUR)
15:30	Refreshment break

Pilot Projects I

15:45	Progress made in the pilot projects (recent actions, feedback from the latest Regional Learning Lab) (Morgan Vuillermoz, FCBA)
16:30	Feedback about Advisory Board of the Regions (ABoR) (*tentative*)
17:00	Close of afternoon session

Bus back to Kilkenny – arrive at Hotel at 18:00

Group rate at Langton House Hotel, 69 John Street, Kilkenny for 19:30
2 course meal @ €21.00, 3 course meal @ €26.00 per person

Wednesday 2nd December 2, Kilkenny Castle

Internal meeting

Pilot projects II

8:30	Workshop (breakout sessions) on implementation and evaluation of pilot projects
10:00	Cross pilot project exchange and learning session (Morgan Vuillermoz, FCBA)
11:00	Refreshment break
11:15	Feedback on breakout session (Morgan Vuillermoz, FCBA)
12:30	Lunch
13:30	Tour of castle
14:00	WP6 – Status and project handbook (Christophe Orazio, EFI)
15:00	Workshop on mobiliser content and future development (Richard Sikkema, JRC)
15:45	Refreshment break
16:00	**SIMWOOD Project and General Assembly (**(Roland Schreiber, LWF; Astrid Oeslner, BayFor)

- o   Discussion about outcomes of project meeting and steps to be addressed
- o   Interim payment
- o   Midterm review
- o   Next reporting (31/10/2016)

18:00	Conference/project meeting wrap-up

18:30 Conference Close

Practical Information

Hotel

Rooms have been reserved at the **Rivercourt Hotel** in Kilkenny, five minutes walk from Kilkenny Castle.

A rate of €70 B&B per night has been agreed. Please use the reference **SIMWOOD**.

Contact details for the hotel can be found at http://www.rivercourthotel.com/

Travel and transport

Kilkenny is approximately 1.5 hours from Dublin Airport. It is proposed to have a bus leave the airport at **12 noon on Monday 30th November**.

For those arriving on Sunday please check: http://getthere.ie/kilkenny-dublin_airport/

Registration

Please register online: http://www.efiatlantic.efi.int/portal/events/simwood_registration_/

Contact

Aine Ni Dhubhain: aine.nidhubhain@ucd.ie

There are no registration fees; the project will cover meeting rooms, buses, lunches and conference dinner costs.

Accomodation, travel and evening meals (apart from the conference dinner) are covered by attendees.

Annex 2: Minutes

SIMWOOD

SIMWOOD Midterm Conference – Minutes

30.11.2015 – 02.12.2015

Venues:

Kilkenny Castle, Kilkenny Medieval City, Ireland

JFK Memorial Park & Arboretum, Wexford, Ireland

Participants:

First Name	Last Name	Organisation	Beneficiary No.	Country
Project - Beneficiaries				
Roland	Schreiber	Department Forest Policy, Counseling and Ownership, Bavarian State Institute of Forestry	1	Germany
Peter	Aurenhammer	Department Forest Policy, Counseling and Ownership, Bavarian State Institute of Forestry	1	Germany
Andrea	Reiter	Bavarian Research Alliance	2	Germany
Astrid	Oelsner	Bavarian Research Alliance	2	Germany
Richard	Sikkema	Joint Research Centre (European Commission)	3	Italy
Christophe	Orazio	European Forest Institute - EFIATLANTIC	4	France
Philippe	Deuffic	University College Dublin	5	Ireland
Charles	Harper	University College Dublin	5	Ireland

Aine	Ni Dhubhain	University College Dublin	5	Ireland
Maarten	Nieuwenhuis	University College Dublin	5	Ireland
Evelyn	Stoettner	University College Dublin	5	Ireland
Bianca	Ambrose-Oji	Forest Research	6	United Kingdom
David	Edwards	Forest Research	6	United Kingdom
Gary	Kerr	Forest Research	6	United Kingdom
Louise	Sing	Forest Research	6	United Kingdom
Anna	Lawrence	Forest Research	6	United Kingdom
Morgan	Vuillermoz	FCBA Institut Technologique	7	France
Philippe	Ruch	FCBA Institut Technologique	7	France
Mart-Jan	Schelhaas	DLO-Alterra	8	Netherlands
Uwe	Kies	Internationales Institut fuer Wald und Holz NRW	9	Germany
Hans-Ulrich	Dietz	Kuratorium für Waldarbeit und Forsttechnik e.V.	10	Germany
Nadine	Karl	Kuratorium für Waldarbeit und Forsttechnik e.V.	10	Germany
A.Cristobal	Ordoñez	University of Valladolid	11	Spain
Felipe	Bravo	University of Valladolid	11	Spain
Fatima	Cruz	University of Valladolid	11	Spain
Xavier	Carbonell	Centre des Recerca Ecologica i Aplicacions Forestals	12	Spain
Jordi	Vayreda	Centre des Recerca Ecologica i Aplicacions Forestals	12	Spain
João	Azevedo	Instituto Polytecnico de Braganca	13	Portugal
Felícia	Fonseca	Instituto Polytecnico de Braganca	13	Portugal
Luis	Nunes	Instituto Polytecnico de Braganca	13	Portugal

Fernando	Péres-Rodrigues	Instituto Polytecnico de Braganca	13	Portugal
Margarida	Tomé	Instituto Superior de Agronomia, Universidade Tecnica de Lisboa	14	Portugal
Susana	Barreiro	Instituto Superior de Agronomia, Universidade Tecnica de Lisboa	14	Portugal
João	Rua	Instituto Superior de Agronomia, Universidade Tecnica de Lisboa	14	Portugal
Thomas	*Thörnqvist*	*Linnaeus University*	*15*	*Sweden (excused)*
Nike	Krajnc	Slovenian Forestry Institute	16	Slovenia
Andrej	Breznikar	Slovenia Forest Service	17	Slovenia
Patrick	Reumerman	BTG Biomass Technology Group BV	18	Netherlands
Beatriz	de la Parra Peral	ECM Ingenieria Ambiental	20	Spain
Cyrille	Pupin	Forêts et Bois de l'Est	21	France
Alex	Kelly	Irish Wood Producers	22	Ireland
Cristina	Patricio	ARBOREA	24	Portugal
Sara	Sarmento	ARBOREA	24	Portugal
Alexandra	Ramos	ForestFin, Florestas e Afins, Lda.	25	Portugal
Pedro	Ramos	Forestfin, Florestas e Afins, Lda.	25	Portugal
Göran	Gustavsson	Energikontor Sydost AB	26	Sweden
Amanda	Calvert	Small Woods Association	27	United Kingdom
Phillip	Tidey	Small Woods Association	27	United Kingdom
Andrew	Kitching	Rural Development Initiatives Ltd	28	United Kingdom
East European Experts				

Dagnija	Blumberga	Riga Technical University	Latvia
Francesco	Romagnoli	Riga Technical Unviersity	Latvia

Advisory Board of the Regions

Florian	Zormaier	Bavarian State Ministry of Food, Agriculture and Forestry	Germany
Ake	Carlson	Councilor for the municipal of Uppvidinge	Sweden
Carlos	Uriagereka	Diputación Foral de Bizkaia	Bizkaia Basque
Paulo	Mateus	Instituto da Conservação da Natureza e das Florestas	Portugal
Alvaro	Picardo	Junta de Castilla y León. Department of Environment	Spain
Donal	Magner	Wood Marketing Federation	Ireland

External Participants

Pat	Doyle	Doyle Harvesting	Ireland
Joe	Codd	Forest Enterprises Ltd	Ireland
Tom	O'Dwyer	Forest Enterprises Ltd	Ireland
William	Melville	Forest Owners Cooperative Society	Ireland
Karl	Coggins	Forest Service	Ireland
Paddy	Bruton	Forestry Services Ltd	Ireland
Liam	O'Byrne	Irish Farmers Association	Ireland
Geraldine	O'Sullivan	Irish Farmers Association	Ireland
Maura	Bell-Browne	Irish National Heritage Park	Ireland
Anthony	Browne	Irish Wood Producers	Ireland
Burke	Corbett	Irish Wood Producers	Ireland

Gerald	Curran	Irish Wood Producers	Ireland
Yvonne	Delaney	Irish Wood Producers	Ireland
Colin	Greaney	Irish Wood Producers	Ireland
Nicholas	Roberts	Irish Wood Producers	Ireland
Gemma	Sherman	Irish Wood Producers	Ireland
Nicholas	Sweetman	Irish Wood Producers	Ireland
Martin	Rafter	Kilkenny Leader Partnership	Ireland
Andy	Dunne	Laois Farm Forestry Group	Ireland
John	Reardon	Limerick Tipperary Woodland Owners	Ireland
Michael	Ryan	Limerick Tipperary Woodland Owners	Ireland
Alfie	Neville	Roland Forestry	Ireland
Frances	McHugh	Teagasc	Ireland
Nuala	Ni Fhlatharta	Teagasc	Ireland
Tom	Kent	Waterford Institute of Technology	Ireland
Brian	Kehoe	Wexford Local Development	Ireland
Sean	Eustace	Wicklow Forest Owners Group	Ireland
Kenneth	Worrell	Worrell Harvesting	Ireland
Donal	Whelan	ITGA	Ireland
Darragh	Little	Fel	Ireland

Notes and Actions (red numbers = number of presentation on ProjectPlace)
Day 1, 30th of November 2015
Welcome and follow up on plenary meeting in Edinburgh (Aine NiDhubhain)

18 December 2015   D6.2 SIMWOOD conference and launching of the mobiliser

Keynote presentation on the Irish plan for wood mobilisation (Nuala Ní Fhlatharta, Head of Forestry Development, Teagasc) 01

- 55% of forest owned by state forestry board, private forests growing while state forests are not growing;
- 18,000-19,000 forest owners in the country
- 2 important policy documents in Ireland regarding forest management (amongst others): Food Wise 2025 and Forests, products and people
- demand forecast: concerning – supply demand deficit
- COFORD Wood Mobilisation Group Report: Mobilising Ireland`s Forest Resource – broad working group with many recommendations for wood mobilisation in Ireland
- Summary:
  - Mobilising the current and future private timber resource is critical and will require sustained activity and support from the various stakeholders including:
  - Forest owners
  - Forest Service
  - Timber harvesting and processing sector
  - Forest companies and consultants
  - Education and training
  - Advisory services – including Teagasc
  - Research sector

SIMWOOD Project – introduction and status (Roland Schreiber, LWF) 02

- Introduction of the SIMWOOD project, expected outcomes, achieved results so far
- Outlook for the next 2 years, e.g. European manual of integrated wood and Final Conference in Paris

Summary of regional profiles and focus studies (Áine Ní Dhubháin, UCD) 03

- Framework for information gathering: 5 domains (ownership, governance, management, harvesting, functions)
- Presentation of differences and complementarities in the 17 forest regions as well as range of the different domains- large diversity
- In all regions: different regulations, different incentives, different information, different organisations
- First insights in key factors: e.g. lack of owner associations (e.g. Catalonia, Slovenia) – further challenges (see presentation)
- Knowledge gaps identified -> see poster session

The issue of evaluating mobilisation measures (David Edwards, FR) 04

- Three approaches to evaluation:
  - Review of existing knowledge and evidence
  - Evaluation of pilot projects
  - Modelling the impacts of solutions
  - ⇨ Simwood Mobiliser, Policy briefings & support, Practical solutions manual)
- Wood mobilisation solutions:
  - Financial and material incentives
  - Regulation (national, regional, local bylaws)
  - Knowledge and persuasion
- Organisation and enterprise

- Overview of the features of the Information System MOBILISER for external participants.
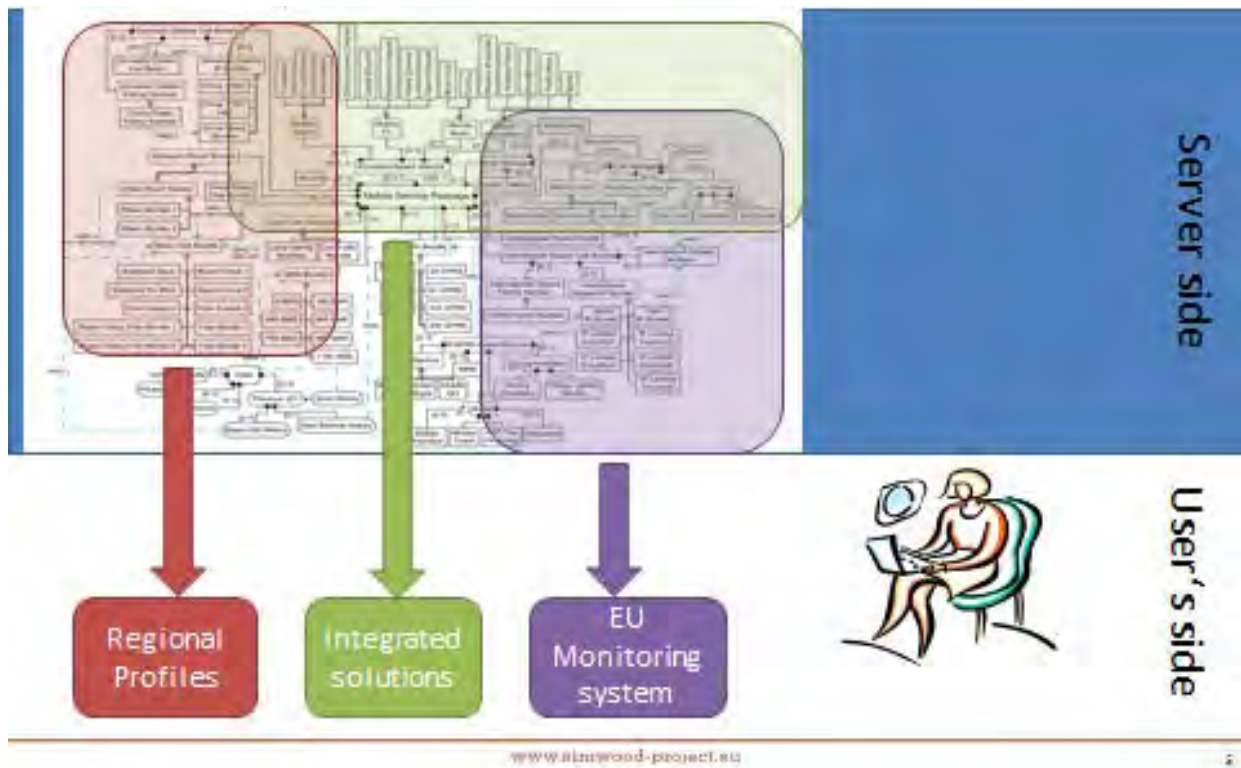
- Mobiliser Toolset contains:
  - Wiki. The tables in the wiki will populate the map service.
  - Map service
  - Search tool
  - "Woodnews" (to show the Mobiliser is always up to date with current affairs)
  - Possibly a simulation tool, whose content has not been discussed yet.

- Important Front end for users: People who are interested how to mobilise wood under a given situation in a region will receive tested integrated solutions.
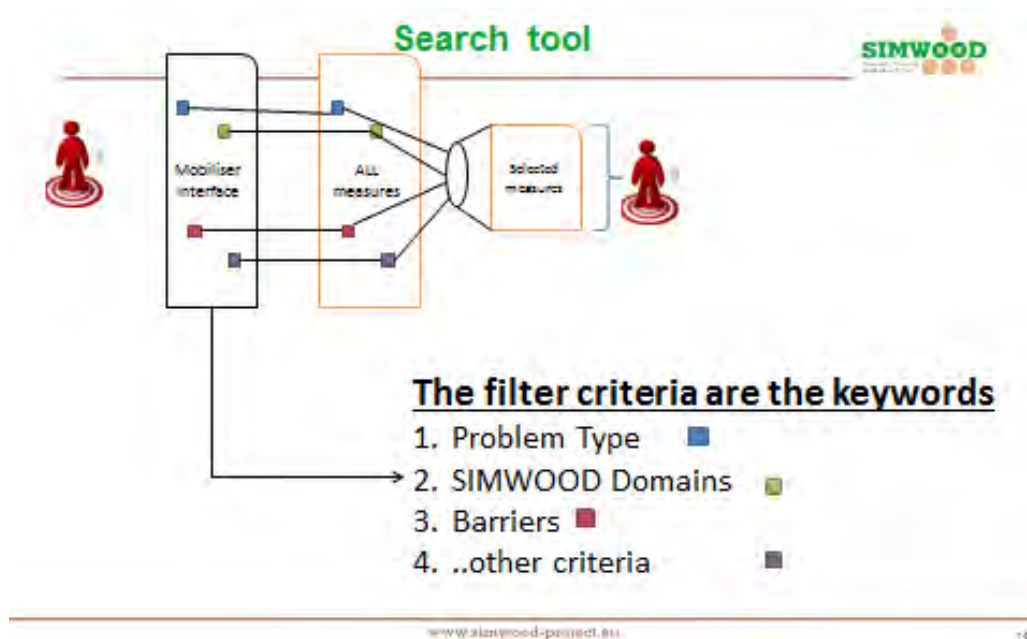
- Tool is under development and will be integrated into the European Forest Information System

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Examples of pilot projects (introduction to poster session – 5 minutes each) (Morgan Vuillermoz, FCBA) 06

- Idea of pilot projects: test different measures, mechanisms
- SMEs play a crucial role in implementing pilot projects
- 3 typical interventions in 23 pilot studies
- Posters: idea: share experiences and inform other project partners about ongoing activities; e.g. In Auvergne the focus is on improving capacity building
- afterwards: poster session in the Rivercourt Hotel
- Focus studies: first stage of refining / adjusting the pilot studies. Pilot studies: ongoing

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Day 2, 1st of December 2015

Kylemore, The Rower, Co. Kilkenny site: broadleaf forest management FT

Forest Owner: Vera Flood (managed by her nephew Enda O'Connor)

Location:

Townland: Tinaslatty,

Nearest town: New Ross

County: Wexford

Site description:

The plantation is situated approximately 3km from New Ross town on the opposite side of Mount Garret

Bridge, which crosses over the river Barrow. Part of the site runs parallel to the river to the south. The elevation ranges from 10 meters to 40meters above sea level. The soils are mineral – brown earths and alluvial close to the river.

The plantation was established in 1994. At that time some 30.45 hectares was planted. This is 4 times the national average sized forest in Ireland. From the beginning the owner took great interest in the forest, maintaining it well and continues to take an active role in its management.

The woodland now comprises Norway spruce (*Picea abies*), Pedunculate Oak (*Quercus robur*) and Ash (*Fraxinus excelsior*) in a mixture of 60% conifers and 40% broadleaves.

Species, YC, Age and composition

Species	Area (HA)	Age	Yield Class	% composition	Man. Status
Norway Spruce	18.3	21	22	60%	1st Thin
Ash	5.81	21	12	19%	2nd Thin
Pedunculate Oak	6.34	21	10	21%	1st Thin
Total	**30.45**			**100%**	

Management

A harvesting standard road was constructed into both plots in 2012 followed by a first thinning of the Norway spruce and Ash. This operation was light in the Norway leaving a stocking of 1800 trees per ha. Basal Area is high and a second thinning is now due. The plantation suffered slight damage in the storms of late 2013/early 2014.

The Ash received its first tending/thinning around 2012 and is currently being thinned lightly for the second time by the owner. The objective is to improve quality and form and focus is on removing trees with canker and poor form. This work is being carried out over extended and sustainable periods by the owners.

The Oak was planted at a high density and has been marked for tending by our foresters. The felling is underway using chainsaw and extraction is by tractor/trailer. The form of this Oak is already better than a typical oak woodland of this age owing to the provenance and intensive management in its early days.

Markets

The timber produced from the first thinning of the conifers went to local pulp mills/fuelwood. A small amount of larger diameter material (pallet) went to the fencing/pallet mills.

The timber produced from the broadleaves went and is going to local fuelwood market

Future management

The owner's objective is to generate regular income while maximising profit. To this end, the Norway spruce plot will be thinned again in 2016 to bring down stocking.. Thinning will then be on a cycle of 4-5 years depending on the market. The rotation is expected to be in the region of 40 years (19 years from now).

Ash and Oak plots will be grown on a rotation of approximately 50-55 years for the Ash and 100-120 years for the Oak. Thinning will be carried out as required to provide income for the owner and to maximise the potential of the crop.

Gusserane, Co. Wexford: forest management, firewood, woodchip FT

Gusserane, Co. Wexford

Burke and Lesley Corbett actively manage just over 100 ha of forestry on their farm in Gusserane, Co. Wexford.

The field trip will take a look at the plantations, equipment used to maintain the forestry and timber processing on site.

As hands-on owners, the Corbetts have sought professional advice and maintained their forest plantations on the farm accordingly; developing inspection paths, installing a number of access roads and looking at a long term plan for the forest management.

The Corbetts have already carried out first and second mechanical thinning on some of their softwood plantations with different harvesting contractors and have shaped and thinned their broadleaf plantations.

Timber sales have included pallet, pulp and processed, delivered wood chip. They have also retained a proportion of timber on site to process for firewood for their own boiler.

Other challenges include: wind blow, squirrel damage and original species selection.

JFK Arboretum, Co. Wexford

Brief tour through the research plots to the summit.

Dedicated to the memory of John Fitzgerald Kennedy, President of the U.S. (1960-1963), the Arboretum covers 252 hectares on the southern slopes and summit of Slieve Coillte. The plant collection contains 4,500 types of trees and shrubs from all temperate regions of the world, planted in botanical sequence and the 200 forest plots are grouped by continent. A road provides access to the summit at 271m and there are panoramic views over counties Wexford, Waterford, Carlow, Kilkenny, Wicklow and Tipperary. Other features include: rhododendrons, dwarf conifers, exhibitions, audio visual, lake, miniature railway, pony and trap, shop, tearoom and play area.

Mobilisation literature and review (Anna Lawrence, FR) **07**

- Criteria for inclusion of literature (Questions B and F were not really included)
- Questions addressed by the studies which is a result of the review
- Interesting: mobilising biomass harvesting not available before 2009!
- Informal evaluations: not counted in the No. of literature, but analysed nevertheless
- 157 papers – only 6 did ask the question if the actions really DID mobilise wood
- Having the technology does not automatically lead to adoption

Evaluation and presentation of the evaluation strategy (David Edwards, FR) **08**

- Presentation of headline questions for evaluation
- Evaluation criteria: lots of information already has been gathered in the Regional Learning Labs reports
- Most important point: has anyone changed the behaviour and mobilised more wood?
- Introduction of timetable for the next 2 years including Milestones and Deliverables

Baysien Belief Network (BBN) (Louise Sing, FR) **08**

- Presentation of the BBN system and how it works

Modelling session (Mart-Jan Schelhaas, Alterra) **08**

- Presentation of the modeling with EFISCEN and BBN

Progress made in the pilot projects (recent actions, feedback from the latest Regional Learning Lab) (Morgan Vuillermoz, FCBA) **09**

- Brief introduction
- Interview with Andrej Breznikar (Slovenian Forest Service):
  First measures were not successful; no forest mobilisation from forest associations. LWF offered a methodology for focus study; pilot project: capacity building for 29 associations on wood mobilisation. Presidents of associations were involved. Now: draft for interface exists. No association has an own website. Offer for the leading association: we can develop this website and include all the data about the forests so that forest owners can have access (at the moment they

don't). Andrej provides a list of tools. E.g. a list of forest companies; tailor-made solutions for people who are already organised in associations;

- Interview with Margarida Tomé (Universidade Tecnica de Lisboa):
She is steering one of the pilot projects in Portugal; 3 main forest species in Portugal; first meetings: barriers were identified, which is mainly management. Demand is much higher than supply. To mobilise more wood, we need to do better management. Second meeting: Methodology was set up and presented. Different alternatives for management have to be defined in different groups. Those alternatives have to be included into the models

- Interview with Göran Gustavsson (Energikontor Sydost AB):
Pilot Project has been finished by now. Purpose was to investigate the techniques used today to improve the way of extraction branches out of the wood. 40-50% of all practitioners in the forest are engaged in an organisation which is collaborating with SIMWOOD (AR: is this correct???); also addressing forest entrepreneurs, not only the owners. Swedish partners are going to organise 'forest evenings' with large forest associations

Deay 3, 2nd of December 2015
Feedback of the Advisory Board of the Regions for the Simwood project

Impressions of the project:
- Very complex and very ambitious project
- Huge and challenging project
- Lot of progress in a short time within the project
- Big variety of the Pilot Projects and Focus Studies
- High quality of work
- There is compromise, passion and willingness to learn from each other
- There are some obstacles: bigger and smaller ones, which are real stopping the stream
-

Advises for the project:
- Evaluation and dissemination outside the consortium is very important and should address the for the project outcome important persons
- Time is a problem, evaluation is very complex for the rest of the project time, result = increasing wood mobilisation? Is this to answer or is there a problem to reach this? Is it mobilizing people (takes time!) to mobilize wood? There are 2 options: mobilization of wood or expectation of wood mobilization in the future. Suggestion is to focus on the real matters, understand the communities and the people, target on those people that are important for the outcome
- Suggestions: simple way, need for some big figures e.g. how much wood was in the market before start of the project and after, over all society has to be addressed especially for the Project, show already not finished results (like cathedral in Spain)
- Focus on the outcome of the project is important to understand "why did the union spend the money to the project?" E.g. Climate change, wealth and security (think of the dependency from Russian gas in Latvia)
- Higher involvement of forest owners
- Increase the cooperation within groups and teams, there are some repetitions, a change of methodologies maybe.
- Mobilizer as a central outcome gets a little bit clearer, still a lot of questions, how will the user use the tool, what is the outcome (e.g. factsheet or report?) Mobilisation in Germany is indirectly addressed by the activation of the owners, ,

- Mobilizer - how will the results get out?
- Dissemination should be enhanced in the regions with the results of the Pilot Projects at an early stage
- What is getting measured at the end
- Big differences within the countries interface between the project and the important stakeholders
- The mobilisation of the forest resource is most important (Economy and jobs as main objectives), e.g. forest covers 36% of the land in Spain and does not really contribute to economy.
- it is in general not integrated in the society/ economy in Spain. Relevant would be to get people aware of this fact for jobs.
- The wood price is the main driving factor. Europe is absolutely divers regarding wood mobilization, but has the same problems: markets are not working, forest owners do not see themselves as real economic actors, the project should address these people.
- Look for the things that can be changed!

Workshop (breakout sessions) on implementation and evaluation of pilot projects & Cross pilot project exchange and learning session (Morgan Vuillermoz, FCBA

- The group was distributed into 5 breakout groups with common aspects linking their pilot project (e.g. theme, measure being tested, target stakeholder being addressed with similar intention for change…). The main objective was for each PP leader to test the application of the evaluation strategy on its pilot project. This was led by the group facilitators who invited participants in answering 3 questions about their PP:
  - What change do you hope will happen?
  - How will you know the changes did come true?
  - What will be your next steps towards evaluating your pilot project?
- Each group analyzed at least 2 pilot project under this perspective. flip charts (see pictures available in project place) were used to capitalize on the key aspects emerging from the questions raised by curious and gently challenging participants to the PP leaders.
- The major outcome of the session is that PP leaders will know what to expect and how to describe their specific situation when the evaluation process will be launched in Jan-Feb 2016 (guidelines to be distributed by WP3).

WP6 – Status and project handbook (Christophe Orazio, EFI) 10

- Dissemination and Exploitation Strategy and Plan
- SIMWOOD Online Development & Maintenance
- Offline dissemination activities in each participating region and Exploitation of results in other regions of Europe
- Deliverables:
  - D6.3: Policy brief presenting SIMWOOD pilot projects (M36)
  - D6.4: European manual of integrated wood mobilization solutions [main publication] (M46)
  - D6.5: SIMWOOD final conference – Report [Paris/France] (M48)
  - D6.6 Report on dissemination and exploitation activities in the SIMWOOD model regions and in regions beyond the consortium (M48)
- European manual of integrated wood mobilisation solutions:
  - Challenges
  - Make the most of all the work achieved:
    - WP2 regional profiles and focus studies
    - WP3 conclusions from RLL and evaluation
    - WP4 conclusions from pilot projects

- WP5 benefit of the MOBILISER
  - Extend the scope beyond pilot projects
  - Bring added value to the existing analysis
  - Target → accepted by the consortium
  - Tentative table of content → accepted by the consortium
  - Compilation of information → accepted by the consortium
- Important decisions:
  - Approach proposed to draft the handbook was approved (main target, global content, excel sheet)
  - Body that should validate key steps for the document preparation is the Executive board (EB)

Workshop on mobiliser content and future development (Richard Sikkema and Sarah Mubareka, JRC) 11_1; 11_2

- Update and intensive discussion of the SIMWOOD Mobiliser tool
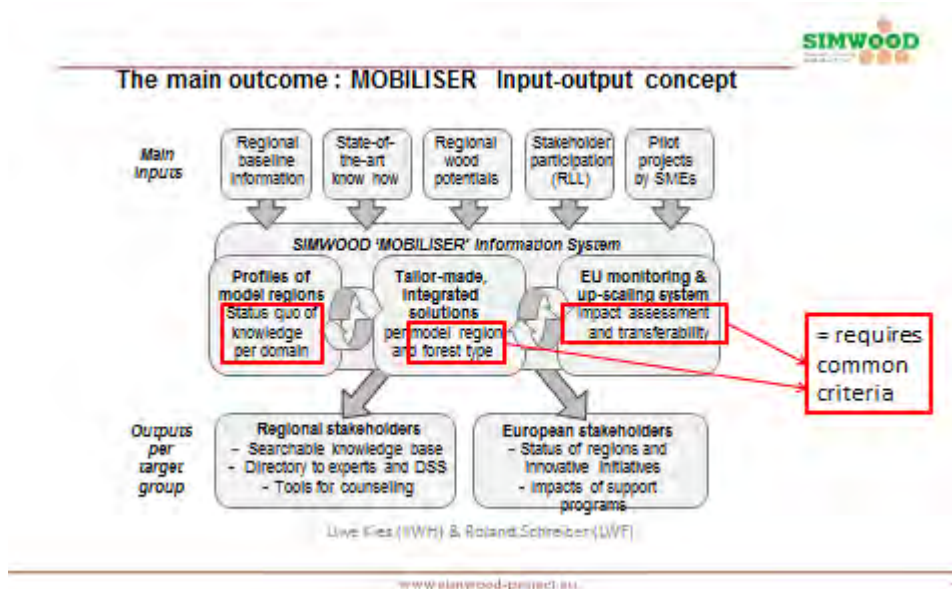
- Search tool purpose: to lead a user to a selected series of solutions that are relevant to their own cases. To assess "relevance" the user should describe their situation, and the Mobiliser should find similarities among the works in the database.
- For this to work, all solutions must be characterized using the same keywords. This will provide a larger pool of solutions to the user.   **Keyword template database**

What is next for 2016:
- Launch call using Project Place, for local website links and high resolution maps of anything related to SIMWOOD (e.g. forest resource)
- Search tool:
  - translation of keywords by partners into SIMWOOD languages
  - Integrating solutions gathered in D3.1 Appendix C => 28 solutions in search tool. How to structure this?
- Indicators for Modelling tool (t. b. discussed)
- Data completion about wood mobilization
  JRC needs a certain volume of data to fill the mobiliser. Data can be extracted like tables, bar

graphs, pie charts etc. Examples of such graphics can be found in the JRC presentations. *Two types of data extraction may be possible with a completed mobiliser: regional and national graphics*.

Regional ones. One of the most interesting sources to build on is the "Wiki information", i.e. the 37 tables compiled for the 17 regional profiles. When these are completed for 80 % (as proposed by Roland Schreiber), the JRC can make general graphs for the regions involved. Options to further fill these tables are: expert opinions, or tapping information from focus studies (FS) and regional learning labs (RLL's). The project partners should preferably use the Excel files per region, as prepared and inserted already by JRC into Project Place (**WP2 Regional Profiles / model regions / …)**. JRC gave some extra advice regarding data incompleteness (A. productive forest area; B. supply and demand for wood), in a separate Excel file on Project Place ("Overview of attention points"). The password for completing/correcting the individual tables per RP (**from region 01 Bavaria to 17 Northeast Romania**) is "Sara".

ACTION: Each profile should be completed as far as possible (depending on data possibility and possibility of Expert opinion, decision by the responsible person of the model region in contact with WP2 leader to find a reliable solution

National data. Another data source for the wood mobiliser could be the information collected by EFI in its WP-6. If EFI has data for the 28 EU countries, graphs per country could be created.

What is next for 2017:
- Focus on single Mobiliser entry point (i.e. interface + url)
- EU-monitoring and upscaling based on project outcomes
- Launch and maintenance (D 5.2, September 2017)
- Reporting on implementation and plans for maintaining and progressing with the system (D 5.3, September 2017)

SIMWOOD Project and General Assembly (Roland Schreiber, LWF; Astrid Oelsner, BayFor) **12**

Financial Project Status

- Project Cash Flow

Payment	[%]	Time of Payment (expected)
Pre-Financing	48,33	Dec 13
1st Interims Payment	35,71	Oct 15
2nd Interims Payment	00,96	Apr 17
Final Payment	10,00 (+ 5% Guarantee Fond) = 15,00	Apr 18

84,04 % of Total Budget already received
Only accepted costs are owned by partners!
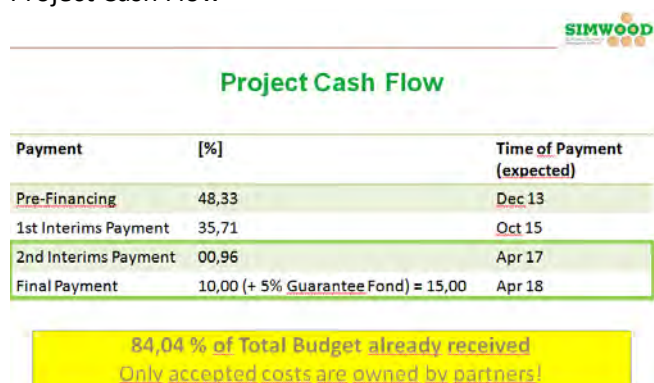
- Actual financial Status of partners

	Beneficiary	Total Budget [€]	Owned by beneficiaries	Owned by EC	
			Costs accepted in RP1 [€]	Costs to be spend in RP2 & RP3 [€]	Costs to be spend in RP2 & RP3 [% of total budget]
1	LWF	598.072	264.802	333.270	56
2	BayFOR	359.816	86.852	272.964	76
3	JRC	465.325	198.033	267.292	57
4	EFI	400.317	85.833	314.484	79
5	UCD	361.120	96.778	264.342	73
6	FCBA	586.972	258.767	328.205	56
7	FCBA	619.239	195.055	424.184	69
8	DLO	312.528	128.595	183.933	59
9	IIWH	423.130	187.517	235.613	56
10	KWF	250.392	91.294	159.098	64
11	UVA	209.600	93.253	116.347	56
12	CREAF	143.824	26.275	117.549	82
13	IPB	153.120	86.916	66.204	43
14	ISA	120.400	49.101	71.299	59
15	LNU	334.920	68.603	266.317	80
16	GIS	98.340	9.212	89.128	91
17	ZGS	93.060	20.809	72.251	78
18	BTG	419.829	222.563	197.266	47
19	AGRESTA	133.360	37.699	95.661	72
20	ECM	69.248	33.639	35.609	51
21	FBE	188.900	39.582	149.318	79
22	WWP	118.220	50.813	67.407	57
23	FEL	184.867	55.861	129.006	70
24	ARBOREA	79.824	29.058	50.766	64
25	ForestFin	126.960	68.659	58.301	46
26	ESS	207.320	68.359	138.961	67
27	SWA	183.532	65.591	117.941	64
28	RDI	223.350	97.648	125.703	56
		7.465.586	2.717.167	4.748.419	64

Costs = direct and indirect costs

Spend money according to the DoW!

⇨ **ACTION**: Some partners have spend only less money, please check your Tasks and spent the money according to these

- Financial Forecast
  ⇨ **ACTION**: Each partner should calculate costs (Financial FC) for the rest of the project (up to 10/2017)
  - Discussion on financial project situation necessary upon calculation next EB meeting
  - possibly shift of budget planned for 2016

- Upcoming issues 2016/ 2017

SIMWOOD Upcoming 2017

- Upcoming Project Meetings

2nd ABoR	28	16th Feb 16	Brussels
EB	31	10th/11th May 16	Slovenia
GA	37	08th/09th Nov 16	Netherlands
Midterm Review	29	March 16	Freising/ Brussels
3rd ABoR	36	October 16	Brussels
4th ABoR	40	Feb 17	Brussels
EB	43	May 17	Sweden
GA/Final Conference	47/48	Sep/ Oct 17	Paris

- Election of SME participation for EB and DB for the period: 06/16 –end of project
  Total votes: 25 beneficiaries present

- Executive Board (EB) election:
  1st Election:

    BTG: 11, SWA: 12,abstention: 2

    ⇨ No 2/3 mjority
  2nd Election:

    BTG: 11, SWA: 12,abstention: 2

    ⇨ No 2/3 majority, but with 25 of 25 votes all members agreed to the election result
  ⇨ **SME representative in EB: SWA- Phil Tidey (vice-representative: BTG -Patrick Reumermann)**

- Dissemination Board (DB) election:
  1st Election:

    SWA: 1, ForestFin: 12, WWP:9, abstention: 3

    ⇨ No 2/3 majority
  2nd Election:

⇨ No 2/3 majority, but with 25 of 25 votes all members agreed to the election result
⇨ **SME in DB: ForestFin – Pedro Ramos (vice-representative: WWP- Alex Kelly)**

Conference/project meeting wrap-up (Roland Schreiber, LWF)

- The whole consortium was very grateful to the organisers namely the teams from UCD, EFI, Forest Enterprises Ltd. and Irish wood producers for the excellent organisation of this conference and the very informative fieldtrip.
- In particular the visible enthusiasm of one forest owner (Mr. Corbett) about the work of the local producer group and the SIMWOOD project itself proved the close to practice approach of SIMWOOD.
- Intensive and thorough discussions of relevant SIMWOOD topics over the last 3 days:

Evaluation concept

- Developed concept to evaluate the success of pilot projects: **Input - output - outcomes - impacts** to be applied now by all partners to measure the success (Edwards).
- Presented results of the analysis of attempts to evaluate mobilisation measures (Lawrence).
- Explanation and demonstration of the at first sight complex BBN led to an increased and a better understanding of it and this instrument can be used now in the model regions (Sing, Reumerman).
- Significant progress has been made in the modelling which can be linked to the BBN approach (Schelhaas).

Pilot Projects

- Constructive and goal-oriented sessions on the Pilot projects (Vuillermoz):
  - General information during the poster session (Monday).
  - Cross-regional information via the three reports on the Pilot Projects in Slovenia, Portugal and Sweden (Tuesday)
  - Measurement of changes / success and cross regional exchange in the respective working groups (5 groups) will contribute towards an even better cooperation of the Simwood-consortium.

Mobiliser

- The present status of the important project outcome, the "MOBILISISER" was presented (Sikkema, Mubareka).
- The information system has to be further developed to meet the project requirements. For this overall support of the consortium is needed:
  - The system needs to be fed with the experiences gathered in the pilot projects and perhaps

any other applicable outcome of other SIMWOOD deliverables.
- Identified relevant data gaps in the information system (tables Work Package 2 Regional Profiles) should be closed as far as possible

Dissemination

- Outline of the possible structure of the D 6.4 "European manual of integrated wood mobilisation solutions" - WP 2, WP 3, WP 4, WP 5 can/will contribute to it (Orazio).

Advisory Board of the Regions

- ABoR-members provided a constructive and critical feedback on the Simwood activities.

Annex 3: Presentations from the conference

Wood Mobilisation in Ireland – The Plan

Presentation at the SIMWOOD Mid-term Conference

Kilkenny Castle, Kilkenny, Ireland

Nuala Ni Fhlatharta,

Head of Forestry Development Department, Teagasc

30th November 2015

The Irish Agriculture and Food Development Authority

Forest cover in Europe (source: Forest Service Statistics 2014)
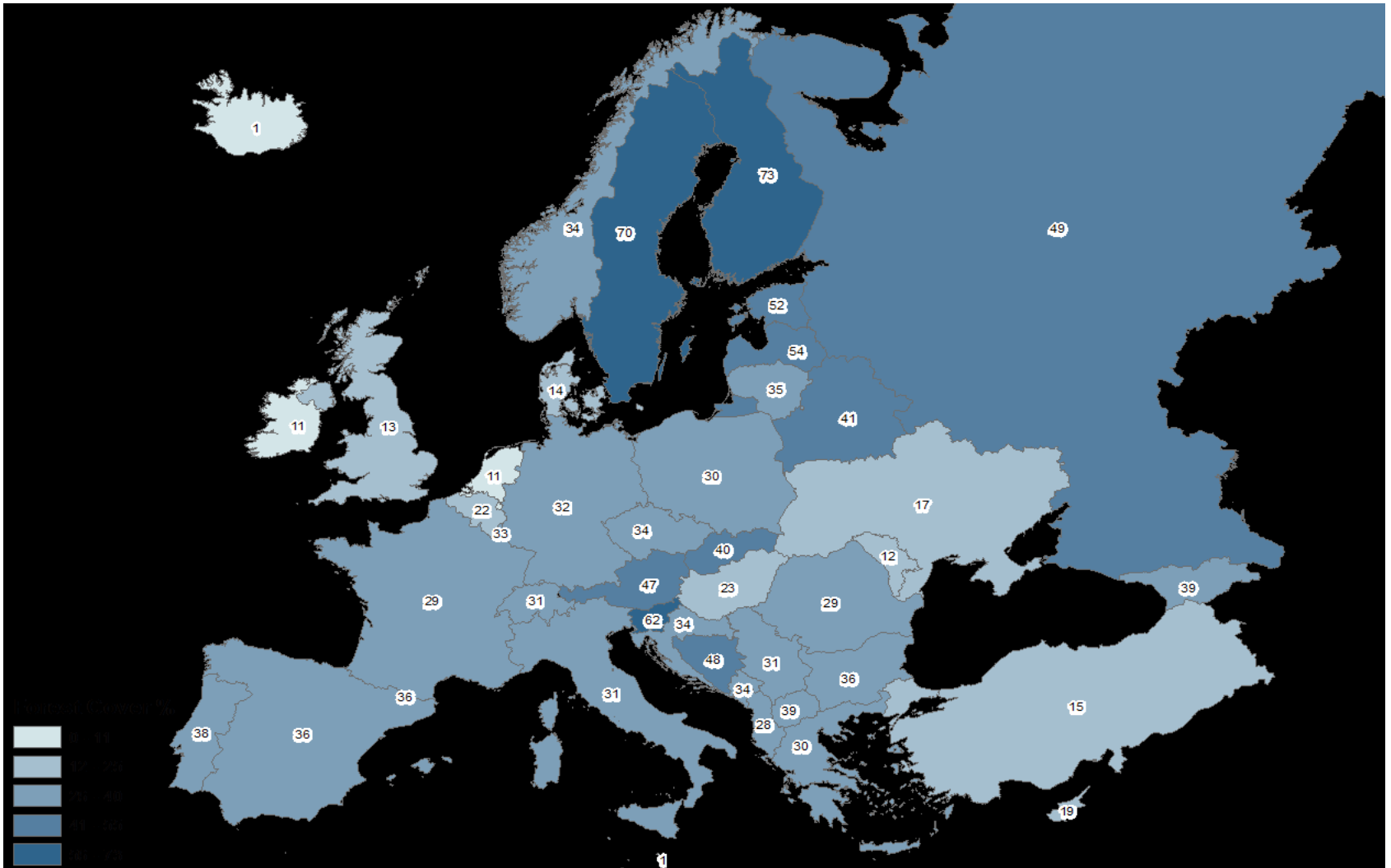
Drivers for expansion & resource optimisation

Food Wise 2025 — Growth projection

On the basis of available data, the Committee believes that the following growth project achievable by 2025:

- Increasing the value of agri-food exports by 85% to €19 billion.
- Increasing the value added in the agri-food, fisheries and wood products sector by to in excess of €13 billion.
- Increasing the value of Primary Production by 65% to almost €10 billion.
- The creation of an additional 23,000 direct jobs in the agri-food sector all along the chain from primary production to high value added product development.

Growth projectio 2025

Forests, products and people

Ireland's forest policy – a renewed vision

Department of Agriculture, Food and the Marine
An Roinn Talmhaíochta, Bia agus Mara

Age profile of private plantations
(source: Forest Service)
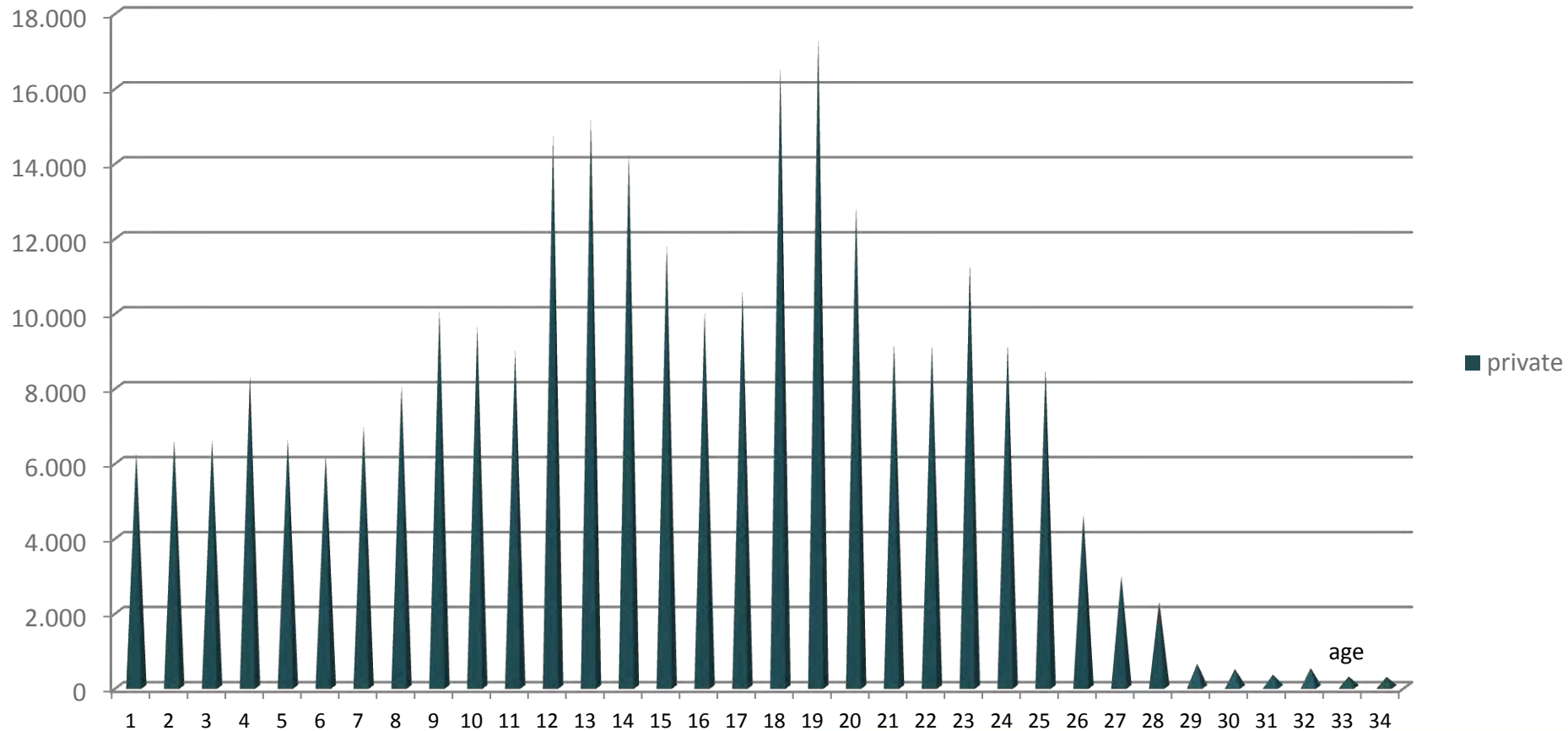
All Ireland Roundwood Production Forecast
2011-2028

Henry Phillips

Forecast of net realisable volume to 2028 (source: COFORD 2011)
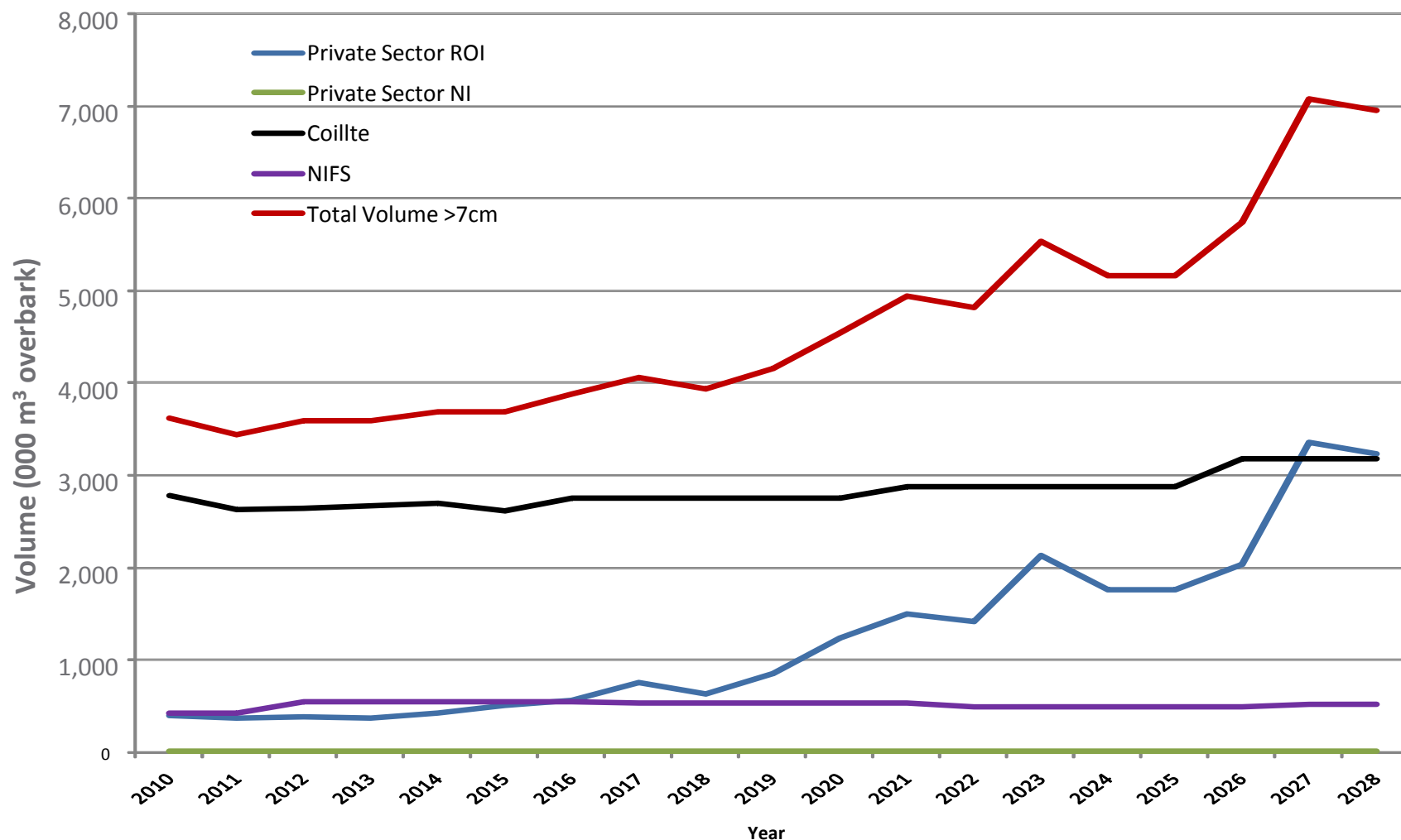
Supply – Demand Forecast (COFORD Wood Mobilisation working group)

	'000m^3 2014	'000m^3 2020
Supply forecast*	3,064	3,756
Demand forecast*	4,597	6,406
Net situation*	-974	-1,183

* Many caveats – but figures are indicative!

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The Irish Agriculture and Food Development Authority

Timber supply ROI Projected vs. Actual

Sources: Forest Service (2014) Ireland's Forests – Annual Statistics
Phillips (2011) All Ireland Roundwood Production Forecast 2011 – 2028, COFORD.
COFORD Wood Mobilisation Working Group (2015) Mobilising Ireland's Forest Resource.
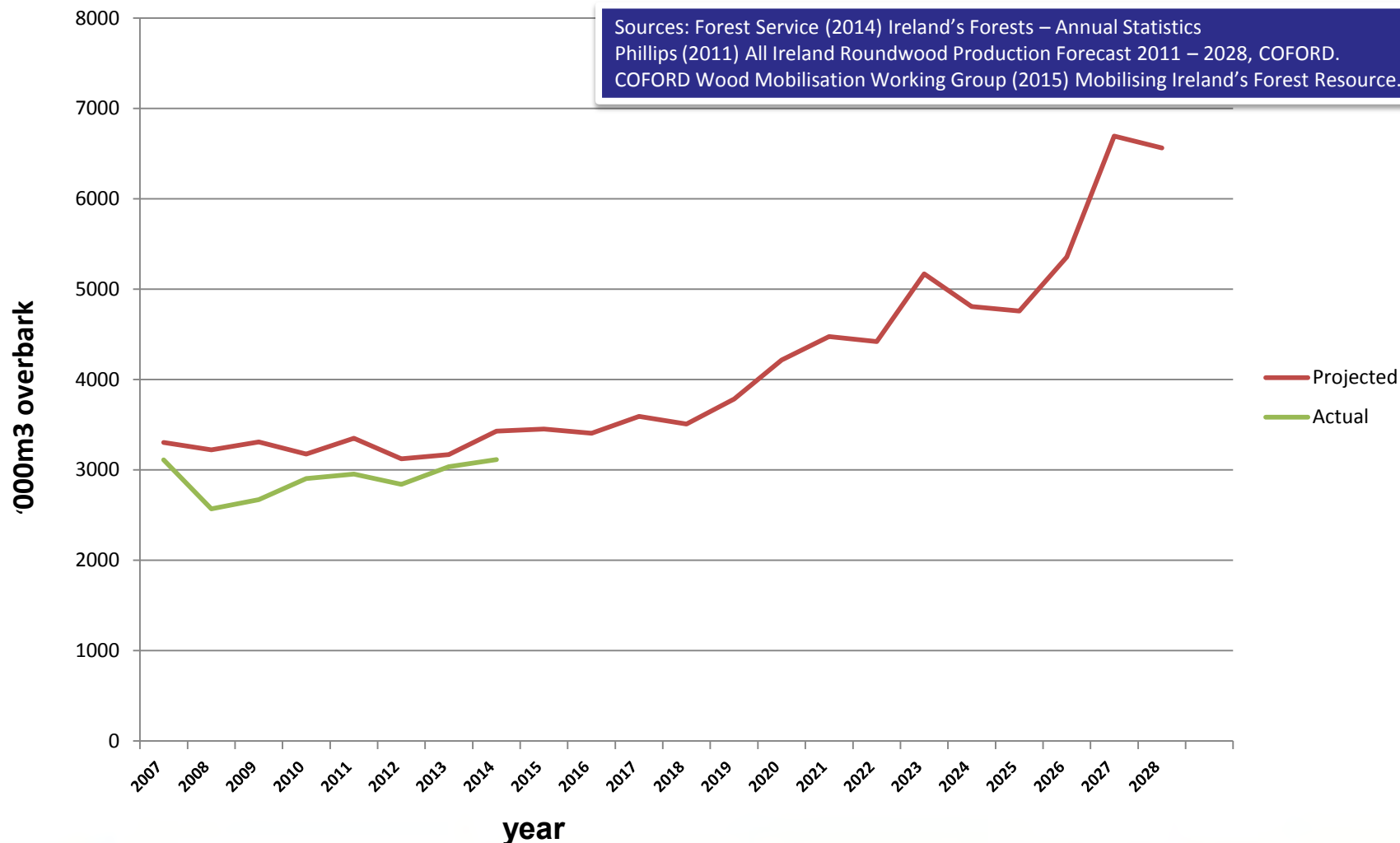
Challenge – COFORD Wood Mobilisation Working Group

Demand for forest fibre exceeds supply – roundwood imports

Timber prices in Ireland have been relatively good compared to e.g. UK but there is harvestable timber that is not coming on to the market
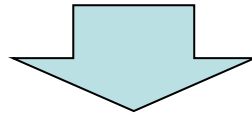
What are the barriers to wood mobilisation?

How can we mobilise the forecasted increase in roundwood production between now and 2028?

Working Group membership

Mike Glennon	Glennon Brothers (Chair)
Owen Cooney	ITGA
Niall Coulston	Enterprise Ireland
Michael Fairgrieve	NIFS
Eugene Hendrick -	Forest Service, COFORD,
Noel Kennedy –	Teagasc
Richard Latimer –	Irish Timber Council
Myles McDonagh –	Coillte
Geraldine O Sullivan –	Irish Farmers' Association

Acknowledgements

Eugene Hendrick, Forest Service DAFM

Mike Glennon, Glennon Brothers

Submissions received

- Coillte

- ConFor (Northern Ireland Region)

- Forestry Services Ltd.

- The Forest Industry Transport Group (FITG)

- The Irish Farmers Association (IFA)

- The Irish Forestry and Forestry Products Association (IFFPA)

- The Irish Timber Council (ITC)

- The Northern Ireland Forest Service (NIFS)

- Teagasc

Wood Mobilisation Group Report Objectives

To identify and make recommendations on issues impacting on <u>access to</u> and <u>mobilisation</u> of wood resources at the national level, taking into account cost effectiveness and related issues, with due reference to the work of the Forest Policy Review Group, and relevant reports

Further understand and assess ways to address <u>projected shortfalls</u> in wood fibre supply on the island.

Wood Mobilisation Group Report
Issues and Recommendations

Priority 1: <u>Critical</u> for cost effective and efficient wood fibre mobilisation up to and beyond forecast levels, and for state and industry planning and investment, for implementation <u>before the end of 2015</u>

Priority 2: <u>Essential</u> for cost effective and efficient wood fibre mobilisation up to and beyond forecast levels, for implementation over the period <u>2015-2016</u>

Priority 3: <u>Desirable</u> for cost effective and efficient wood fibre mobilisation up to and beyond forecast levels, for implementation over the period <u>2015-2016.</u>

Wood Mobilisation Group Report
Issues and Recommendations

Impacts of felling practices and rotation lengths on future assortment availability

Recommendation 1
The Forest Service and Teagasc, in collaboration with Coillte, grower organisations, private forestry managers, and the ITC to provide information to make growers aware of the possible impact of felling age on overall financial return (Priority 1).

Wood Mobilisation Group Report
Issues and Recommendations

Resource information – national roundwood forecasting system

A number of recommendations (2, 9, 36-39) related to resource information, which is vital for planning wood mobilisation, including the national roundwood forecasting system (next due at end of 2015 for the period 2016-2035) and how the information is structured, communicated and monitored

Wood Mobilisation Group Report
Issues and Recommendations

Felling licence system

Felling licence applications should be processed as rapidly as possible and not be a barrier to the mobilisation of roundwood – Recommendations 3 and 4

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Wood Mobilisation Group Report
Issues and Recommendations

Forest entrances and forest and county roads

Planning approval for forest road entrances should reside primarily with the Forest Service and we need continued state and private investment in the county and forest road infrastructure (Recommendations 5-9)

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Wood Mobilisation Group Report Issues and Recommendations

Coillte resource mobilisation

A **wood resource within the Coillte estate is not being mobilised due to high roundwood extraction costs, access issues, lack of markets for certain species and environmental constraints. (Recommendations 10-11)**

The Irish Agriculture and Food Development Authority

Wood Mobilisation Group Report
Issues and Recommendations

Road haulage and transport technology

These are vital areas for the mobilisation of the forecasted doubling of wood harvest over the next decade – and for the competitiveness of our industry (Recommendations 12-14)

Wood Mobilisation Group Report
Issues and Recommendations

Information and advice relevant to private woodland owners and others on wood mobilisation (Recommendations 15-20)

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Wood Mobilisation Group Report
Issues and Recommendations

Training

The group is of the view that provision of a well-organised and structured training programme for harvesting machine operators is needed at national level in order to support high quality thinning operations and aid in the mobilisation of roundwood (Recommendations 21-23)

Wood Mobilisation Group Report
Issues and Recommendations

Taxation treatment of forest income

This is an issue that was of increasing concern – it had a direct impact on income and as a result was at the forefront of wood mobilisation from the private sector (Recommendations 24-25)

Wood Mobilisation Group Report
Issues and Recommendations

Voluntary forest certification and chain of custody

With the growth in private sector harvest the need for voluntary forest certification will become more acute (Recommendation 26)

The Irish Agriculture and Food Development Authority

Wood Mobilisation Group Report
Issues and Recommendations

Environmental designations and procedures

As a responsible industry we respect the need to protect and enhance the environment - and to fully comply with existing regulations and procedures – we also need an efficient and timely implementation process – and full involvement with stakeholders and prior knowledge of any proposed changes to procedures (Recommendations 27-30)

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Wood Mobilisation Group Report
Issues and Recommendations

Rights-of way

Recommendation 31

Farmer groups and forest owners to establish a binding code of practice related to rights-of-way and shared roads (Priority 2).

The Irish Agriculture and Food Development Authority

Wood Mobilisation Group Report

Wood supply and demand recommended measures

Further understand and assess ways to address projected shortfalls in wood fibre supply on the island

Update information on wood harvest v forecast contained in Table 1 in the All Ireland Roundwood Production Forecast 2011-2028

The Irish Agriculture and Food Development Authority

Wood Mobilisation Group Report
Wood supply and demand

Updated information on wood harvest v forecast contained in Table 1 in the *All Ireland Roundwood Production Forecast 2011-2028*

Summary 2010-2013

Private sector (RoI) - 9% over forecast, a total of 0.13 million cubic metres over 4 years

Coillte - 11% below forecast, 1.21 million cubic metres over 4 years

NI FS - 9% below forecast, 0.17 million cubic metres over 4 years

Teagasc
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The Irish Agriculture and Food Development Authority

Wood Mobilisation Group Report
Wood supply and demand dynamics

Round numbers – 1 million cubic metres gap in supply v demand in 2014, doubling to 2 million by 2020

Shortfall is most acute in energy wood and sawlog – for the latter reaching 0.91 million cubic metres in 2020

Wood Mobilisation Group Report
Wood supply and demand dynamics

Closing the supply demand gap

Recommendation 32

The Forest Service, Coillte, Teagasc and the forest sector at large to stimulate increased intensity of harvesting at thinning and clearfelling stages through the development of good practice guidance, dissemination of research findings, and increasing the use of full tree harvesting (including tops and branches) and recovery of final harvesting residues .

Recommendation 33

The Department of Agriculture, Food and the Marine to implement the forestry for fibre measure in the Forestry Programme 2015-2020, in order to provide for additional forest-based biomass

Wood Mobilisation Group Report
Wood supply and demand dynamics

Need for balanced policy development on bioenergy

Recommendation 34
Demand side measures related to renewables, such as feed-in tariffs, the carbon tax and other measures to be updated as appropriate, in order to provide balanced incentives for increased wood mobilisation (Priority 1)

Recommendation 35
In conjunction with Recommendation 34, market impacts and wood paying capacity implications to be fully assessed by relevant government departments and agencies before the introduction or updating of demand side measures related to forest-based biomass (Priority 1)

Wood Mobilisation Group Report
Research and development investment

Recommendation 40
Continue state and private investment in R&D and demonstration related to thinning and wood mobilisation generally (Priority 1).

To sum up….

Mobilising the current and future private timber resource is critical and will require sustained activity and support from the various stakeholders including:

- Forest owners

- Forest Service

- Timber harvesting and processing sector

- Forest companies and consultants

- Education and training

- Advisory services – including Teagasc

- Research sector

- It is projected that there will be an increased demand for wood fibre at a European level
- This competition for wood for energy and other uses will causes prices to rise

- It is hoped that the implementation of the recommendations in this report will help Ireland optimise the value and volume of our wood fibre resource to support our wood-using industries and maximise returns to the forest owners.

http://www.coford.ie/media/coford/content/publications/projectreports/Mobilising%20Irelands%20forest%20resources%20-%20Digital%20March2015.pdf

The Teagasc Model of Knowledge Delivery
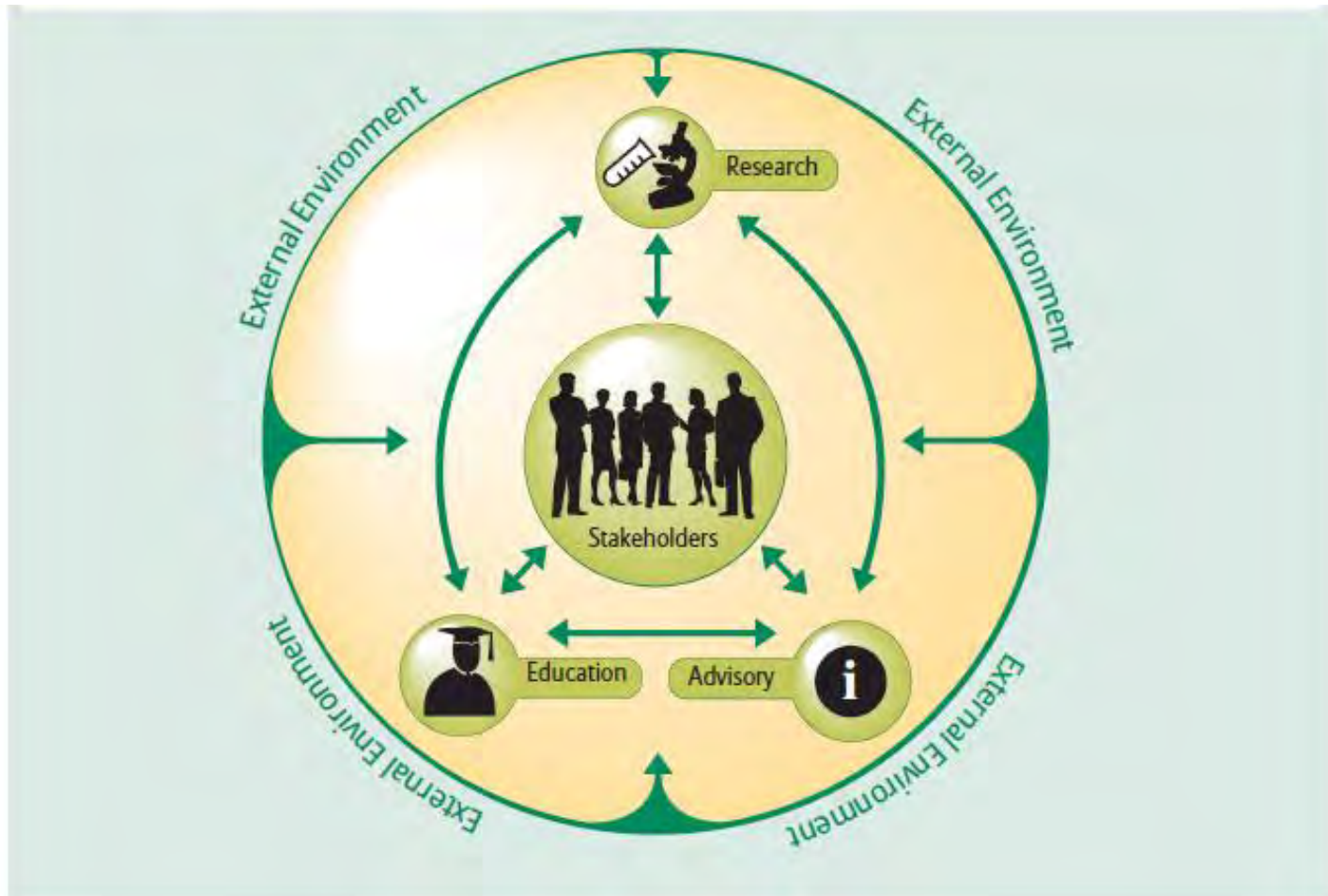
Knowledge Transfer

Field events

Courses

Information evenings

Skills training

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Teagasc support to Forest Owner Groups

Initial setup and technical support

Group training

Building GIS capacity

Website support

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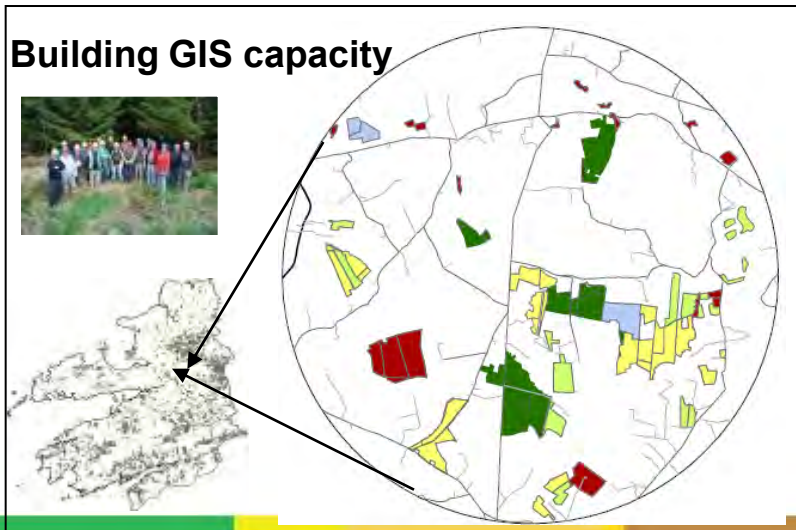
Teagasc, Forestry Development Department

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- +353 91 845200
- forestry@teagasc.ie

- www.teagasc.ie/forestry
- Teagasc Forestry e-News
- Twitter @teagascforestry
- Facebook forestry.teagasc
- YouTube TeagascMedia

Teagasc Forestry e-NEWS

www.teagasc.ie/forestry

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The Irish Agriculture and Food Development Authority

Overview

- Forest sector in Europe

- Simwood Project
  - Description
  - Progress update
  - Outlook

SIMWOOD – Forest sector in Europe

European Forests are a major natural resource

- 159 million ha = 37% of Europe's land area
- Multiple ecological, economic and social functions
- Natural cycles of soil, water atmosphere
- Biological diversity
- Mitigation of climate change effects
- Forest products, employment, services
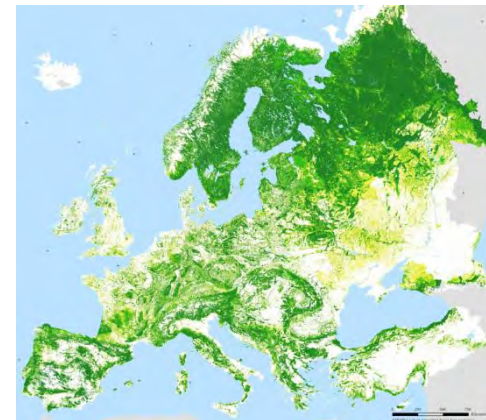
Wood = Backbone of the EU forest-based industries

- Value chains depend on renewable forest resources
- 4-5 million employees, 600,000 enterprises
- 550 bn € annual turnover
- 10-15% of total manufacturing
- A major employer not only in rural regions

SIMWOOD – Forest sector in Europe

A growing demand for wood

- expected demand of 853 million m³ in 2030
  - 'solid' uses will grow steadily,
  - new chemical uses will emerge
- Wood fuel +1.5% growth per year, 585 million m³ in 2030

Expected to lead to

- scarcity of wood,
- stronger competition for wood and
- structural shifts in the forest sector.

➡ **Challenges tackled by SIMWOOD**

Figure 3: Development of consumption of wood products in the Reference scenario, 2010-2030.

UNECE-FAO
2001 (EFSOS II)

About the project

- 28 partners in 11 countries (11 SMEs)
- 2 associated partners in 2 countries
- 4 year project (2013-2017)
- Budget approx. 7.5 million Euros
  (EU contribution 5.9 million Euros)
- Funded by the EU 7th Framework
  Programme (FP7)

Fotolia/halilgor

Simwood Objectives

EFI/Satu Williams

- Understand current and future motivations of forest owners in Europe

- Promote forest governance and joint action of stakeholders in the regions

- Develop innovative silvicultural and multi-functional forest management practices adapted to the different regions and forest types in Europe

- Integrate forest ecosystem services minimizing environmental impacts

Simwood Objectives

EFI/Satu Williams

- Establish improved forest harvesting techniques and technologies adapted to the different regions and forest types.

- Demonstrate effective solutions of collaborative regional initiatives

- Recommend tailor-made solutions for applied instruments and incentives of wood mobilisation to policy makers on EU and national level

- Broad outreach and exploitation of results in the project model regions and other regions in Europe

Simwood - Outcomes

Increased availability and supply of wood

- Knowledge how to best address forest owners
- Economically viable wood potentials of regions
- Tailor-made practical solutions involving SMEs
- Minimised conflicts with other forest functions
- Information system **Mobiliser**:
  - A pan-European monitoring and policy support information system
  - Knowledge base of model region profiles, innovative practices and technologies, key actors / initiatives and effective support programmes
  - Expert system to evaluate the impact of up-scaling innovative solutions to the larger EU context
  - Modern communication tools for targeted outreach to forest owners and other stakeholders

Simwood - Regional Initiatives

Important key "Regional Initiatives"

- Wood mobilisation is more likely to be successful when it is embedded in collaborative Initiatives of multiple stakeholders.
- Increased awareness of the role of forestry for the region
- common societal agreement on forest use,
- impacts on sustainable regional development

Concept of "Regional Learning Labs" in Simwood

- involvement of regional stakeholders (workshops, round tables)
- Common analysis of the status quo,
- identification, evaluation and implementation of wood mobilisation solutions for the model region
- to overcome barriers and make use of opportunities

17 Simwood Model Regions
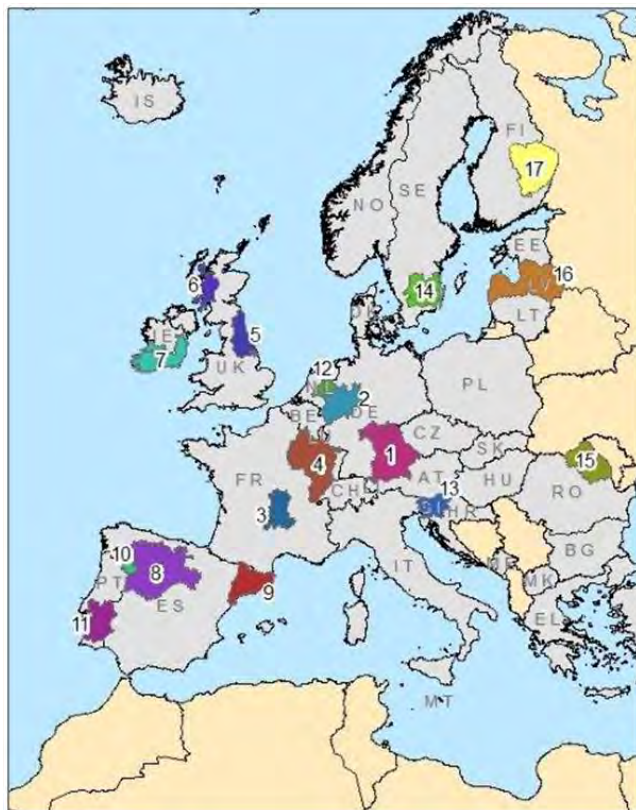
SIMWOOD model regions

- 1, Bavaria
- 2, North Rhine-Westphalia
- 3, Auvergne
- 4, Grand Est
- 5, Yorkshire and Northeast England
- 6, Lochaber
- 7, South-Eastern Ireland
- 8, Castile and León
- 9, Catalonia
- 10, Nordeste
- 11, Alentejo
- 12, Overijssel & Gelderland
- 13, Slovenia
- 14, Smaland
- 15, Northeast Romania
- 16, Latvia
- 17, Eastern Finland

- Represents main European forest types
- Strong potential for wood mobilisation
- Stakeholder involvement ensured (RLL)
- Regional profiles developed/evaluated

Eastern Europe,
Baltic and Boreal Region

Simwood – Work packages

Simwood – Domains
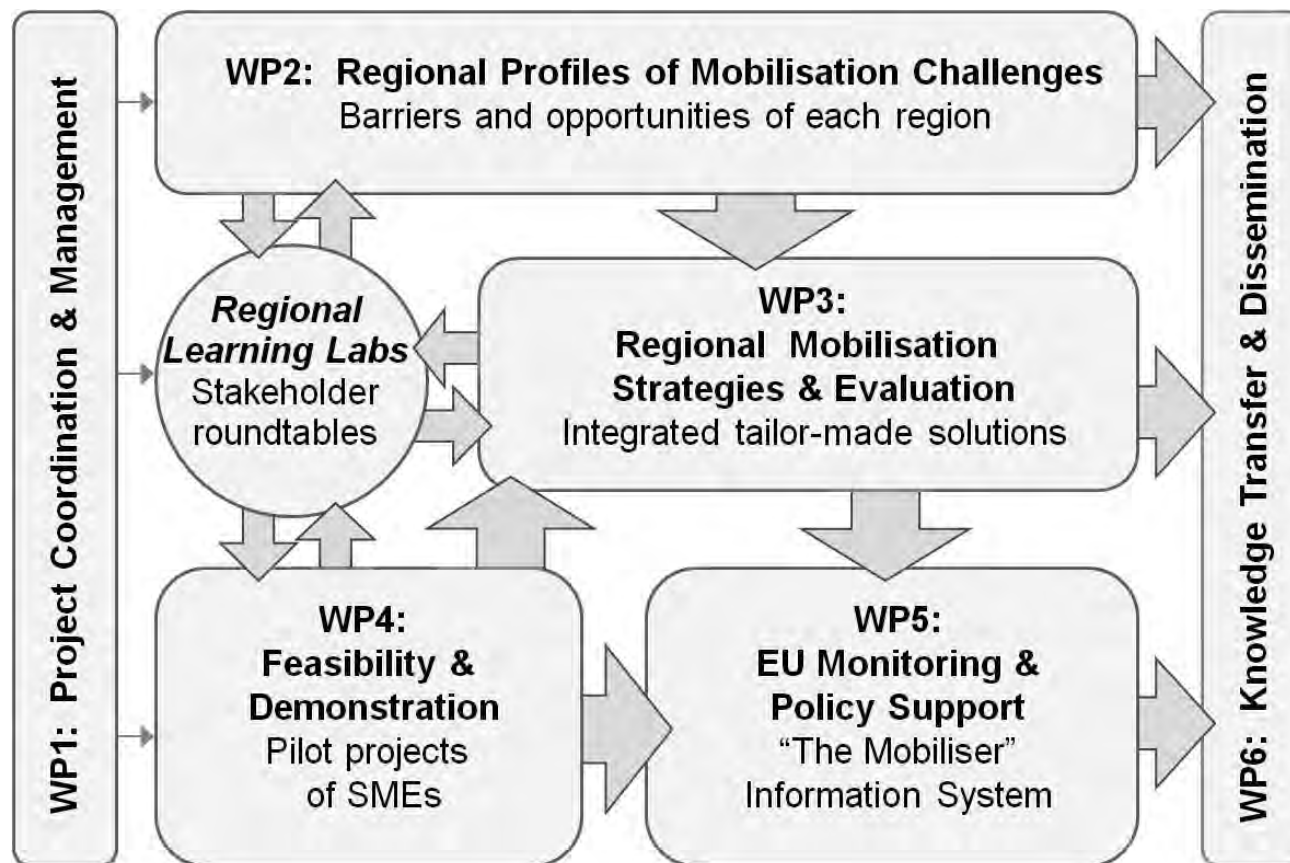
1 - Governance

Stakeholder participation

Regional initiatives

Forest policy

2 - Ownership

Motivations, Consciousness, Values, New/Urban owners

Demographic change

3 - Management

Adaptive silviculture

Management practices

Climate change

4 - Functions

Ecosystem goods & services

Non-wood forest products

Multifunctionality   .

5 - Harvesting

High environmental quality techniques & technologies

Simwood – Progress update

Work packages and tasks	Y1 2014 N D J F M A M J J A S O	Y2 2015 N D J F M A M J J A S O	Y3 2016 N D J F M A M J J A S O	Y4 2017 N D J F M A M J J A S O
WP1 - Project Coordination + Manag.		P	R	P
Meetings, deliverables	M D e e	e D e	e	e D e e D
WP2 - Regional Profiles				
T2.1 - European policy framework				
T2.2 - General methodology	M			
T2.3 - Regional profiles	D			
T2.4 - Focus studies				
T2.5 - Initiation of RLL	M			
T2.6 - Summary		D		
WP3 - Reg. Strategies + Evaluation				
T3.1 - Evaluation methodologies	M			
T3.2 - Modelling potential mobilisation				
T3.3 - Evaluation of profiles and pilots		M D D		
T3.4 - RLL and selection of pilots		M		
T3.5 - Refining the evaluation			M D	
WP4 - Feasibility + Demonstration				
T4.1 - Proposition and selection of pilots	M			
T4.2 - Adaptation + 1st implementation		M D		
T4.3 - Interfaces with RLL				
T4.4 - Collection of feedback			M	
T4.5 - 2nd implementation + adjustment			D	D
WP5 - EU Monitoring + Policy Support				
T5.1 - ICT tools	M			
T5.2 - Knowledge base		M		
T5.3 - Expert system				
T5.4 - EU monitoring + policy support			D	D
T5.5 - Follow-up and post project implemer				D
WP6 - Knowl. Transfer + Dissemination				
Milestones, deliverables	D M M		D	D D D

← Mid-term conference

Achievements:
- 9 Deliverables
- 12 Milestones
- 13 Executive Board meetings

Further measures:
- Dissemination Board
- Mobiliser Board
- Simwood Bulletin

D = deliverable, M= milestone, e = executive board meeting, P = progress reports incl. financial statements , R = mid-term review

Áine Ní Dhubháin, UCD

WP 2 Status

Regional Profiles

WP 2: Regional Profiles (UCD)

- **First draft of regional profiles for 14 regions** completed and summarised by domain leaders (2014, D2.1)
  - common data gathering protocol
  - Identification of knowledge gaps relevant for wood mobilisation
  - Papers on "Overview of the European policy framework for wood mobilisation and Future outlook on wood mobilisation"
- **20 focus studies** implemented to close identified knowledge gaps (2015):
  - i.e. Forest owners, networks, economics aspects (market, harvesting, logistics), forest functions, management and modelling
- **Regional learning labs** initiated in all regions
- **Regional Profiles** for all model regions completed (2015, D2.2)
  - status quo of wood mobilisation in the regions
  - identification of existing barriers and opportunities
  - additional regional profiles for Latvia, NE-Romania and SE-Finland

WP 2: Regional Profiles (UCD)

Common characteristics influencing wood mobilisation in the regions
by domains (some examples):

Forest ownership:
- Property size, fragmentation, (new) forest owners: lack of knowledge and skills, objectives and age;

Forest governance:
- Owner associations, complexity of regulations, lack of knowledge transfer, trust among stakeholders, partly lack of advisors, management plans, market, wood harvesting culture;

Forest management:
- Composition and structure of stands, silvicultural schemes and hazards/risks in over-mature stands due to lack of forest management (i.e. thinnings)

Harvesting:
- Income of high importance, timber market, price- and cost structure, logging systems, Logistic chains;

Forest functions:
- In general no constraints, some conflicts (i.e. water related functions) require an adaption of management methods, restrictions in special protection areas (SPA);

WP3: Mobilisation Strategies /Evaluation (FCRA)

Synthesise and consolidate the results of WP2 and WP4 to be incorporated in the Information system 'Mobiliser' (WP5);

- Major achievement (2015): Definition of an **Evaluation Strategy** based on:
  - (1) Review of existing knowledge and evidence,
  - (2) Evaluation of pilot projects,
  - (3) Modelling the impacts of solutions: Transferability of know-how and solutions to other geographical areas to make them available for decision making.
- Evaluation Meetings/tasks:
  - SIMWOOD week: Main workshop for finalising the cross-regional evaluation
  - WS-Evaluation of Pilot Projects at FCBA (organized by David Edwards)
  - Integration of Bayesian Belief Networks (BBN) into the WP3 modelling work
  - Review of evaluation reports and literature nearly completed

WP3: Mobilisation Strategies /Evaluation (FCRA)

- Development of a **Regional Learning Lab Protocol** to ensure consistent activities during this participatory process.
    - Regions now involved with planning and holding second round of RLLs
    - Completion of RLL reports is a priority

- **Modelling potential wood mobilisation**:
    - Selection of the new model approach (EFISCEN Space model) and the needed data.
    - Scenarios for distinguished forest management schemes and forest owner type;
    - ~10 regions data delivered for the modelling (in progress)

Development of a guide to planning, implementing and evaluation of Simwood Pilot Projects (common structure and understanding):

Step 1 Target	**Step 1 "Definition of a priority target for enhanced wood mobilization"**
Step 2 Experimentation	**Step 2 "Experimentation of a promising measure to overcome identified barrier"**
Step 3 Transfer	**Step 3 "Evaluation of impact and transfer of success stories"**

WP 4: Feasibility & demonstration (FCBA)
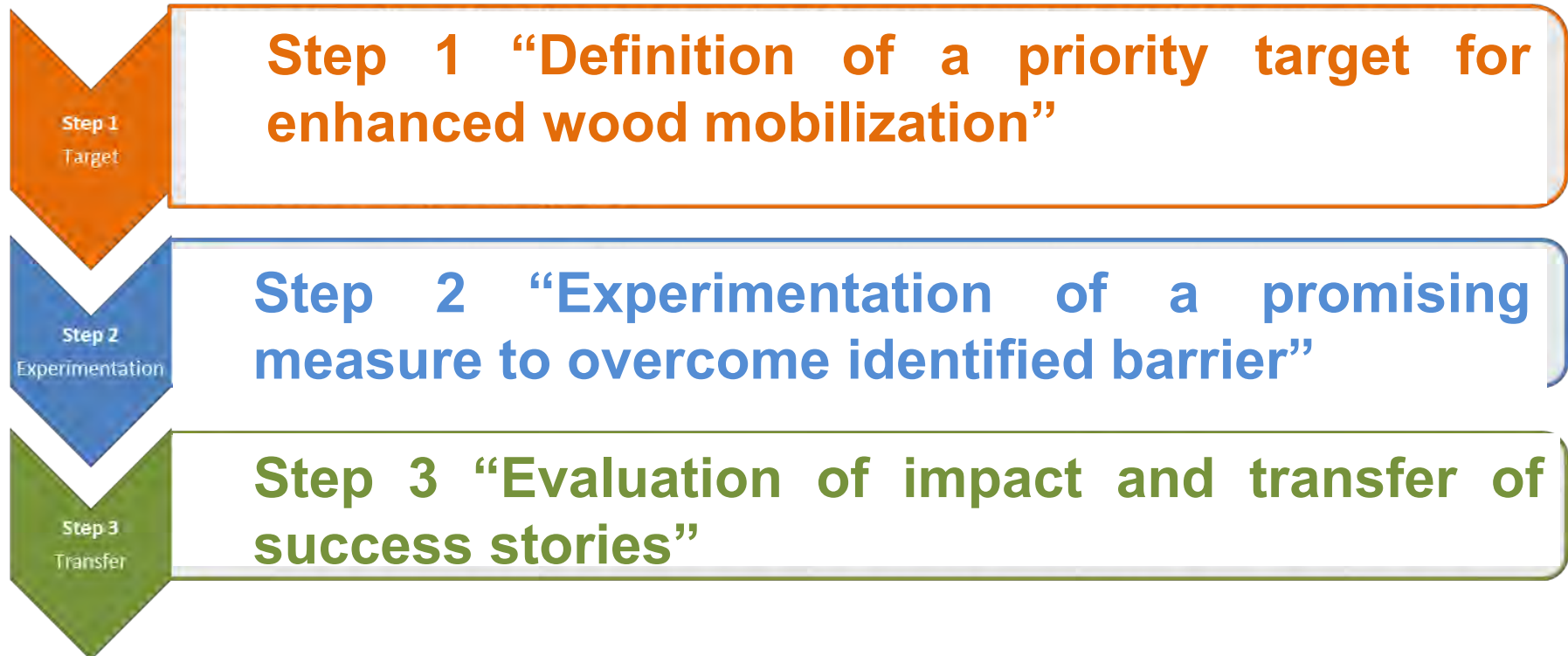
- ## 23 Pilot projects
  - described, commented by consortium experts, adapted and launched
  - SME + partners working hand in hand to test the relevance of a given measure as a way to overcome a critical barrier in their region

- ## 3 typical interventions
  - Adoption of new working methods and organisations to enable the sustainable supply of wood to the energy market without competing with other value chains

  - Strategies and novel service-offerings to engage forest owners whose forest resource could answer markets' demand for additional wood

  - Capacity-building for professional practitioners driven by the need to supply additional wood to the demanding market(s)

Pie chart: Harvesting 30%, Forest owners 23%, Governance 21%, FMgmt; 15%, Forest function 10%

SIMWOOD
Sustainable Innovative
Mobilisation of Wood
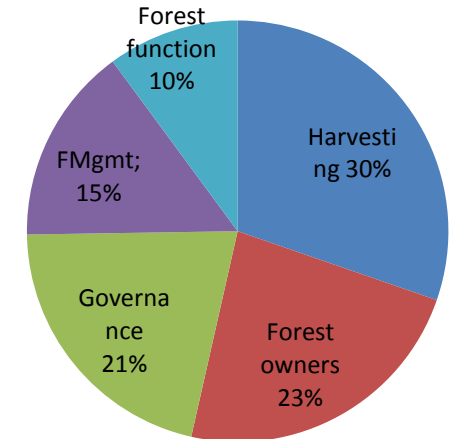
Sarah Mubareka, Richard Sikkema, JRC

WP 5 Status

European Monitoring and Policy Support

WP 5: Information-System "Mobiliser"

„Wiki"
Detailed information about model regions
https://forestwiki.jrc.ec.europa.eu/simwood/index.php/Main_Page

„Map service"
Visualisation of geographic, tabular data, regional maps; EFDAC Data (forest types etc.)
http://forest.jrc.ec.europa.eu/efdac/applications/viewer

„Woodnews"
Latest news about biomass and wood mobilisation

„Simulation tool"
Results of the Scenario-Modelling in the regions (WP 3)

„Search tool"
Appropriate measures for wood mobilisation, according to user criteria – depending on evaluation criteria

„Drivers"
Presentation of influence of drivers on wood mobilisation measures, depending evaluation criteria

WP 6: Knowledge transfer and Dissemination

- Dissemination and Exploitation Strategy and Plan
  - Establishment of a Dissemination Board
- Leaflets, brochures, other communication material for public relation
  - Translation to regional languages
  - 3 SIMWOOD Newsletter (Introduction, Iberian Peninsula, Ireland and UK)
- SIMWOOD project website (www.simwood-project.eu)
  - Social media (twitter, LinkedIn)
- Offline dissemination activities in each participating region
  - Partner activities promoted
  - Transfer of gained knowledge on local level together with involved stakeholders (RLL)
  - Exploitation of results in other regions of Europe: Presentations at European and regional-level events

What needs to be done in the next 2 years?

- Implementation of the pilot projects

- Evaluation of pilot actions beyond mere outputs will need to be done in the next 2 years

  ➡ OUTCOMES and IMPACTS to be assessed with stakeholders

- Additional information on national policies and how they influence wood mobilisation

  ➡ Effectiveness of policies and programmes in the regions

- Further development of the Information System Mobiliser

- Further 12 Deliverables and 4 Milestones, with 2 examples to be named:

  - European manual of integrated wood mobilisation solutions (Aug. 17)

  - Final Conference in Paris (Oct. 2017)

17 SIMWOOD MODEL REGIONS

1, Bavaria
2, North Rhine-Westphalia
3, Auvergne
4, Grand Est
5, Yorkshire and Northeast England
6, Lochaber
7, South-Eastern Ireland
8, Castile and León
9, Catalonia
10, Nordeste
11, Alentejo
12, Overijssel & Gelderland
13, Slovenia
14, Smaland
15, Northeast Romania
16, Latvia
17, Eastern Finland
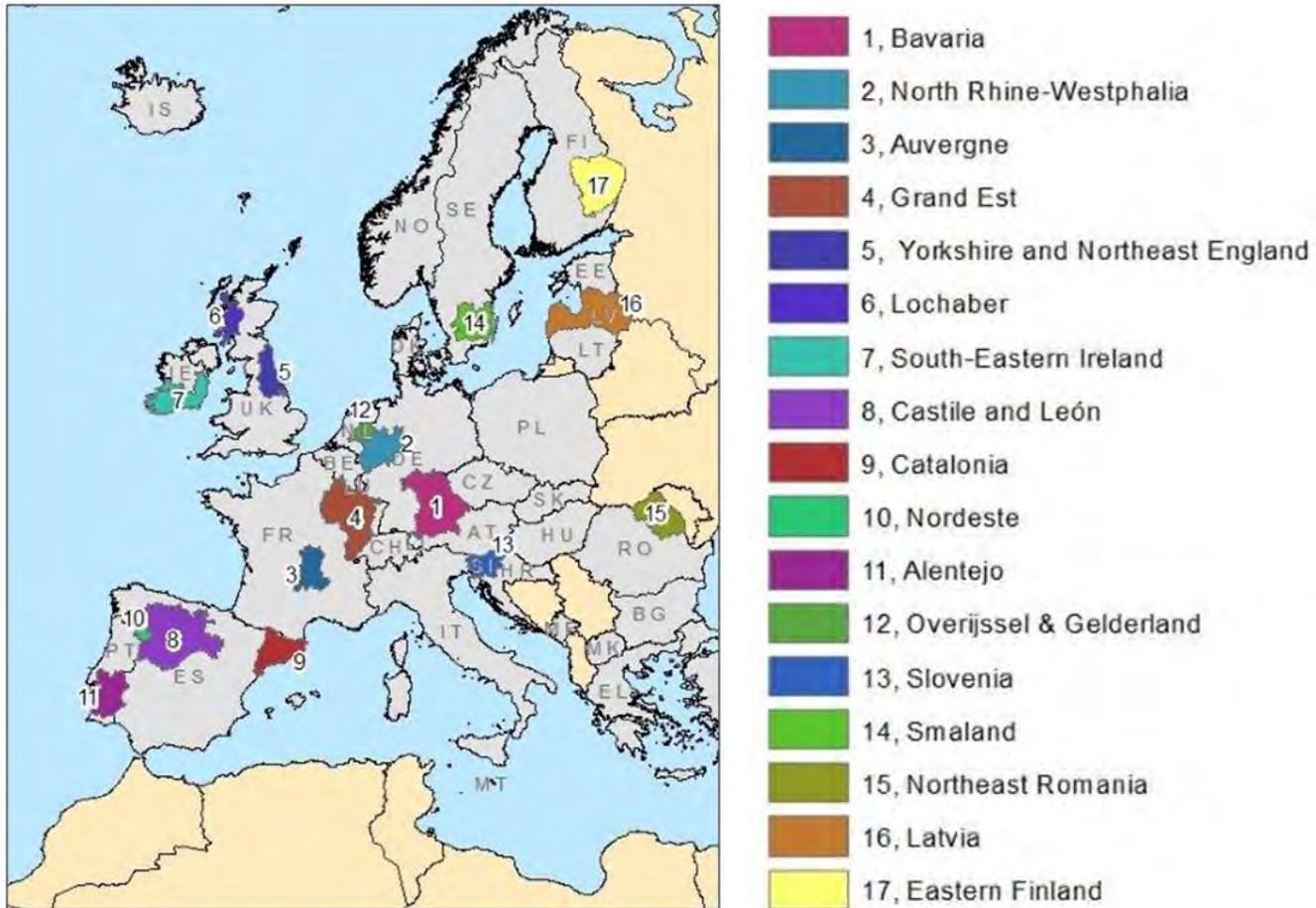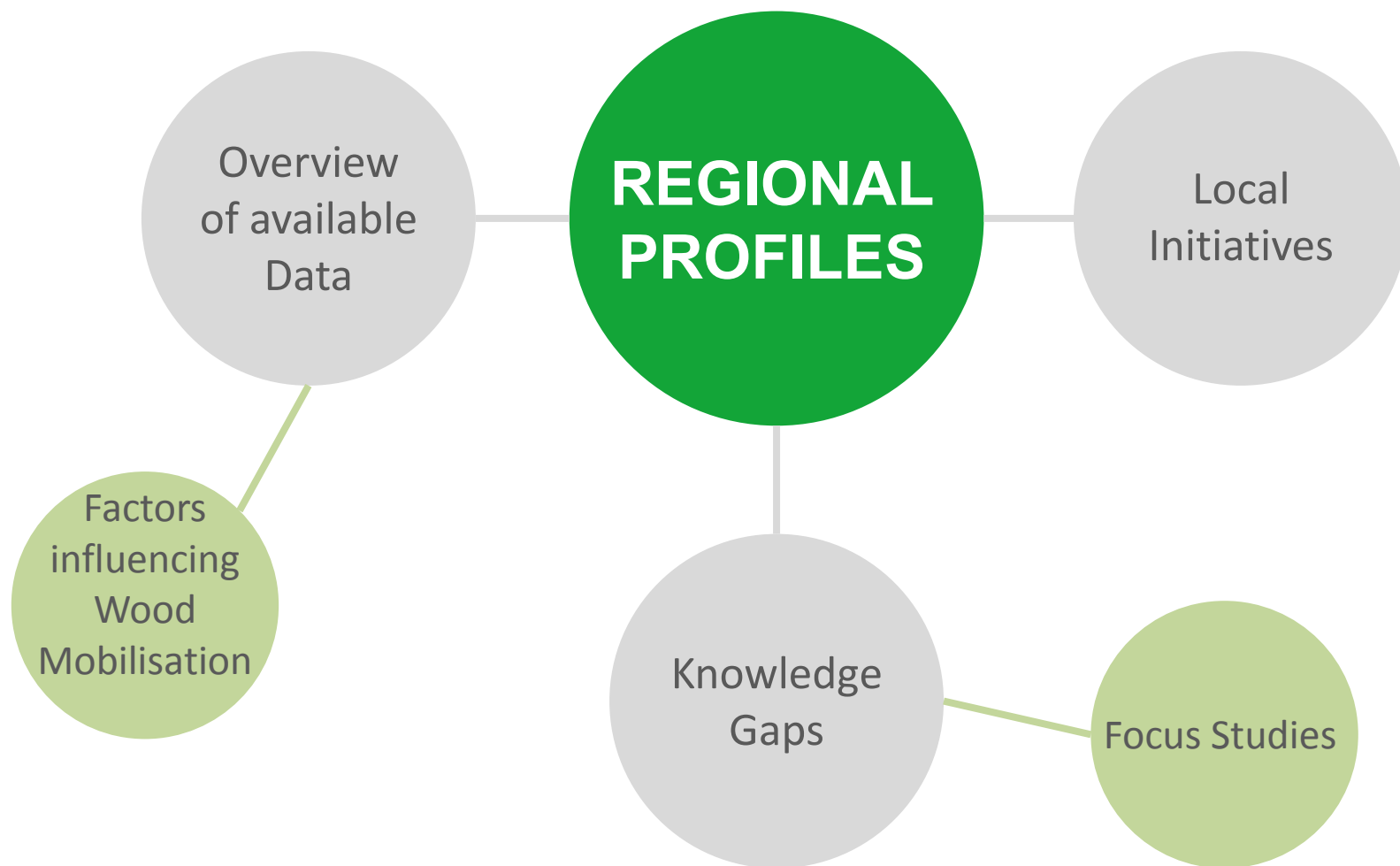
SOCIO-ECONOMIC & TECHNICAL-LOGISTICAL FACTORS influencing wood mobilisation

STATUS QUO

www.simwood-project.eu
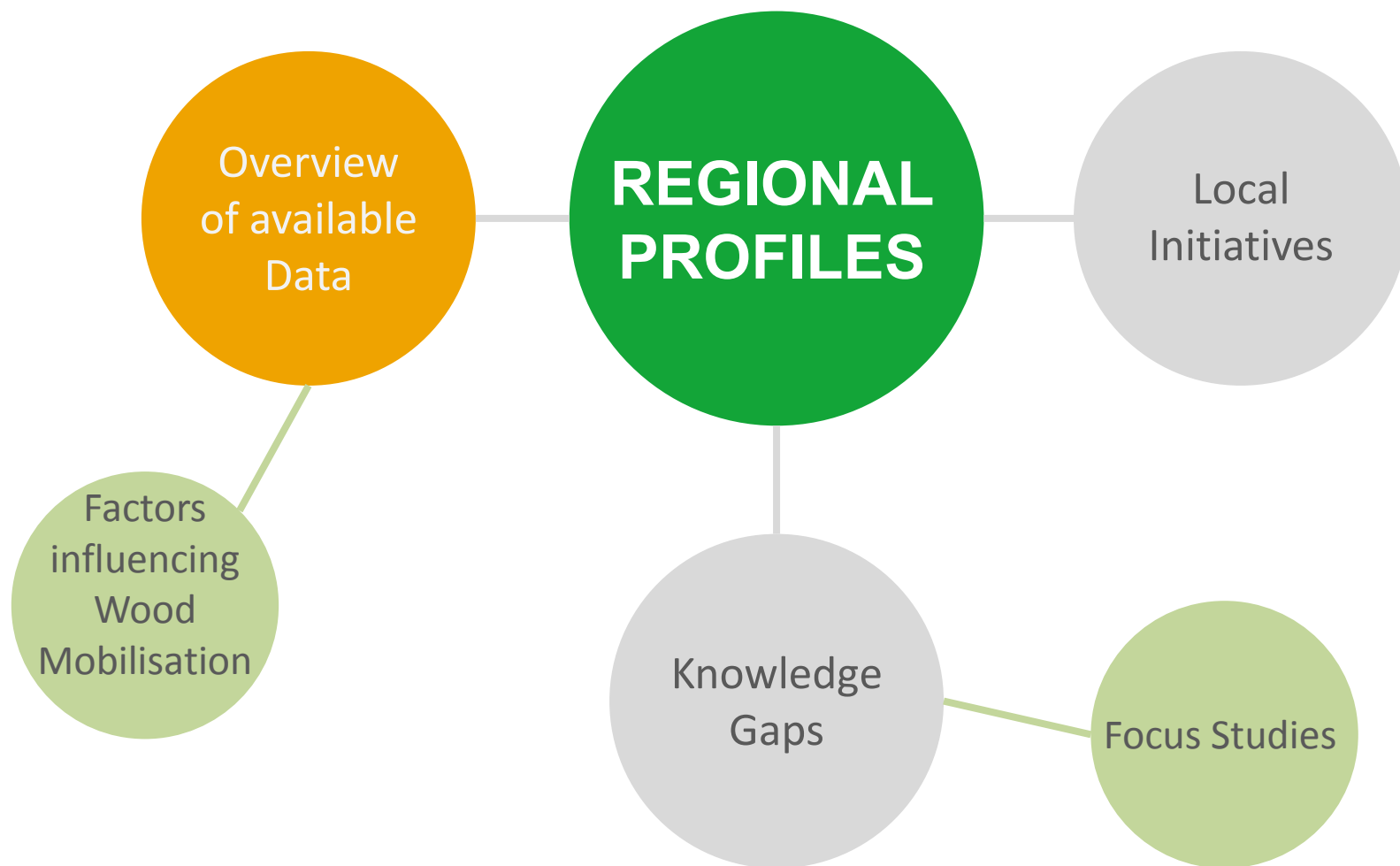
SPECIES

- Plantations and self-sown exotic forests
  South-eastern Ireland: Sitka spruce
  Castile and León: poplar / pine
- Natural forests (softwoods and/or hardwoods)
  in all, dominate in Slovenia
- In Grand-Est coppices with standards (mainly oaks) account
  for a high (20%) proportion of the forest area

AGE

- In most Regions forests do not have a balanced age distribution
- Over-representation
  of young (< 20 years) and old-mature (> 120 years)

Forest Management · Forest Ownership · Forest Functions · Forest Harvesting · Forest Governance

SITES

- Flat (e.g. Eastern Finland) and
- Mountainous (e.g. Nordeste, Catalonia, Slovenia)

CERTIFICATION

- Småland – 75% private area certified
- Grand-Est – 25% private area certified
- Romania – 0% private area certified

Forest Management · **Forest Ownership** · **Forest Functions** · **Forest Harvesting** · **Forest Governance**

PRIVATE FOREST OWNERSHIP

- 28% (Nord-East Romania) - 100% (Nordeste)
- Mostly non-industrial private forest owners (NIPFs)

HARVESTING ACTIVITY of forest owners

- Bavaria: 6-10% had not undertaken harvesting in previous 5 years
- Information from Grand-Est: detailed owner enquiry

FRAGMENTED

Forest
Management

**Forest
Ownership**

Forest
Functions

Forest
Harvesting

Forest
Governance

**% of NIPF owners/area
in the < 10 ha category**

- Average private
  forest size = 49 ha

	Region	% of owners	% of area
1	Bavaria	94	49.0
2	North Rhine-Westphalia	Not known	25.0
3	Auvergne	85	56.0
4	Grand-Est	68	66.0
5	Yorkshire & North-East England	75	24.0
6	Lochaber	87	20.0
7	South-Eastern Ireland	73	33.7
8	Castile and León	Not known	Not known
9	Catalonia	90	18.8
10	Nordeste	Not known	66.0
11	Alentejo	Not known	Not known
12	Overijssel & Gelderland	Not known	Not known
13	Slovenia	96	59.7
14	Småland	Not known	Not known
15	Romania	Not known	Not known
16	Latvia	78.5	10.5
17	Finland	34.6	4.8
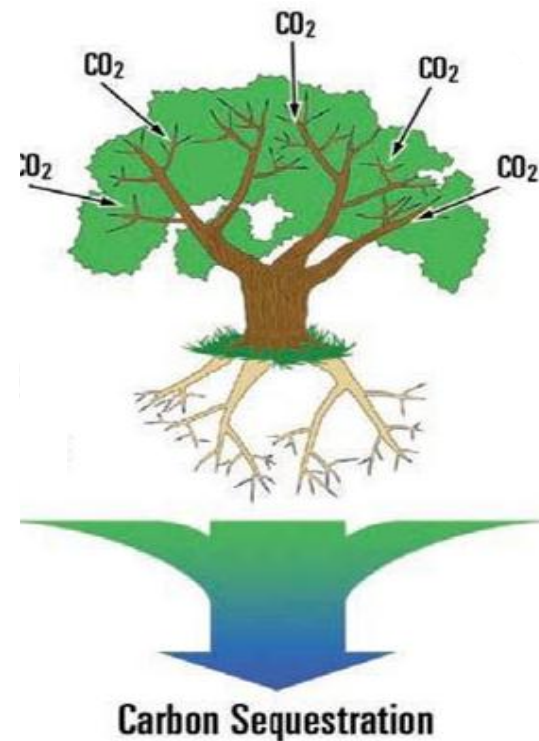
IMPORTANCE OF FORESTS in Regions

- **Non-wood forest products**
  - Very important/important in all Regions (except South Eastern Ireland)
- **Water regulation**
  - Very important in some (e.g. Alentejo) Minor importance (Gelderland & Overijssel)
- **Tourism**
  - Very important in most regions (except Romania)
- **Biodiversity conservation**
  - Very important in some (e.g. Castile and León) Minor in others (Romania)

MARKETS

- Ratio of harvest volume to increment
  in private forests **low** (i.e. 11 - 45%) except in Småland (78%)
- Markets
  - Sawmills / Energy Plants use **local** supplies (< 100 km)
    except Finland
  - Panelboard / Pulp mills (> 100 km)

FELLING TYPE

- Hardwoods
  - Almost all motor-manual in hardwood stands
    except in Yorkshire & North-East England and Småland

- Softwoods
  - Level of mechanization of felling operatiosn is very variable:
    0% in Nordeste, 2% in Slovenia,
    up to 100% in South-Eastern Ireland

TIMBER SALES

- Timber sold standing
  except in Småland and Slovenia, where timber is sold at roadside
- Most Regions: Forest owners are contacted directly by timber buyers
  (logging companies, timber merchants, wood procurement companies etc.)
- Some regions sales organisation done by forest managers
  (South-Eastern Ireland, Grand-Est)
- Some sell through forest owner associations (Bavaria: 40%)

- Regulations – laws etc

- Incentives – grants and premiums

- Information

- Organisations and networks

KEY FACTORS influencing WOOD MOBILISATION
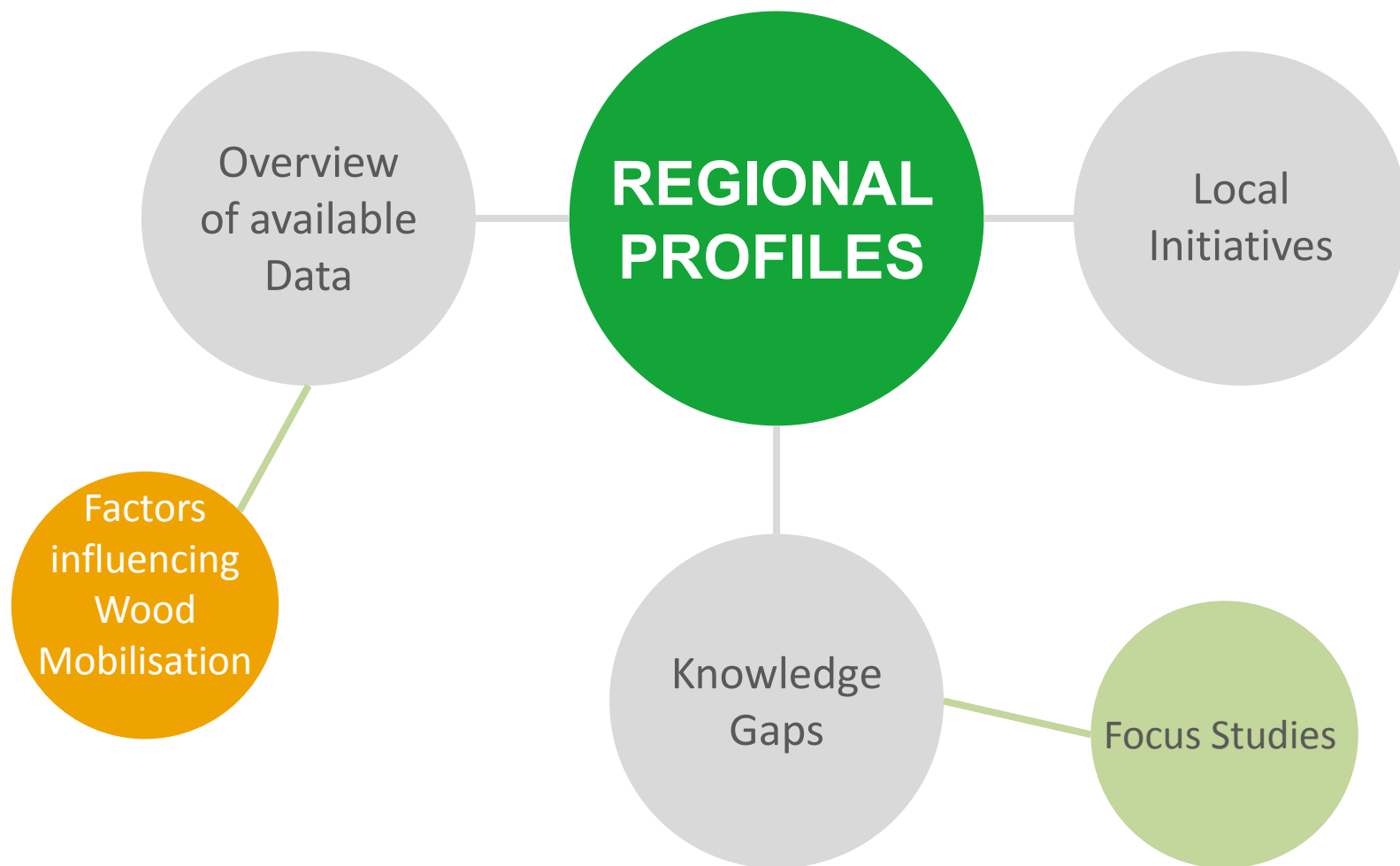
Table 17. Summary of key factors identified as influencing wood mobilisation

Clustered factors \ Model Regions	1 Bavaria	2 North-Rhine	3 Auvergne	4 Grand-Est	5 Yorkshire & North-East	6 Lochaber	7 South Eastern	8 Castille & Leon	9 Catalonia	10 Nordeste	11 Alentejo	12 Overijssel Gelderland	13 Slovenia	14 Småland
Forest Ownership														
Size distribution of forests	x	x	x	x				x	x	x		x	x	
Characteristics of private forest owners	x	x		x		x								
Knowledge & skills of private forest owners	x			x			x		x				x	x
Forest owner objectives	x	x					x			x				
Forest Governance														
Actors and their programmes	x								x				x	
Regulations	x	x					x		x			x		x
Incentives	x													
Advice/information/trust	x	x	x	x										
Forest Management														
Composition of forests									x	x	x			
Silvicultural scheme				x								x		
Hazard risks		x		x					x	x	x		x	
Lack of management							x							
Forest Functions														
Awareness of forest functions				x									x	
Forest Harvesting														
Markets		x				x	x	x	x				x	
Price/Cost		x	x			x	x		x	x	x	x		x
Logging systems						x	x		x				x	
Logistics						x	x		x				x	
Environmental constraints				x										
Climate constraints													x	

Key Factors **FOREST OWNERSHIP**

- Fragmentation
  - Small properties & large number of owners

- Lack of knowledge/skills among owners

Key Factors   **FOREST GOVERNANCE**

- Lack of owner associations (Catalonia, Slovenia)

- Complexity & number of regulations (North-Rhine Westphalia, Gelderland & Overijssel) and/or incentives (England)

- Legislation
  - Restricts harvest volumes
  - Only allows harvesting on sites with a plan (Nord-East Romania)

- Communication
  - Information produced & disseminated but not reaching its target or having the desired impact (Grand-Est, Castile and León, Ireland)

- Trust
  - Related to 'Communication';
    Because of different cultures & traditions forest owners and forestry professionals or processors do not interact comfortably (Grand-Est)

Key Factors → **FOREST GOVERNANCE**

- Lack of industry organisation - supply chains etc (Slovenia)

- Lack of expertise among forestry professionals (Nord-East Romania)

- Lack of a wood harvesting culture amongst owners,
  or decline of a wood harvesting tradition (many Regions)

- A prejudice against felling amongst 'the public'

Key Factors **FOREST MANAGEMENT**

- Composition and Structure of forests
  - Unbalanced age class
  - Increasing importance of mixtures

- Hazards/risks increase with over-mature stands

- Need to implement management plans

Key Factors **FOREST HARVESTING**

- Increase Income
  - Reduce harvesting costs
  - Get owners to associate
    when undertaking management & forestry operation
- Provide an adequate road and trail network
  - Lack of access was identified as a barrier
    to wood mobilisation in three of the regions
- Need more machines
- In others lack of mechanisation is a challenge
- Particular wood mobilisation challenges were identified
  for regions with sloped terrains and sensitive soils

Key Factors   **FOREST FUNCTIONS**

- Steep slopes
    - May be conflict between wood mobilisation / water related functions
- Tourism
    - May be conflicts with wood mobilisation

Except above forest functions not seen as constraints to wood mobilisation
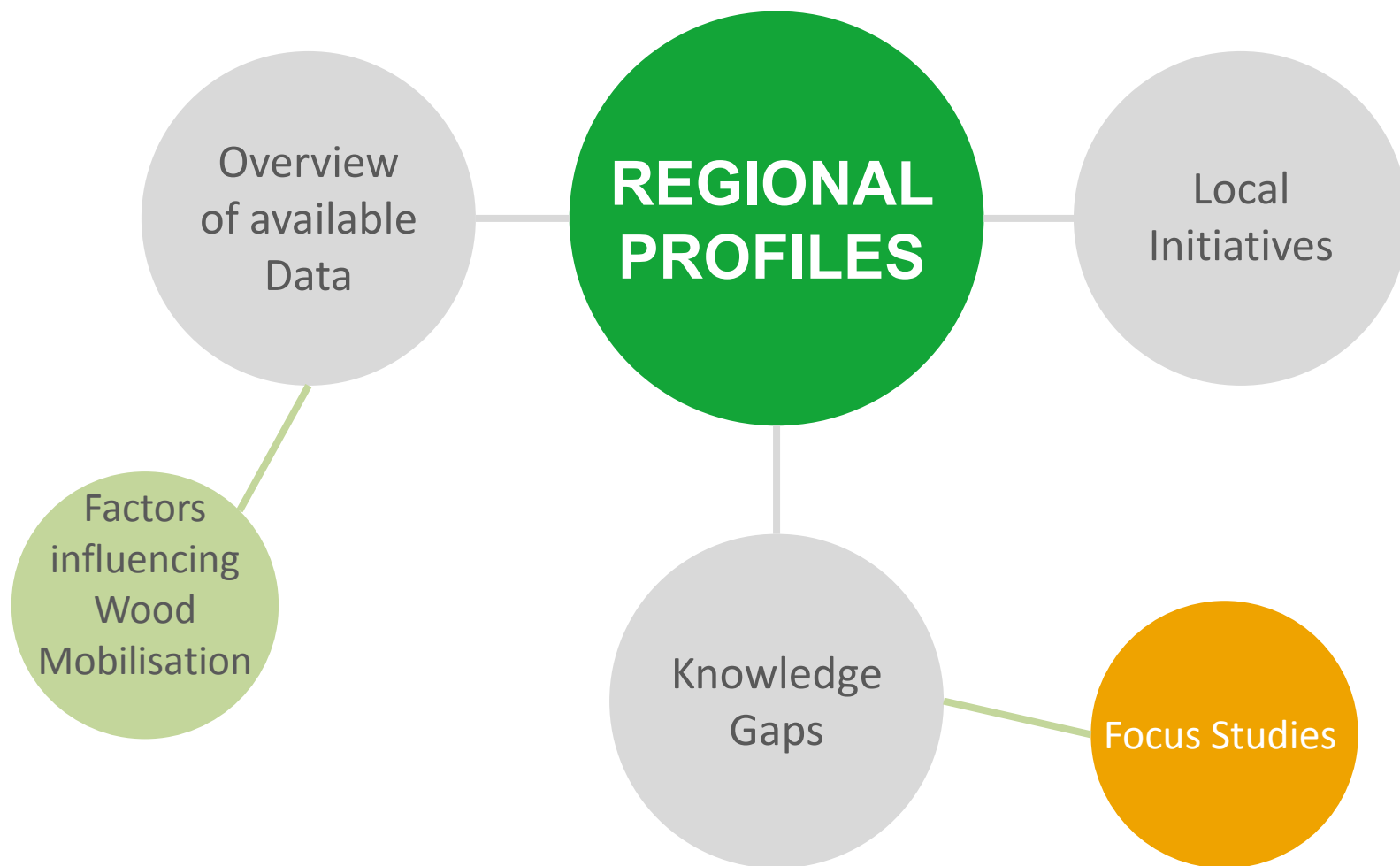
FOCUS STUDIES

Studies to address knowledge gaps
in relation to wood mobilisation in the Regions

Will distribute summary list of **Focus Studies**

FOREST OWNERS, their motivations and skills

- Owners of private forests
  - Who are they?
  - What role does a local association of forest owners play? (Nordeste)
- Forest owners' motivations
  - Factors influencing harvesting behaviour of forest owners (Overijssel & Gelderland; Grand-Est)
  - Forest owners' motivations (Lochaber)
- Forest owners' and forest initiatives' social networks (Slovenia; South-Eastern Ireland; Bavaria)
- Skills of owners, woodland managers and contractors (Yorkshire & North-East England)

Focus Studies

DEMAND FOR WOOD

- EU level (Overijssel & Gelderland)
    - Can European supply of wood meet European demand?

- Regional (Småland)
    - What is regional demand arising from installation of bioenergy boilers?

Focus
Studies

SUPPLY OF WOOD & NON-WOOD PRODUCTS

- Consumption of wood in Region (Alentejo)

- Trends in production and importance
  of wood-products in Region (Alentejo)

- Explore means of providing locally relevant and precise data
  from NFI data (Nordeste)

Focus
Studies

TOOLS TO SUPPORT WOOD MOBILISATION

- To engender trust in owners in forest operations (Grand-Est)

- To model forest growth (Nordeste for Pinus Pinaster/Quercus pyrenica)

- To analyse CO_2 emissions and cost of transporting timber (Nordeste)

- To assess suitability of areas for different management objectives
  and to identify conflicts among uses/objectives (Nordeste)

- To analyse trade-offs in multi-functional forest management (Nordeste)

- To educate public about selection of trees for thinning
  and impact of thinning on stand development (Castille and León)

Focus
Studies

HARVESTING OF RESIDUES

- Identifying the most profitable approach
  to harvesting and handlings forest fuel (Småland)

Focus
Studies
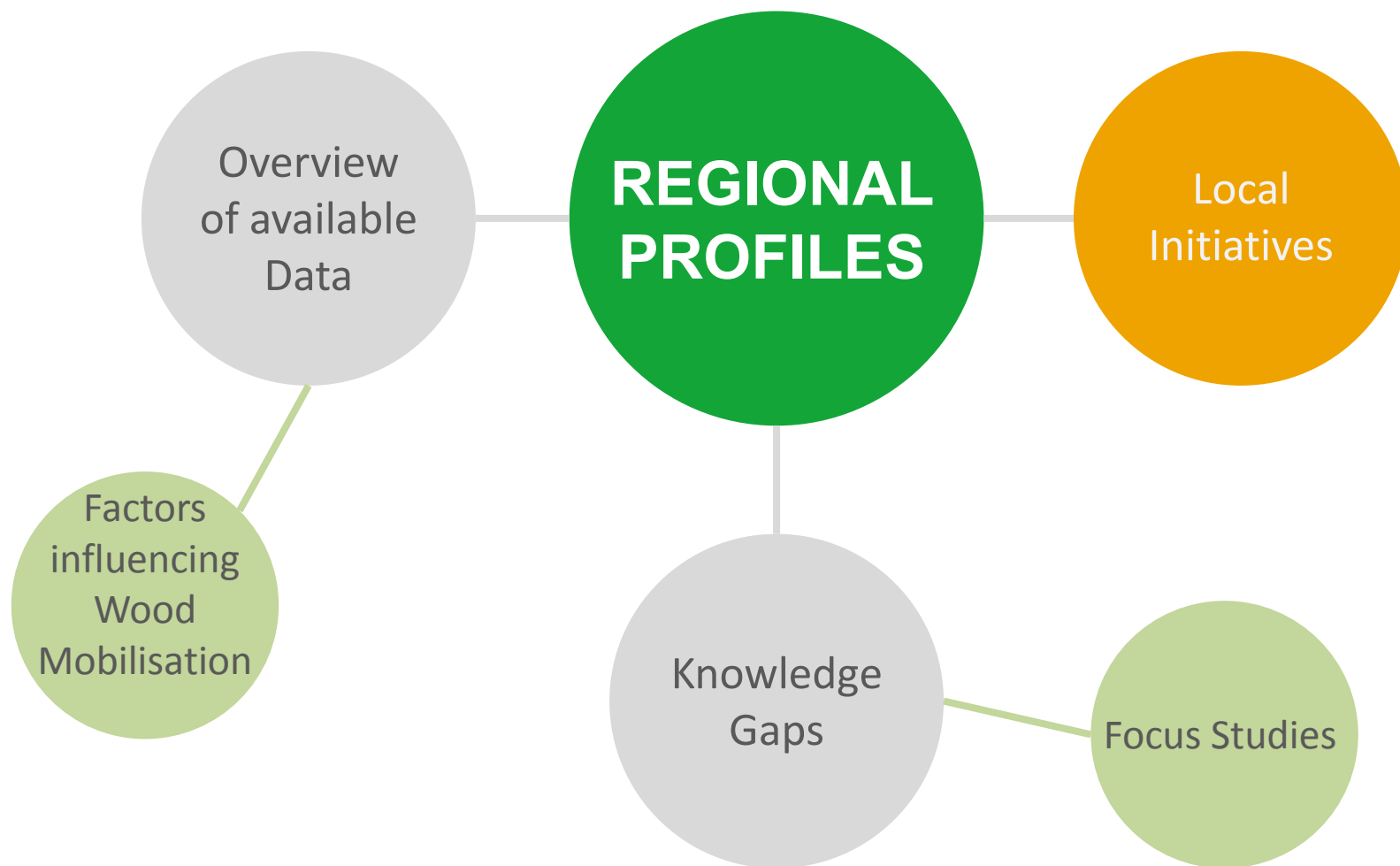
LOCAL INITIATIVES
to address wood mobilisation

Governance

- Forest Owner Associations
    - Newly established (i.e. producer groups in South and Eastern Ireland)
    - Existing (North-Rhine Westphalia, Catalonia, Bavaria)
    - In Bavaria there are a number of Government led initiatives, such as the Mountain Forest Initiatives in alpine regions (BWO), in Eastern Bavaria (WIO) and in other Bavarian regions (SPP) which promote in a participative approach the integrative multi-functional forest management.
    - The formation of forestry co-operatives to address the challenges associated with the small size of forests is identified as a potential solution to the challenge of wood mobilisation

Local Initiatives

Governance

- Incentives
  - Favourable tax treatment (Småland; Eastern Finland)
- Organisations/networks&market
  - Supply chain initiatives (Overijssel & Gelderland)

Local Initiatives

Management

- Management plan
  - Required for PEFC/FSC certification (Småland)
  - Required for those > 25 ha (Grand-Est)

Local
Initiatives

Harvesting

- Roads
  - Road creation (Grand-Est)

Logging systems

More efficient logging equipment being used (Latvia)

Local Initiatives

THANK YOU!

WP3: Evaluation

David Edwards
Forest Research (FCRA), Scotland, UK

Simwood Mid-Term Conference, Kilkenny, 30 Nov-2 Dec 2015

Three approaches to evaluation

1. **Review of existing knowledge and evidence** (Anna Lawrence)

- Literature review of solutions, and the causes and consequences of wood mobilisation.
- Simwood partners and stakeholders help identify relevant studies.

2. **Evaluation of pilot projects** (David Edwards)

- Assessment of outcomes and impacts of individual projects
- Synthesis at EU level of what works and why.

3. **Modelling the impacts of solutions** (Mart-Jan Schelhaas; Louise Sing)

- Participatory modelling with 'Bayesian Belief Networks' to quantify how a solution might influence forest management.
- Modelling with EFISCEN Space to explore how changes in forest management would impact on wood mobilisation (and possibly other ecosystem services)

Wood mobilisation solutions

1. Financial and material incentives

- Grants and subsidies; taxes; infrastructure; technology; equipment; research

2. Regulation (national, regional, local bylaws)

- Planning; impact assessments; certification; designations; health and safety; procurement; Corporate Social Responsibility

3. Knowledge and persuasion

- Engagement with forest managers; guidance; information; evaluation evidence; research and development

4. Organisation and enterprise

- Cooperatives and associations; New SMEs, NGOs, extension services: new markets

1. Review of existing knowledge and evidence
(Anna Lawrence)

- Simwood regional profiles and 'solutions templates'

- Literature review of solutions, and the causes and consequences of wood mobilisation.

- Consortium members and other stakeholders help identify relevant studies.

Common characteristics influencing wood mobilisation in the regions by domains (some examples):

Forest ownership:

- Property size, fragmentation, (new) forest owners: lack of knowledge and skills, objectives and age;

Forest governance:

- Owner associations, complexity of regulations, lack of knowledge transfer, trust among stakeholders, partly lack of advisors, management plans, market, wood harvesting culture;

Forest management:

- Composition and structure of stands, silvicultural schemes and hazards/risks in over-mature stands due to lack of forest management (i.e. thinnings)

Harvesting:

- Income of high importance, timber market, price- and cost structure, logging systems, Logistic chains;

Forest functions:

- In general no constraints, some conflicts (i.e. water related functions) require an adaption of management methods, restrictions in special protection areas (SPA);

Review of existing knowledge and evidence

"Increasing timber production from small private woodlands in England: effectiveness of interventions"

Molteno and Lawrence (2013)

Qualitative interviews and secondary data to assess 10 mobilisation initiatives

Successful initiatives rely on:

- *Both* a good package of incentives, *and* a strong continuous process of engagement.

- Lots of one-to-one interaction (between agent and forest owner)

- Early activities free of charge to the forest owner

- Agent takes responsibility for paperwork (e.g. grant applications)

- Project supports development of business skills (not just woodland management skills)

- Project provides training (not just information)

- Adaptation to local conditions, through local knowledge and networking, is essential

What is the current evidence – and what are the gaps?

1. Most of the 'relevant' research has been about attitudes and motivations .
2. Much less research assesses change in behaviour (that would lead to greater wood mobilisation).
3. Even less asks stakeholders 'what were the causes of change?'
4. So, evaluation that focuses on outputs and impacts is needed – and SIMWOOD can provide this.

2. Evaluation of pilot projects

Why are we evaluating them?

1. Make judgements – 'summative'

2. Facilitate improvements – 'formative'

3. Generate knowledge – ' strategic'

Patten 2011: Utilisation Focused Evaluation

17 Model Regions – 23 Pilot Projects

SIMWOOD model regions

1, Bavaria
2, North Rhine-Westphalia
3, Auvergne
4, Grand Est
5, Yorkshire and Northeast England
6, Lochaber
7, South-Eastern Ireland
8, Castile and León
9, Catalonia
10, Nordeste
11, Alentejo
12, Overijssel & Gelderland
13, Slovenia
14, Smaland
15, Northeast Romania
16, Latvia
17, Eastern Finland

- Represents main European forest types
- Strong potential for wood mobilisation
- Stakeholder involvement ensured (RLL)
- Regional profiles developed/evaluated

Eastern Europe,
Baltic and Boreal Region

Pilot project evaluations: headline questions

1. What changed as a result of the project?

- To what extent did the project meet its objectives, i.e. increased wood mobilisation?
- What were the unintended consequences, e.g. impacts on other ecosystem services?

2. What caused these changes?

- What aspects of the project went well, and not so well?
- What other factors beyond the project influenced its outcomes and impacts?

3. What makes a particular kind of solution work best?

- Are there common factors that are necessary for success?
- Where does it work best?

What does the project team want to know…?

Evaluation Criteria

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Sustainable Innovative
Mobilisation of Wood

Simwood Pilot Project Evaluation Framework

INPUTS	OUTPUTS		OUTCOMES and IMPACTS		
	Activities	**Participation**	**Short term**	**Medium term**	**Long term**

Objectives & Intended Outcomes

INVESTMENT	WHAT WE DO	WHO WE REACH	OUTCOMES (1)	OUTCOMES (2)	IMACTS
Staff	Meetings	Land managers	Knowledge	Action	Wood mobilisation
Partners	Training workshops	Agents	Awareness	Behaviour	
Time	Demonstrations	Contractors	Skills	Practices	Ecosystem services
Money	Training materials	Processors	Attitudes	Engagement	
Materials	Information		Motivations		Risks & uncertainties
Equipment			Aspirations		
Infrastructure					

Spreadsheets	RLL reporting procedures	Qualitative interviews; Questionnaire surveys;
Workshops	Events evaluations	Stakeholder workshops

Key questions – inputs and outputs

Inputs

- What **investment** has been made in the project?

Outputs

- What **activities** have been carried out?
- What **resources** have been made available?
- What **barriers** have been lifted?
- How many people or groups **participated** in specific activities?
- How many people or groups had **access** to a new resource or service?
- How **satisfied** are you with the activity or project?
- What **influence** did it have on your business or group?
- How **effective** and **efficient** was it in meeting its own objectives?

SIMWOOD Domains

Key questions – outcomes and impacts

SIMWOOD
Sustainable Innovative
Mobilisation of Wood

Outcomes

- Did you learn any new **knowledge** or **skills** as a result of the project?
- Have your **attitudes** towards wood mobilisation…?
- Do you **plan** to do anything new or differently…?
- What have you **done** that was new or different…
- What caused these changes?

Impacts

- Have you changed the amount of **wood mobilised…**?
- Have there been any changes in the provision of **ecosystem services**?
- Have there been any changes in **risks and uncertainties**…?
- What caused these changes?

SIMWOOD Domains

3. Modelling impacts of solutions

1. Participatory modelling with 'Bayesian Belief Networks' to quantify how a solution might influence forest management.

2. Modelling with EFISCEN Space to explore how changes in forest management would impact on wood mobilisation (and possibly other ecosystem services)

Step 1 – Inputs to outputs:

If you invest EUR 1000 per hectare per year on Measure A, what outputs (activities) does this produce?

Step 2 – Outputs to outcomes:

What effect will these outputs have on forest management (i.e. changes in behaviour)?

Step 3 – Outcomes to impacts:

What impacts will these changes in forest management have on wood mobilisation (and other ecosystem services)?

Two elements of a BBN

(a) Network diagram

Graphical representation of the system

Key variables organised as parent and child nodes

Relationships are defined by uni-directional arrows (arcs)

(b) Conditional Probability table

Records the probability distribution of one variable (parent node) affecting the state of another (child node)

Captures uncertainty of the relationship

Link with the BBN
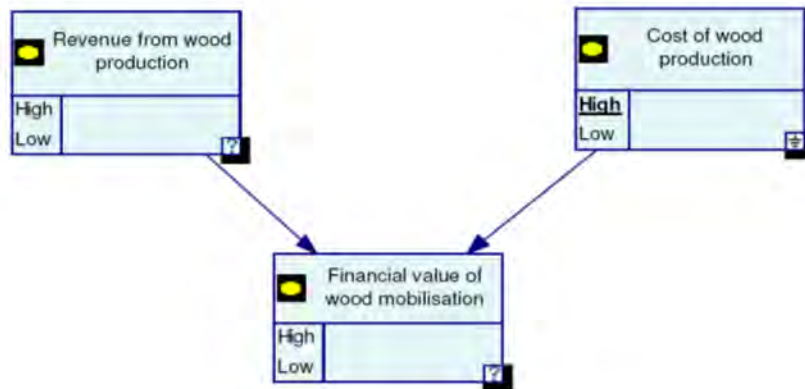
Use of 'EFISCEN Space' - Developed by Alterra - Tested in France & Netherlands

WP5 - European Monitoring and Policy Support

European Commission Joint Research Centre – WP5 leader

Jesús San-Miguel-Ayanz, Sarah Mubareka,

Dario Rodriguez, Richard Sikkema, Guido Schmuck

Ilan Leonid / Fotolia

The
SIMWOOD Mobiliser tool

What _IS_ the Mobiliser ..?

Should not	Should
..be an expensive gadget no one will use	..reflect the intellectual outcomes of SIMWOOD in a useful way
..appear magically at the end of the project	..evolve with the project and reflect the situation in Europe
..be full of surprises	..be a tool each of us in the room will either USE or pass the link on (preferably with pride)
..leave out a single partner	
..be designed by the JRC	.. be designed by the consortium and ABoR

Server side

User's side

Regional Profiles

Integrated solutions

EU Monitoring system

Populating the Mobiliser
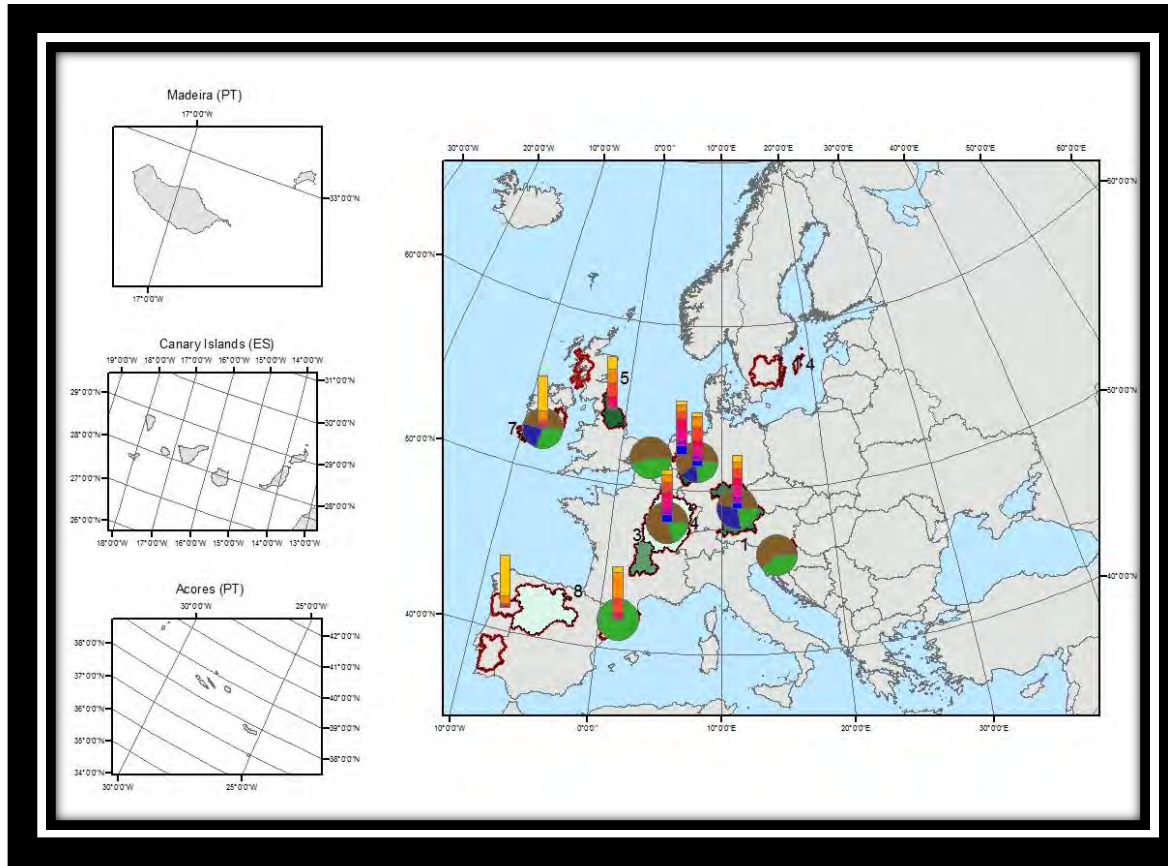
What should the Mobiliser do?

Knowledge base ➡️ **Expert system**
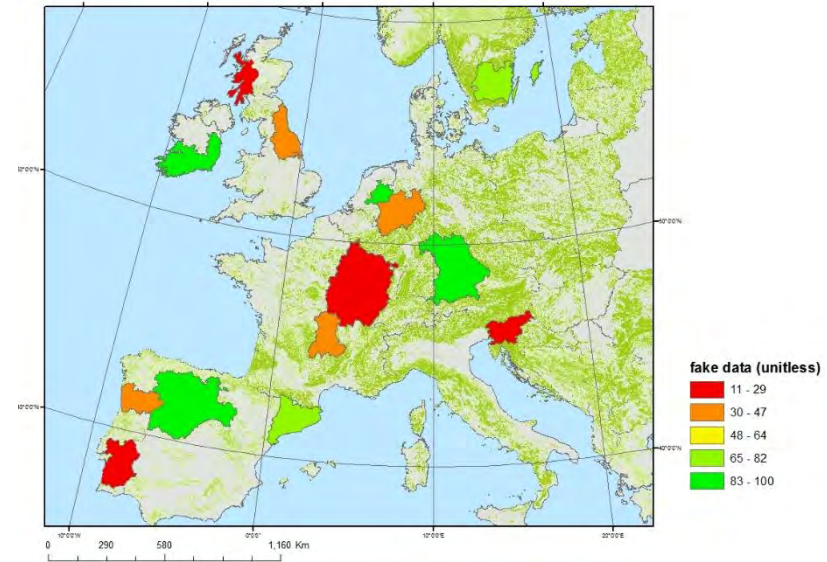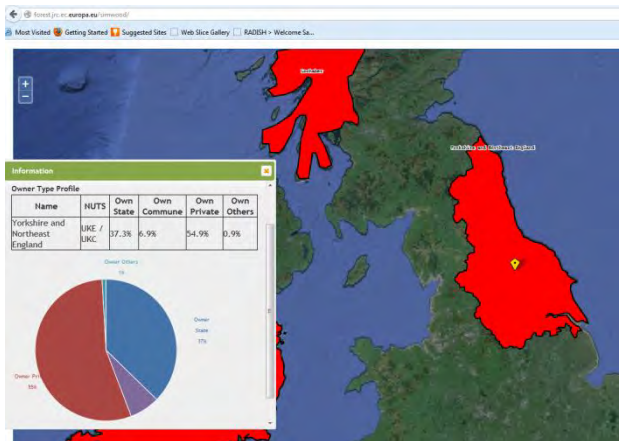
Information about each region is combined with information about other regions

Mobiliser toolset

1. Wiki. The tables in the wiki will populate the map service.
2. Map service
3. Search tool
4. "Woodnews" (to show the Mobiliser is always up to date with current affairs)
5. Possibly a simulation tool, whose content has not been discussed yet.

Wiki tool

Map Tool

Map Tool
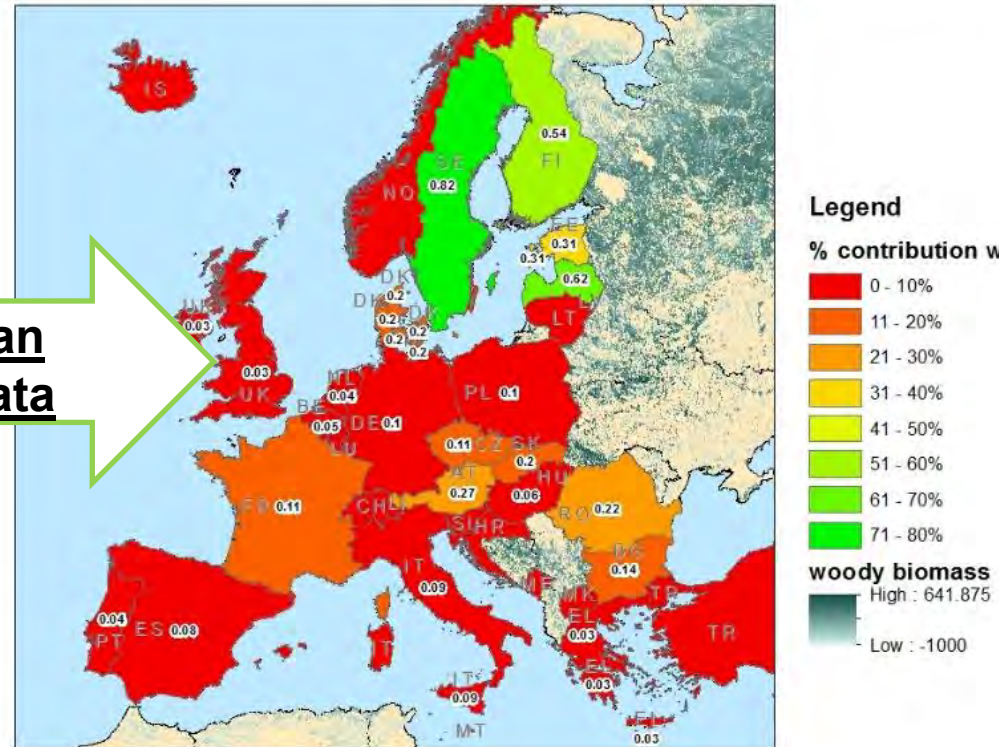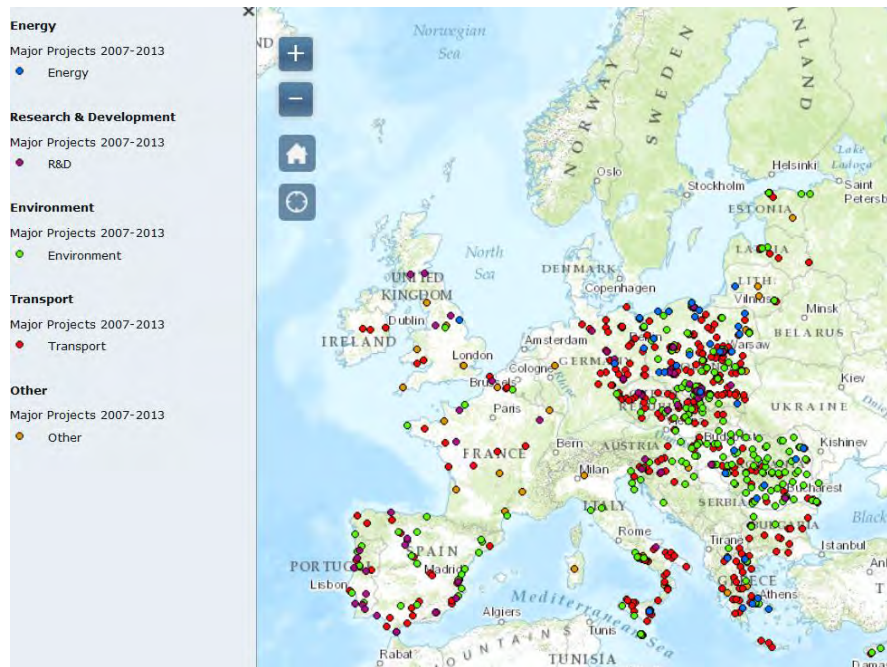
For example, a theme can be "Socio-economic, technical, environmental barriers" :

- Demographic change, shift to urban owners
- Marginal or unstable income
- Increasing fragmentation of owners/land
- Difficult access and harvesting
- Reluctance to accept reduced-impact logging
- Societal demand for 'free' ecosystem services
- Unpredictable impacts of climate change

Search tool

Purpose: to lead a user to a selected series of solutions that are relevant to their own cases. To assess "relevance" the user should describe their situation, and the Mobiliser should find similarities among the works in the database.

For this to work, all solutions must be characterized using the same keywords. This will provide a larger pool of solutions to the user.

Search tool

The filter criteria are the keywords

1. Problem Type
2. SIMWOOD Domains
3. Barriers
4. ..other criteria

Search tool

# Search tool

www.simwood-project.eu

Search tool

= "fragmented owners"

barriers	conifDestin	decidDestin	marketTrends	forestType	governActor	financialSupport	managers	owners	scaleOperat	solutions	ESS
Fragmented owners, not	Material use (sawntimber,	Material use (sawntimber,	trend is increasing demand from sawmill, trend is increasing demand from energy	Hemiboreal forest,	Owners' association	government forest planting support scheme, project	ownerManaged, forestAssoc	private, communal	very small scale (<10 ha)	Adapt harvesting working methods (including use the	Hunting, fishing and
Fragmented owners, not	Material use (sawntimber,	Material use (sawntimber,	trend is increasing demand from sawmill, trend is increasing demand from energy	Alpine softwoodous	Owners' association	government forest planting support scheme, government	ownerManaged, forestAssoc	private, communal	very small scale (<10 ha)	Adapt harvesting working methods (including use the	Hunting, fishing and
Fragmented owners, not	Material use (sawntimber,	Energy use	trend is increasing demand from energy plants, trend is increasing demand for	Plantations and self-sown	Owners' association	government forest planting support scheme, government	ownerManaged,	private, communal	small scale (10-50 ha),	Harmonize management activities	
Difficult to harvest due	Material use (sawntimber,	Material use (sawntimber,	trend is increasing demand from sawmill, trend is increasing demand from energy	Alpine softwoodous	Owners' association	government forest planting support scheme, government	ownerManaged,	private, communal	very small scale (<10 ha)	Adapt harvesting working methods (including use the	Hunting, fishing and
Wood quality on lands	Material use (sawntimber,	Material use (sawntimber,	trend is increasing demand from energy plants, trend is stable demand from	Acidophylous oak and oak-	Stakeholder networks and	tax benefits	ownerManaged,	private	small scale (10-50 ha),	Species diversification, Engagement of private owners,	Hunting, fishing and
Any environmenta	Material use (sawntimber,	Material use (sawntimber,	trend is stable demand from sawmill, trend is stable demand from pulp and panel	Acidophylous oak and oak-	Stakeholder networks and	tax benefits	professionaly Managed	private, public	small scale (10-50 ha)	Adapt harvesting methods (including use the	Soil conservation
Poor road infrastructure.	Energy use		trend is increasing demand from sawmill, trend is increasing demand from pulp and	Plantations and self-sown	Mixed state and private	government forest planting support scheme, government	ownerMana d.			anagement	Hunting, fishing and
Fragmented owners, not	Material use (sawntimber,	Material use (sawntimber,	trend is increasing demand from sawmill, trend is increasing demand from pulp and	Acidophylous oak and oak-	Owners' association	government forest planting support scheme, government	ownerMana d.			anagement Harmonize	Hunting, fishing and
Fragmented owners, not	Material use (sawntimber,	Energy use	trend is increasing demand from energy plants, trend is stable demand from	Acidophylous oak and oak-	Government forest service	government forest planting support scheme, government	ownerMana d.			ils towards the olders population	Hunting, fishing and
Fragmented owners, not	Material use (sawntimber,	Energy use	trend is increasing demand from sawmill, trend is increasing demand from pulp and	Plantations and self-sown	Owners' association	government forest planting support scheme, government	ownerMana d.			ting working cluding use the	Hunting, fishing and
Poor road infrastructure,	Material use (sawntimber,	Energy use	trend is increasing demand from pulp and panel board industry, trend is increasing	Softwoodous forest of the	Owners' association	government forest management support scheme, regional taxes,	professiona Managed,			s,	
Any legally-binding	Material use (sawntimber,	Material use (sawntimber,		Alpine softwoodous	Owners' association	government forest management support scheme, Private	ownerMana d.			s,	
Any legally-binding	Energy use	Energy use	trend is increasing demand from energy plants	Thermophilus deciduous	Owners' association	government forest management support scheme, government	ownerMana d.			s, Nut	
Any legally-binding	Material use (sawntimber,	Material use (sawntimber,	trend is increasing demand from energy plants	Broadleaved evergreen	Owners' association	government forest planting support scheme, government	ownerManaged,	private, mixed of the	small sca (10-50 ha)		d
Fragmented	Material use	Material use	trend is increasing demand from sawmill,	Softwoodous	Owners'	government forest planting	ownerManaged,	private,	small sca		ey,
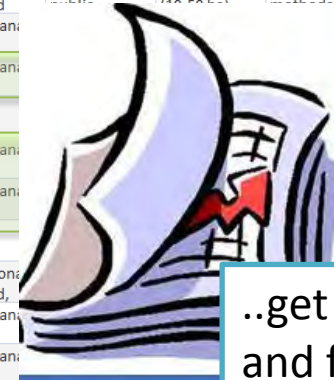
..get short list and full report on selected solutions

Woodnews

- Harvests and geo-locates biomass & wood mobilization news media resources from Google™ News, the European Media Monitor (EMM) (Steinberger et al., 2009), and other news feeds from various sources

- Can be multi-lingual

- When visualized within the Web map viewer, it provides a synoptic view of press information to Policy maker and stakeholder groups:
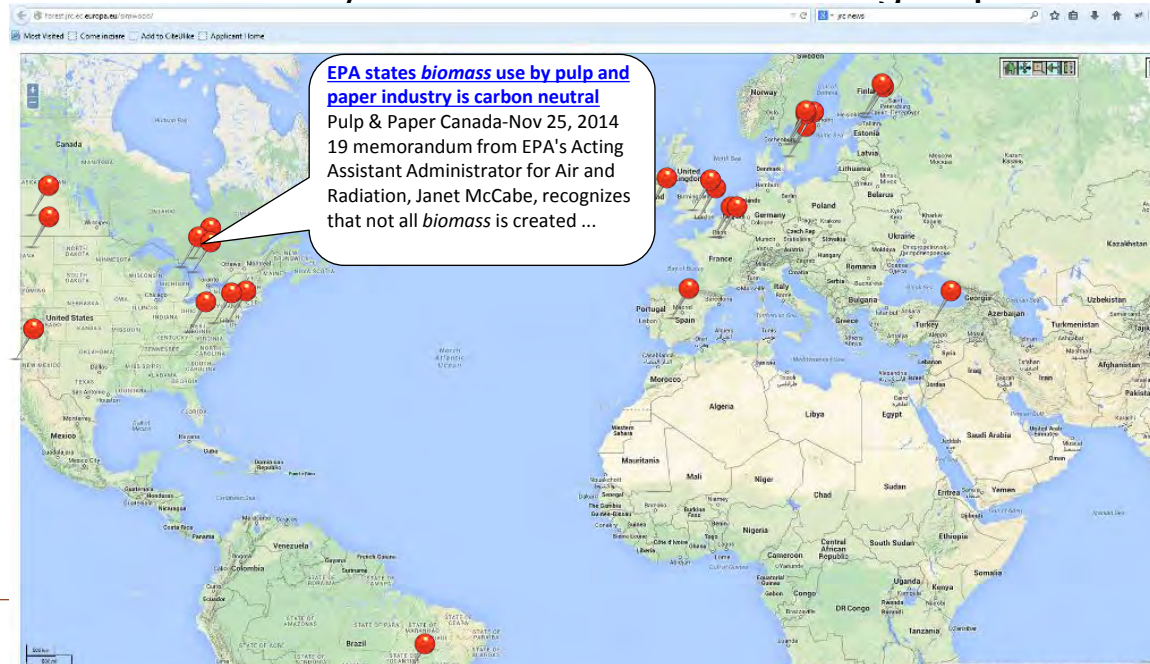
Principle of the Pilot Projects being implemented

- Different types of measures / mechanisms / organizations are being experimented in the project to favor wood mobilization in Europe

- Pilot Projects are designed to test and evaluate a given measure in a well-identified context

- Active cooperation of the leading SME(s) and their partners in the Pilot Project ensures that the test is connected to practitioners' reality in the forest

- Focus & priorities are set in order to be efficient and purpose-driven

23 pilot projets – 3 typical interventions

- Adoption of new working methods and organisations to enable the sustainable supply of wood to the energy market without competing with other value chains

- Strategies and novel service-offerings to engage forest owners whose forest resource could answer markets' demand for additional wood

- Capacity-building for professional practitioners driven by the need to supply additional wood to the demanding market(s)

To be expected from the posters

Storytelling on…

- How the target is responding to the actions being implemented…

- How the implementation plan is already leading to the delivery of intermediate results…

- How the feedback collected so far from the RLL stakeholders has lead the PP leader(s) (SME or research partner) to adapt the PP content in the field …

- How progress within the pilot project is helping to design its future evaluation…

Leading SME: Forêts et Bois de l'Est
- Forest cooperative (6 000 FO ; 75 400ha)
- 60 professional forest managers and wood suppliers

Intentions through the pilot project
→ Adoption of new working methods and organisations to enable the sustainable supply of wood to the energy market without competing with other value chains

and

→ Novel service-offering to engage forest owners whose forest resource could answer markets' demand for additional wood

Example in Auvergne

Increasing profesionnal know-how in steep terrain conditions: collaborative pathways for practitioners to broaden their wood mobilisation horizon in these specific areas

SME and larger companies strongly involved in the pilot project and its governance (RLL).

Intentions through the pilot project
→ Facilitate capacity-building for professional practitioners driven by the need to supply additional wood to the demanding market(s)
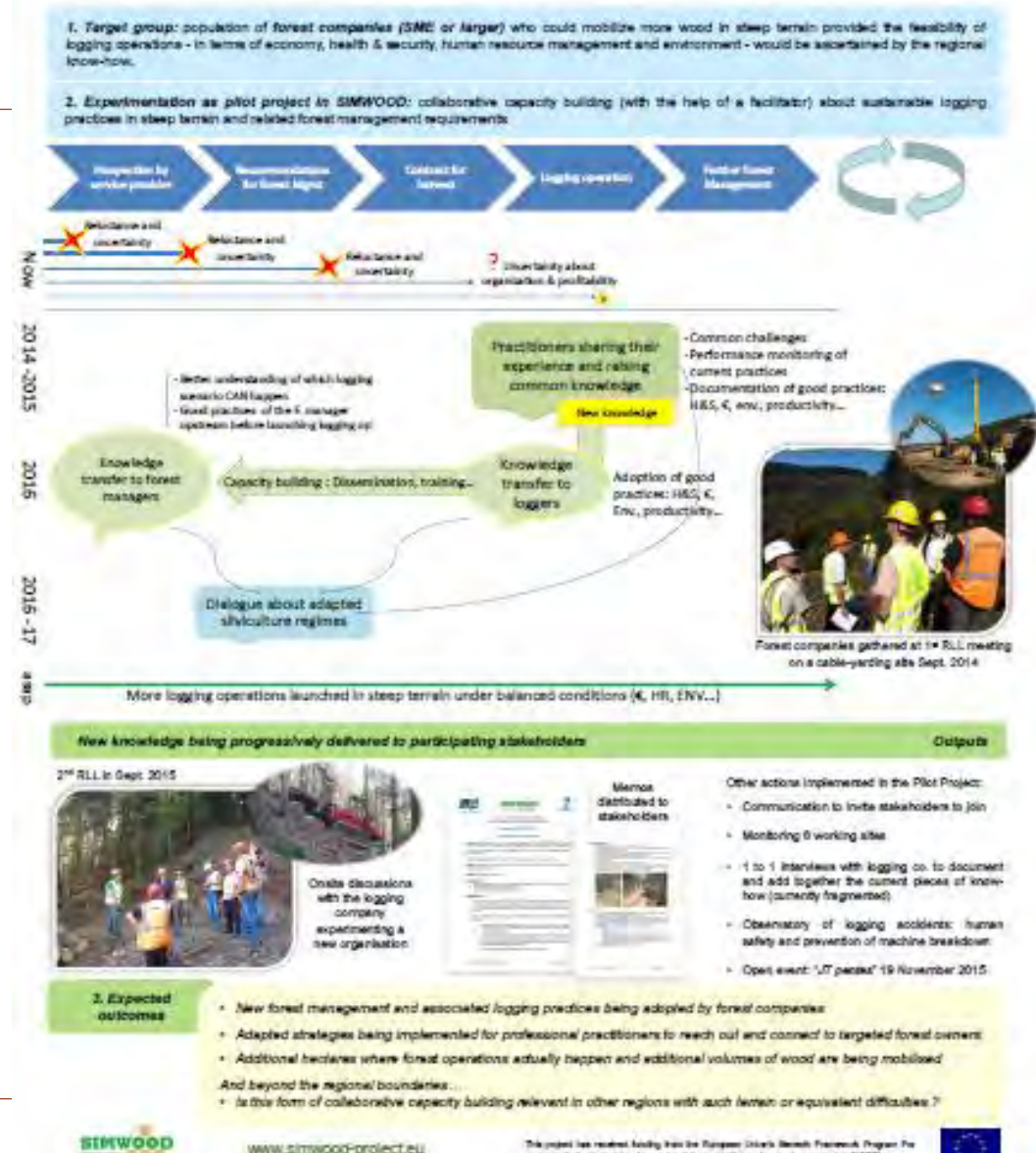
Contact Morgan Vuillermoz for questions

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SIMWOOD

Sustainable Innovative
Mobilisation of Wood

Mid-term Conference

1st December 2015

Field Trip

www.simwood-project.eu

9:00   **Kylemore, the Rower, Co. Kilkenny**

Broadleaf forest management

Forest Owner: Vera Flood (managed by her nephew Enda O'Connor)

Location:

Townland: Tinaslatty

Nearest town: New Ross

County: Wexford

Site description:

The plantation is situated approximately 3km from New Ross town on the opposite side of Mount Garret Bridge, which crosses over the river Barrow. Part of the site runs parallel to the river to the south. The elevation ranges from 10 meters to 40meters above sea level. The soils are mineral – brown earths and alluvial close to the river.
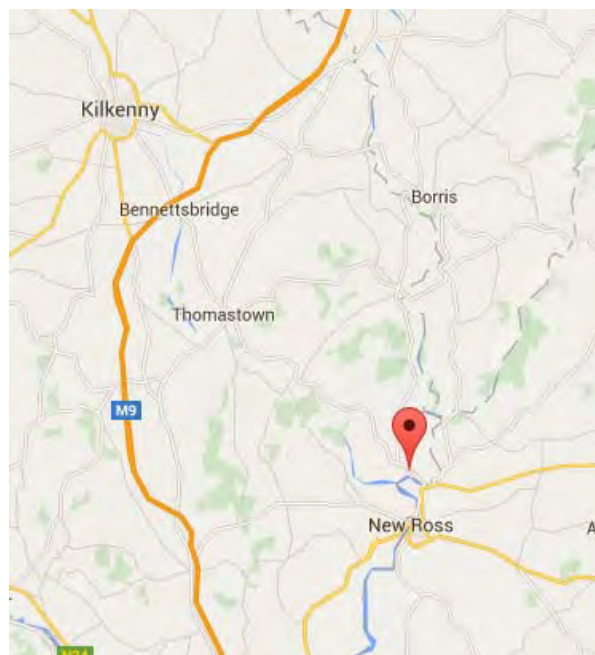
The plantation was established in 1994. At that time some 30.45 hectares was planted. This is four times the national average sized forest in Ireland. From the beginning the owner took great interest in the forest, maintaining it well and continues to take an active role in its management.

The woodland now comprises Norway spruce (*Picea abies*), Pedunculate Oak (*Quercus robur*) and Ash (*Fraxinus excelsior*) in a mixture of 60% conifers and 40% broadleaves.

Species, YC, Age and composition

Species	Area (HA)	Age	Yield Class	% composition	Man. Status
Norway Spruce	18.3	21	22	60%	1st Thin
Ash	5.81	21	12	19%	2nd Thin
Pedunculate Oak	6.34	21	10	21%	1st Thin
Total	**30.45**			**100%**	

Management

A harvesting standard road was constructed into both plots in 2012 followed by a first thinning of the Norway spruce and Ash. This operation was light in the Norway leaving a stocking of 1800 trees per ha. Basal Area is high and a second thinning is now due. The plantation suffered slight damage in the storms of late 2013/early 2014.

The Ash received its first tending/thinning around 2012 and is currently being thinned lightly for the second time by the owner. The objective is to improve quality and form and focus is on removing trees with canker and poor form. This work is being carried out over extended and sustainable periods by the owners.

The Oak was planted at a high density and has been marked for tending by our foresters. The felling is underway using chainsaw and extraction is by tractor/trailer. The form of this Oak is already better than a typical oak woodland of this age owing to the provenance and intensive management in its early days.

Markets

The timber produced from the first thinning of the conifers went to local pulp mills/fuelwood. A small amount of larger diameter material (pallet) went to the fencing/pallet mills.

The timber produced from the broadleaves went and is going to local fuelwood market

Future management

The owner's objective is to generate regular income while maximising profit. To this end, the Norway spruce plot will be thinned again in 2016 to bring down stocking.. Thinning will then be on a cycle of 4-5 years depending on the market. The rotation is expected to be in the region of 40 years (19 years from now).

Ash and Oak plots will be grown on a rotation of approximately 50-55 years for the Ash and 100-120 years for the Oak. Thinning will be carried out as required to provide income for the owner and to maximise the potential of the crop.

10:30   **Gusserane, Co. Wexford**

Burke and Lesley Corbett actively manage just over 100 ha of forestry on their farm in Gusserane, Co. Wexford.

The field trip will take a look at the plantations, equipment used to maintain the forestry and timber processing on site.

As hands-on owners, the Corbetts have sought professional advice and maintained their forest plantations on the farm accordingly; developing inspection paths, installing a number of access roads and looking at a long term plan for the forest management.

The Corbetts have already carried out first and second mechanical thinning on some of their softwood plantations with different harvesting contractors and have shaped and thinned their broadleaf plantations.

Timber sales have included pallet, pulp and processed, delivered wood chip. They have also retained a proportion of timber on site to process for firewood for their own boiler.

Other challenges include: wind blow, squirrel damage and original species selection.

12:00   **JFK Arboretum, Co. Wexford**

The field trip will take a brief tour through the research plots to the summit.

Dedicated to the memory of John Fitzgerald Kennedy, President of the U.S. (1960-1963), the Arboretum covers 252 hectares on the southern slopes and summit of Slieve Coillte. The

plant collection contains 4,500 types of trees and shrubs from all temperate regions of the world, planted in botanical sequence and the 200 forest plots are grouped by continent. A road provides access to the summit at 271m and there are panoramic views over counties Wexford, Waterford, Carlow, Kilkenny, Wicklow and Tipperary. Other features include: rhododendrons, dwarf conifers, exhibitions, audio visual, lake, miniature railway, pony and trap, shop, tearoom and play area.

SUMMIT CAR PARK

Slievecoiltia

The John F. Kennedy Arboretum

pH 5.3 ('80)

pH 5.1 ('80)

800ft

700ft

600ft

500ft

400ft

pH 5.8

SOIL SURVEY 1968

Clonroche Association.
Clonroche Series, pH 5.3 - 5.8
Slievecoiltia Series, pH 5.2 - 5.6
*The moderately high pH levels were due
to liming under previous management.*

Pinus nigra var nigra

pH 5.6

Pinus nigra var maritima

pH 5.8
pH 5.8 ('77)

Picea abies (Italy)
Picea abies (Austria)

Pinus mugo
Pinus sylvestris (Clogheen)
Acer pseudoplatanus

Acer platanoides
Ulmus glabra
Fraxinus excelsior

pH 5.8
pH 5.7 ('77)

pH 6.5
pH 6.1 ('77)

pH 5.6
pH 5.6 ('77)

Tilia cordata
Tilia x europaea

Castanea sativa
Aesculus hippocastanum

400ft

Larix decidua
Larix x eurolepis
pH 6.5
Larix kaempferi

pH 5.5 ('77)
Picea omorika
Pinus peuce

Fagus sylvatica
pH 5.6
Fagus orientalis
Alnus glutinosa
Alnus incana
Alnus cordata

Nothofagus obliqua
Nothofagus procera
pH 5.6

WEXFORD

pH 5.8
pH 6.5
pH 6.0 ('77)
X Cupressocyparis leylandii 'Castlewellan'

Eucalyptus nitens

300ft

NEW ROSS

pH 6.5

X Cupressocyparis leylandii
Thuja plicata
Chamaecyparis lawsoniana

Pinus strobus
Chamaecyparis nootkatensis
Cupressus macrocarpa
Pseudotsuga menziesii

300ft

MAIN ENTRANCE

Abies procera
pH 5.6
pH 5.6 ('77)
Abies grandis
Alnus rubra

Sequoia sempervirens
Sequoiadendron giganteum
Tsuga heterophylla (Alberni,Vanc. Is.)
Tsuga heterophylla (Avondale)
Pinus contorta var contorta (Long Beach, Wash.)
Pinus monticola

VISITOR CENTRE

Pinus contorta var latifolia (Fort St. James, B.C.)
Pinus contorta var latifolia (Clearwater, B.C.)
Pinus muricata

TEA-ROOM

The John F. Kennedy Arboretum

Scale = 1 : 7,040

With thanks to

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Chapel Hill,
Lucan, Co. Dublin
Tel: +35316219406
Fax: +35316219407
www.fel.ie

Irish Wood Producers,
35 South Street, New Ross,
Co. Wexford
alex@irishwoodproducers.com

Evaluation of sustainable innovation wood mobilisation:
Review of literature and evaluation reports

- How has success been defined in evaluation?
- What measures are generally successful and why?
- How can successful measures in one area be translated into other regions?
- Define useful keywords for use in the Mobiliser.

Roland:

"Recommend tailor made solutions for applied instruments and incentives [NOT 'one-size-fits-all']"

WP3 Evaluation
Step 1: learning from experience

This presentation is based on a review of scientific literature and evaluation reports:

- Search starting with 'wood mobilisation' in Scopus / Web of Science
- Reports sent by you – evaluations of interventions to increase wood mobilisation

Criteria for inclusion

1. there is a published evaluation, or relevant paper;

2. the focus is on initiatives or interventions which aim to increase mobilisation of existing increment, in other words excluding studies which aim to increase forest growth

3. published since the year 2000

4. excluding literature on the environmental impact of harvesting (the focus here is on the behavioural and economic impact, i.e. that timber is harvested)

5. silvicultural interventions are included where the aim is to make existing increment more available, but not where the aim is to increase growth (for example by fertilization). This is a slightly blurred division and judgement has been exercised

?

WP3 Evaluation
Step 1: learning from experience
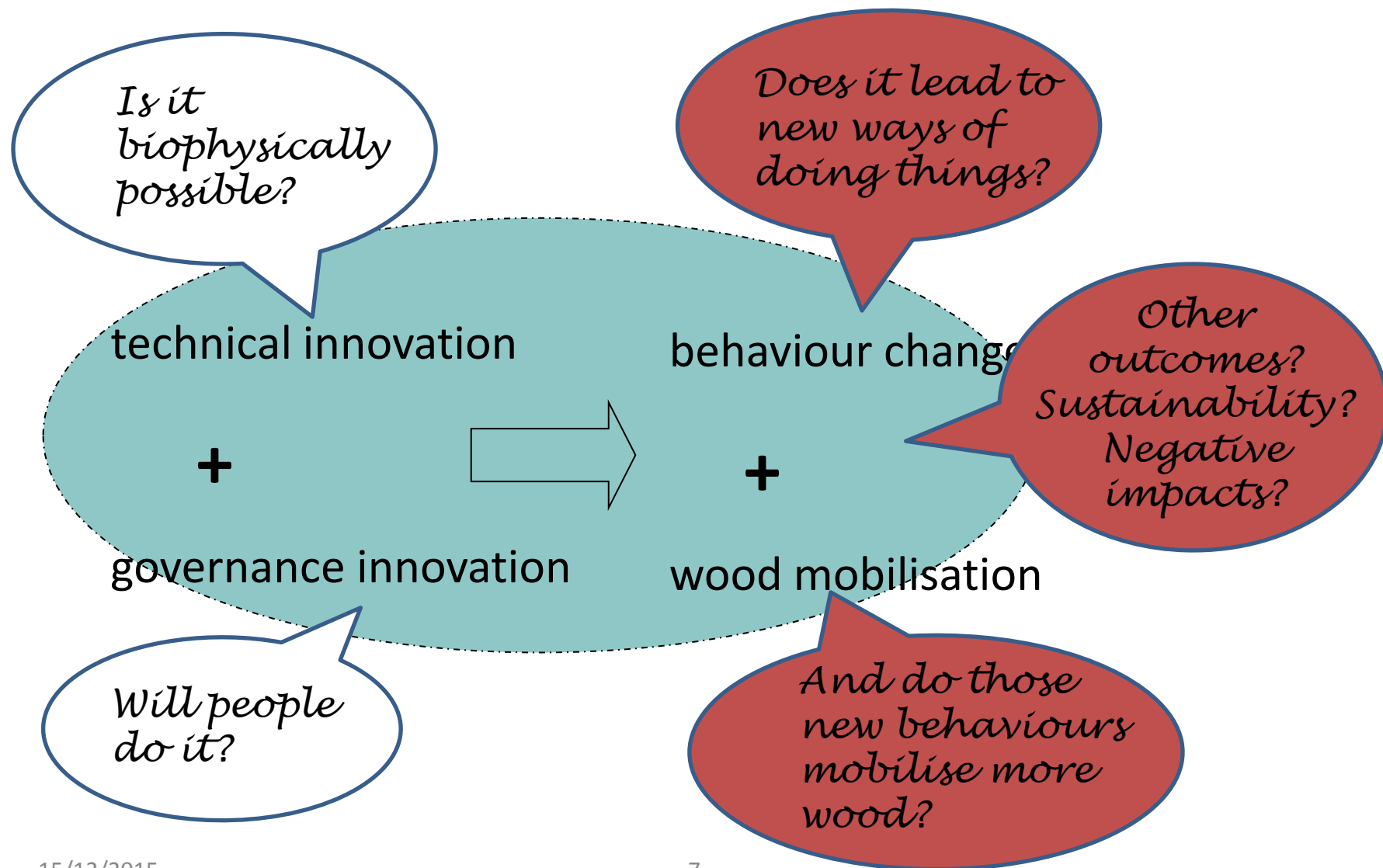
Much is speculative e.g.
"We believe several key administrative procedures and program characteristics could serve as guiding principles … to improve timber sale … including

- Procedures to reward good loggers
- Incentives to encourage timely harvests
- Improvements in technology"
- Etc.

[Brown et al 2012]

WP3 Evaluation
Step 1: learning from experience

Landowner behaviours in the UK and Ireland:
- Landowners do not decide to **afforest** based on profit maximisation goals
- Social acceptability, landscape custodianship, and keeping options open for the future are more important
- Financial incentives are not sufficient; advisory and knowledge exchange schemes (involving experts and peers) are needed alongside financial incentives
- "Extension services significantly increased the **likelihood that an owner would thin his / her stand**"
- Results are local, context specific

Carroll et al 2011; Duesberg et al 2014; Lawrence & Dandy 2014; Lawrence & Edwards 2013; Ní Dhubháin et al 2010

Questions addressed by studies

Research

1. Are stakeholders likely to harvest? [willingness to harvest, or stated intention to harvest]
2. Would they be likely to harvest if conditions changed? [focusing on constraints to WTH]
3. What are stakeholders currently doing and why? [factors influencing *behaviour* not WTH]

Appraisal

4. Is there a tested technology that would sustainably increase harvest? ['technology' includes forest management practices, and DSS]
5. Are there governance tools to encourage owners to adopt that technology?
6. Are stakeholders likely to adopt the governance tool(s)?

Evaluation

A. Do stakeholders adopt the governance tool(s)?
B. Do stakeholders change WTH or stated intention to harvest [as a result of technology + governance]?
C. Do they change their harvesting behaviour?
D. Is there a net increase in wood mobilised as a result?

TOTAL

122 PEER REVIEWED PAPERS ...
- OF WHICH 55 FOCUS ONLY ON UNDERSTANDING THE OWNERS

33 INFORMAL EVALUATIONS ...

12 FORMAL EVALUATIONS ...

... OF INTERVENTIONS TO INCREASE WOOD MOBILISATION

Academic papers: shift in emphasis

53 focus on biomass

43 focus on timber

5 on both

Shift in emphasis:

- no 'mobilising biomass harvest' papers before 2009.

- many more not included here focus on trade-offs – the *impact* of harvesting.

Number of papers addressing these questions:

Question	Count
Are stakeholders WILLING to harvest?	38
Would they be LIKELY to harvest if conditions CHANGED?	27
What are stakeholders currently DOING and why?	22
Is there a tested TECHNOLOGY that would sustainably increase harvest?	28
Are there GOVERNANCE tools to encourage owners to adopt that technology?	10
Are stakeholders LIKELY to ADOPT the governance tool(s)?	22
Do stakeholders ADOPT the GOVERNANCE tool(s)?	3
Do stakeholders change WTH or stated INTENTION to harvest?	3
Do they change their harvesting BEHAVIOUR	3
Is there a net increase in wood MOBILISED as a result?	0

Number of informal evaluations addressing these questions:
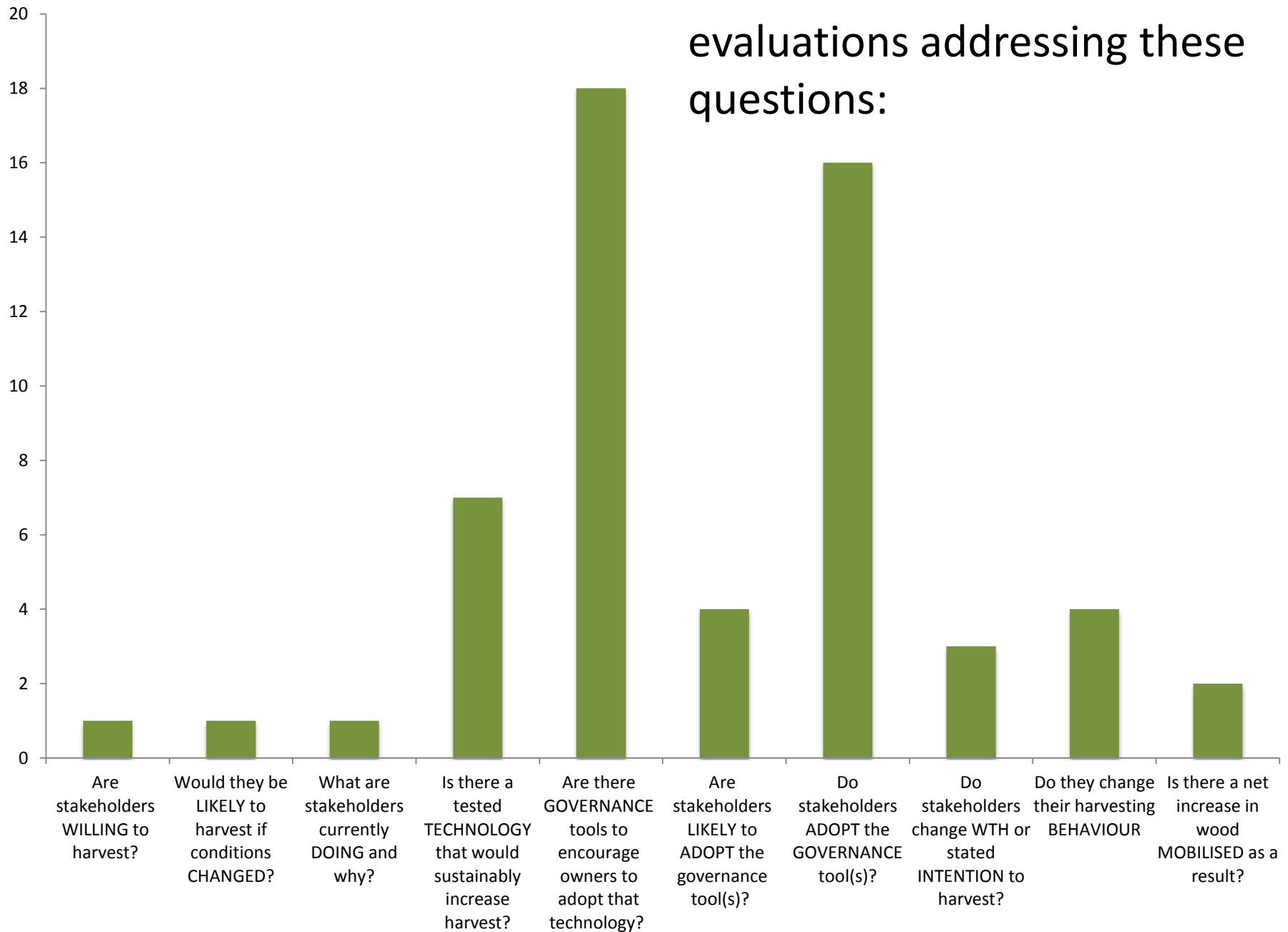
Number of formal evaluations addressing these questions:
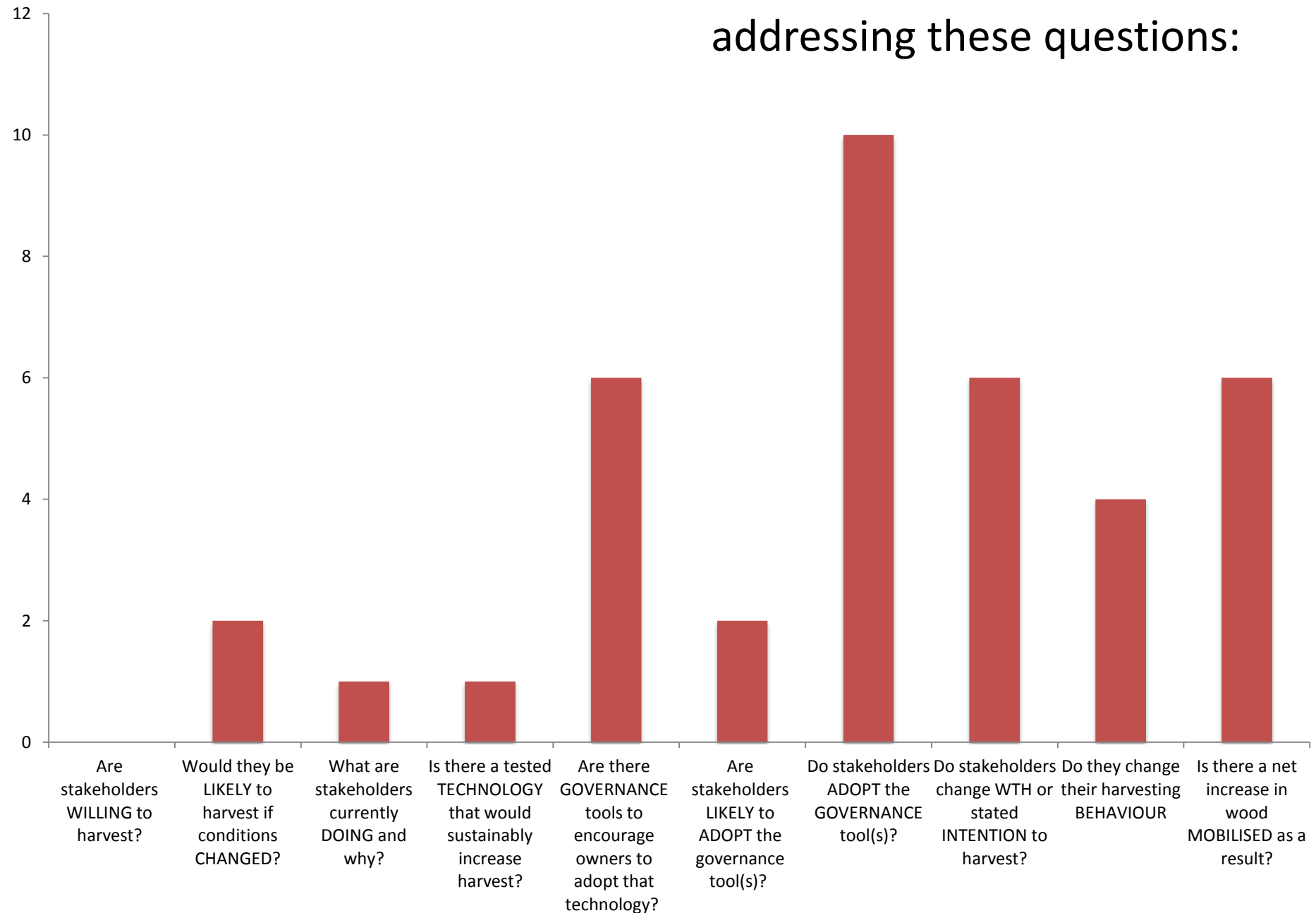
Summary of questions addressed by this literature

- Much of the peer-reviewed scientific literature focuses on attitudes and does not include
  - intervention
  - adoption of governance mechanism
  - behaviour change
  - impact on harvest
- The grey literature does address this more
- Formal evaluations even more – but still very little information on impact (observed change of harvested volume)

Table 5. Forest management and ownership characteristics of NIPF owners in northeastern Michigan. Like superscripts denote no significant difference.

Variable	Consumptive (N = 90)	Recreationists (N = 151)	Naturalists (N = 70)	Multiple (N = 193)
Mean forest area	202[a]	110[b]	88[b]	147[a]
Past harvest (%)	55[a]	32[b]	41[b]	53[a]
Intend to harvest in the future (%)	40[a]	28[b]	28[b]	46[a]
Actively manage (%)	51[a]	46[a]	40[a]	71[b]
Resident owner (%)	13[a]	25[b]	46[c]	42[c]

From Kuipers et al 2013

The 12 evaluation reports: what interventions?

1. Mobilization strategies for energy wood in NRW
2. Chartes Forestières de Territoire (CFT)
3. Activating private Forest owners to increase woodfuel supply (AFO)
4. Projet Pilote de Mobilisation des Bois en Auvergne (PPMBA)
5. Bewertung des NRW-Programms Ländlicher Raum 2007 bis 2013 (Promotion of forest conversion)
6. Forest Futures

7. Heartwoods

8. Forest Roads Grant Scheme

9. Ward Forester

10. Plans de Développement de Massifs Forestiers

11. Wood Mobilisation in Eifel and Lausitz

12. South West Forest

Connection between inputs, outputs and outcomes

An example from Ireland

"up to 2010 one could apply for a forest road grant without having applied for a felling licence hence the link between the installation of the road and wood mobilisation could not be quantified"

An example from Wisconsin, USA

Of 464 management plans, on 78% of mandatory practices and 36% of recommended practices are being implemented

[Shockley & Martin 2000]

An example from New York USA

Properties with management plans only scored better on actual management in 2 out of 6 categories.

Need a 'shift in funding away from management plans to logger training and timber sale education' [VanBrakle et al 2013]

The 55 papers on owner attitudes / willingness to harvest

- The majority express willingness to harvest
- Most studies indicate that money is not the primary factor in decisions about harvesting
- Money does not change behaviour in existing forests but may be more important for afforestation
- Only one study compared past harvesting behaviour with stated WTH: and they don't correlate.

A full project evaluation: Future Forests

Woodland Management
- 1,008.17ha of existing woodland developed with associated grants of £526,925
- Average work for woodland consultants of approximately 17 hours per week (based on 16% of beneficiary survey respondents)

Woodland Creation
- 404.4ha of new planting of which 87% was broadleaved, with associated grants of £338,222

Business Development
- 79% of beneficiaries advanced their already-existing businesses
- 10% of beneficiaries started a new business
- 144 business received advice and/or a grant (with associated grants of £227,570)3

Overall
- 145 UK jobs and 100 local jobs supported (retained and created)

Effet propre des PDM sur le volume prélevé sur les points IFN entre 2005 et 2010
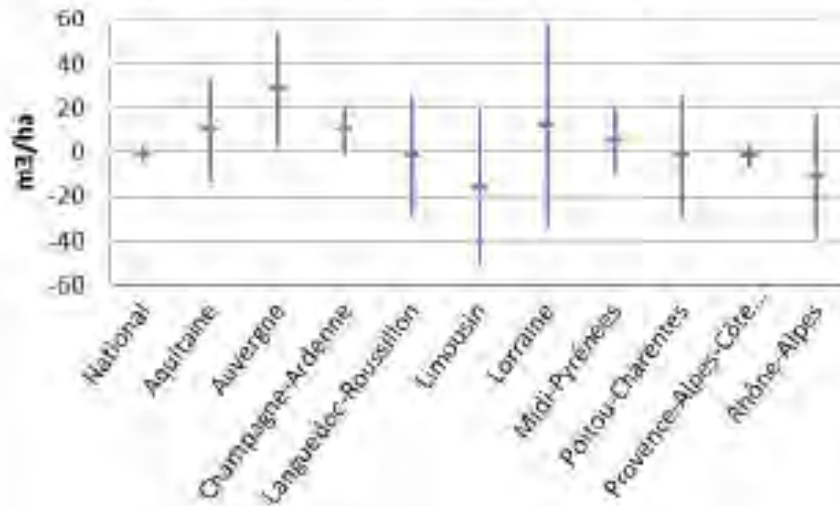
Effet propre des PDM sur la probabilité d'une coupe entre 2005 et 2010 (point IFN)
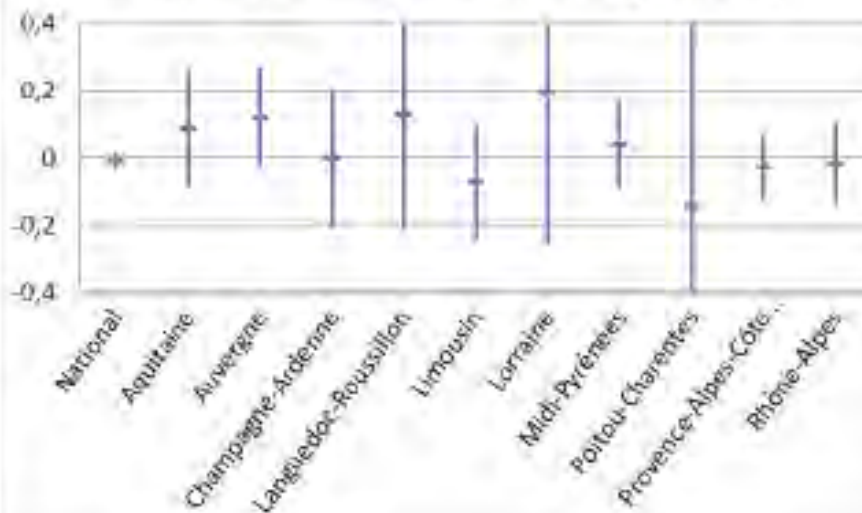
Very precise evaluation results
But how good is the data?
And do we have models to do this?

"At the national level, we did not detect any significant effect of PDM on mobilizing wood. The national estimated average effect of -0.68 ± 3.76 m3 / ha more between 2005 and 2010"

Chartes forestières de territoire
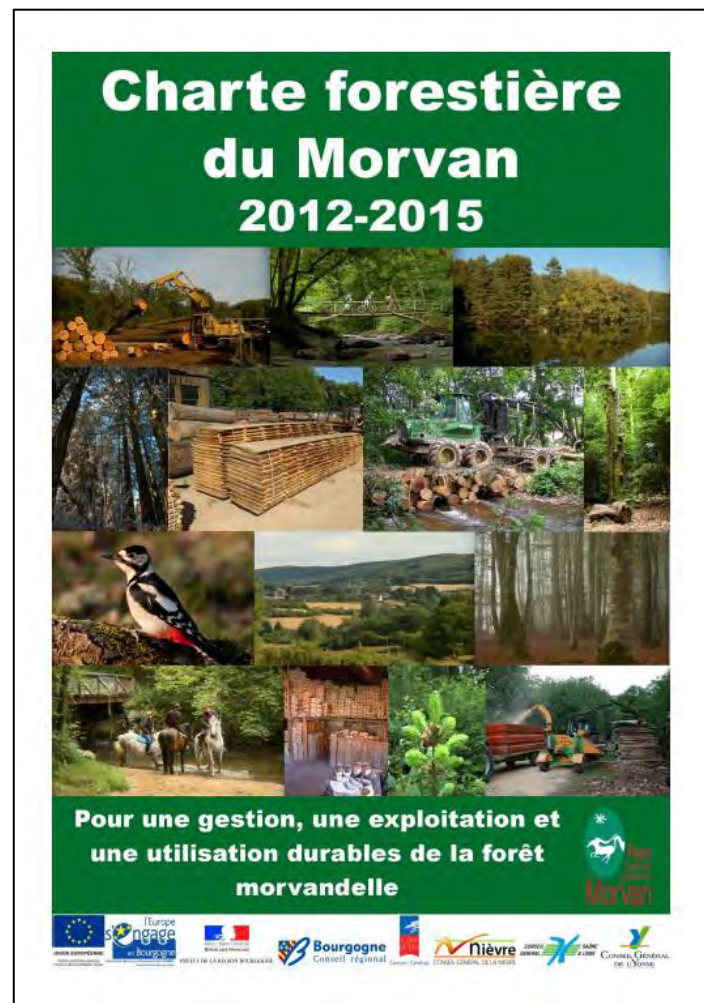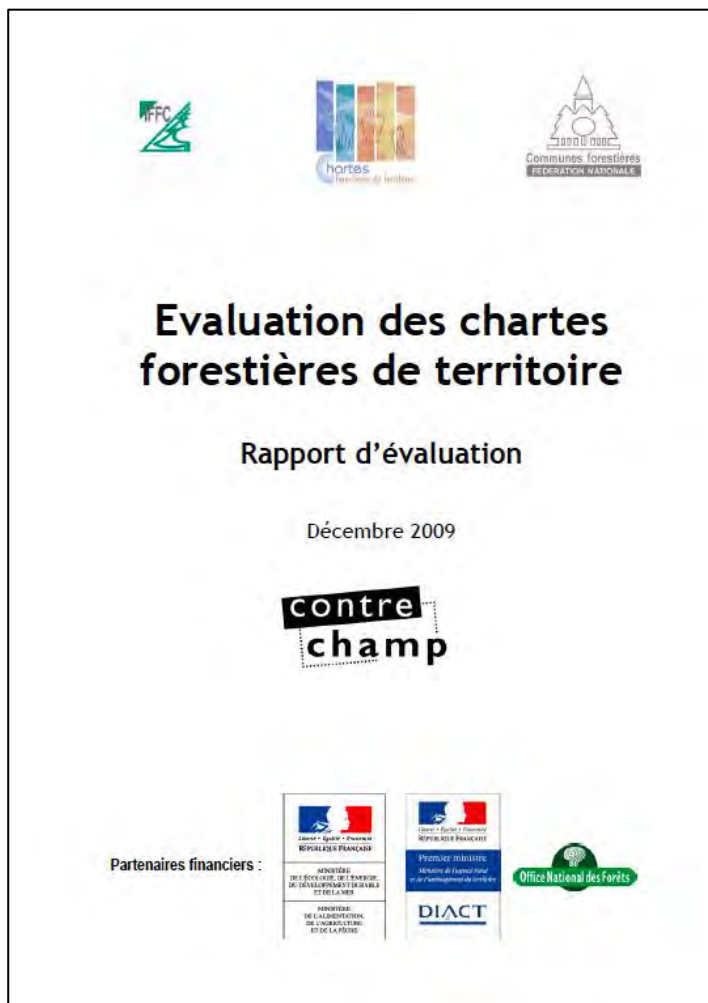
When outputs are outputs …
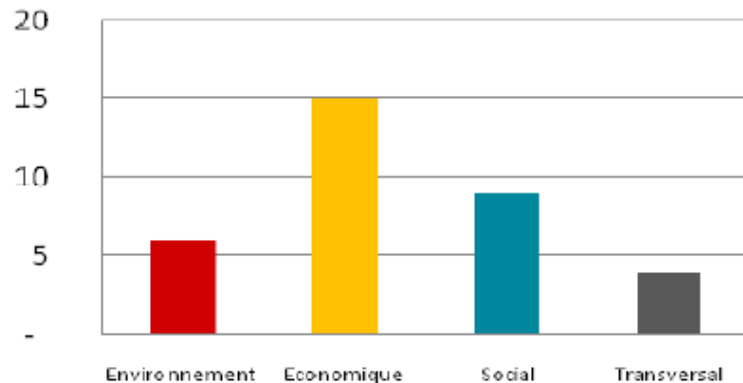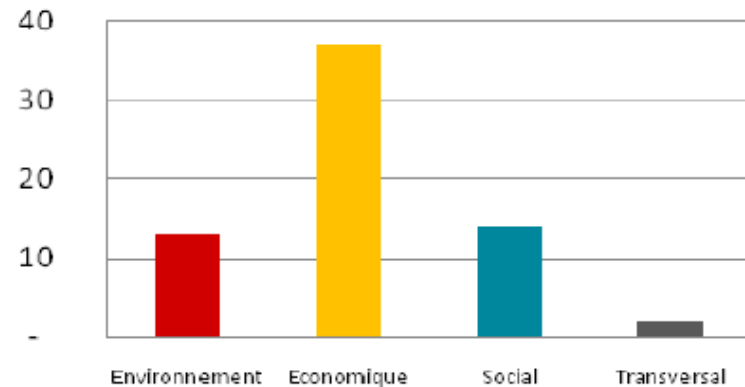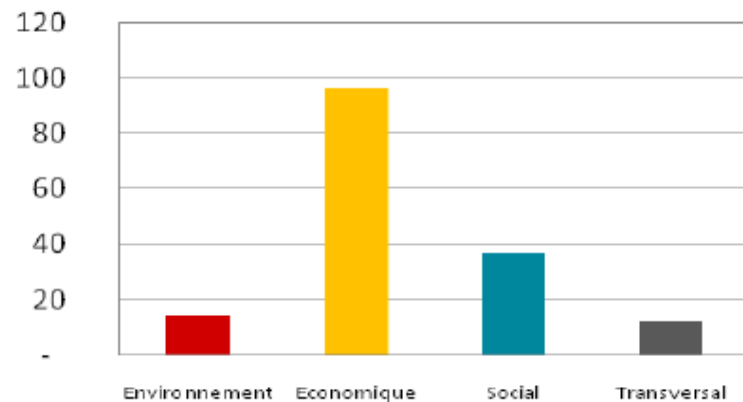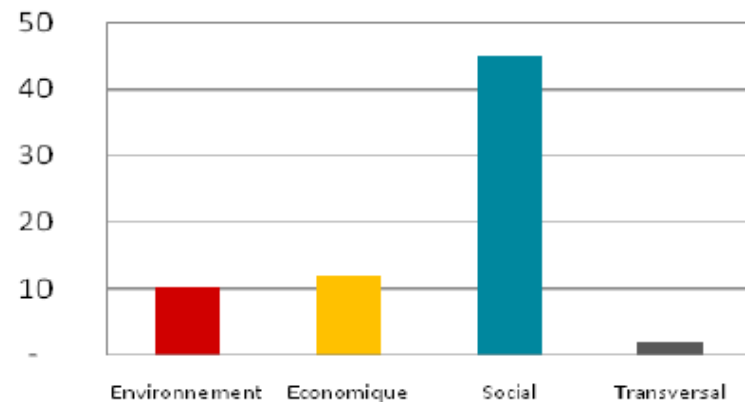
Learning along the way

- role of political support, animation (facilitation resources) of the CFT, and the supporting structure.
- questions on their initial balance, in terms of the ambition to be part of a sustainable development approach.
- privilege given to the economic dimension, which is in almost all cases, the pivot of the charter
- Shows the sensitivity of the actors actually invested in these efforts: communities, forest actors and technical and financial partners occupy the predominant places.
- other concerns or visions usually appear as small or nonexistent.

Testing technologies

The effects of introducing modern technology on the financial, labour and energy
performance of forest operations in the Italian Alps

Raffaele Spinelli [a,*], Natascia Magagnotti [b]

Technology and social relations:
- One technology much more efficent than the other
- But cost efficiency not passed on to forest owner
- So a study of the technology in isolation may not give an accurate indication of likely adoption

- What about the 8 (out of 167) studies which have something to say about wood mobilised?
  - Issues about validity / verification if not full evaluations
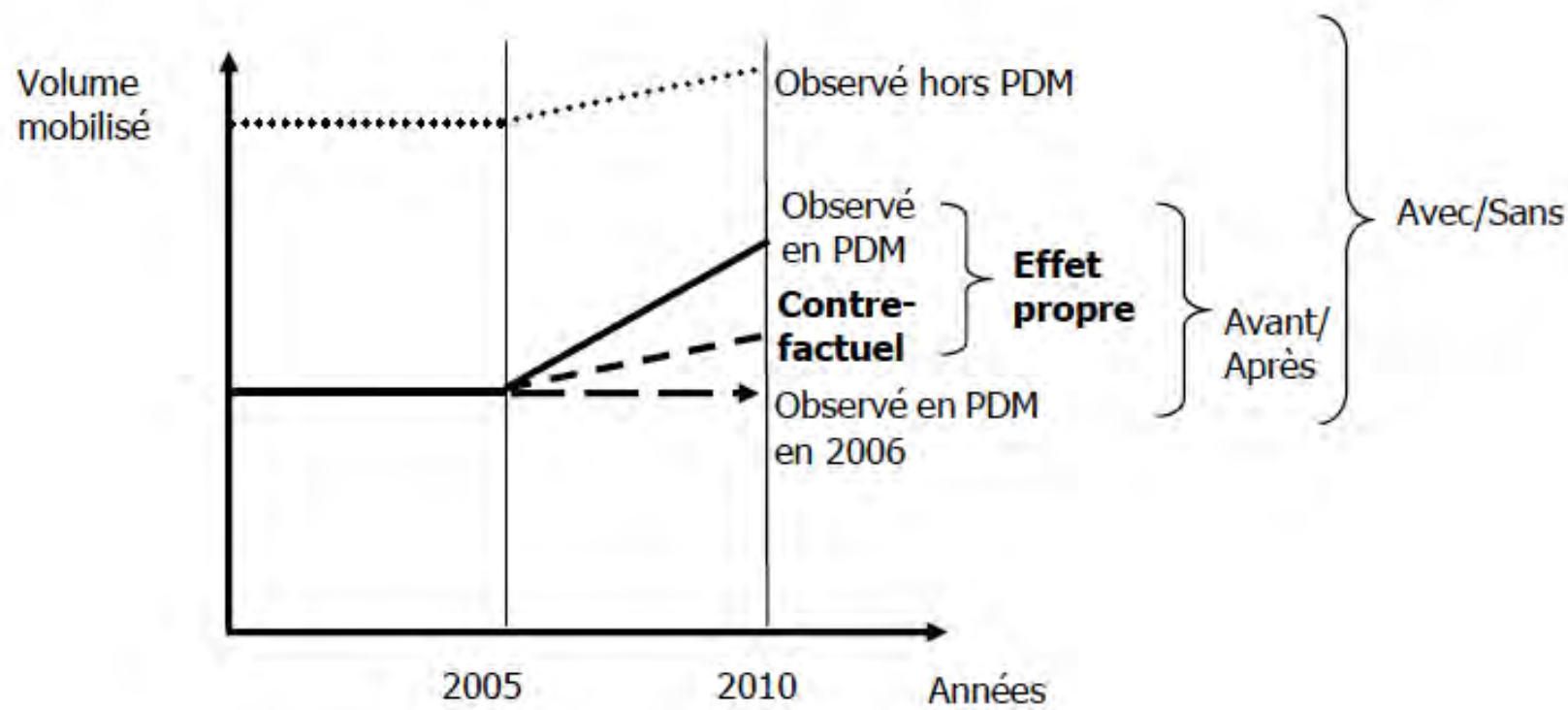
Jahr / Faktoren / Zahlen und Kennzahlen	2004	2005	2006	2007	2008 (Prognose)
Fläche - gesamter Privatwald (ha)	13.000	13.000	13.000	13.000	13.000
Mitgliedsfläche (ha)	8.000	8.000	8.000	8.000	8.000
Mitglieder (Anzahl)	1.800	1.800	1.800	1.800	1.800
Einschlag - gesamter Privatwald FBG-Gebiet (Efm)	14.700	21.900	36.200	26.000	30.000
Vermarktung über FBG (Efm)	0	0	8.000	23.000	24.000
Einschlag je Nutzer, wenn über FBG (Efm/Nutzer)	nicht vorhanden	nicht vorhanden	180 - 200	60-80	60-100
Einschlag im Privatwald (Efm/a/ha)	1,1	1,7	2,8	2,0	2,3
Infrastruktur und Organisation					

Member Area (ha)
Members (number of)
Impact - total
Private forest harvesters Area
Marketing through FBG
Impact per user, if FBG
Felling in private forests

Effet propre des PDM sur le volume prélevé sur les points IFN entre 2005 et 2010
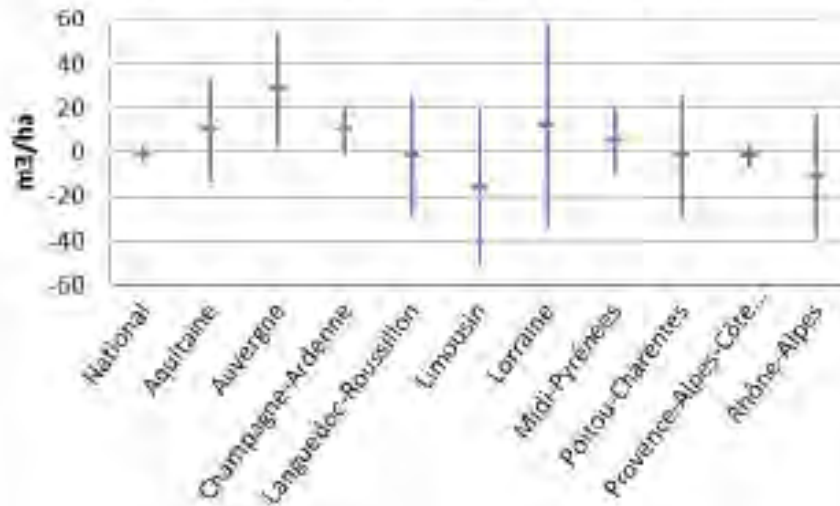
Effet propre des PDM sur la probabilité d'une coupe entre 2005 et 2010 (point IFN)
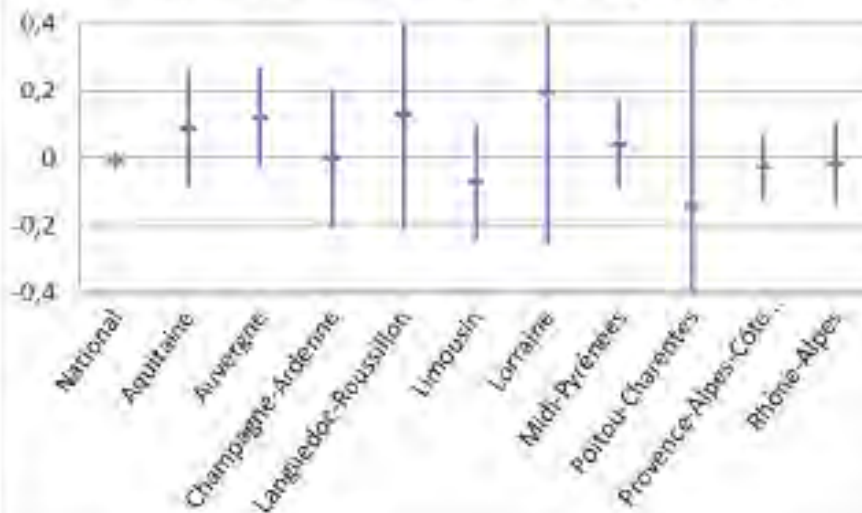
Very precise evaluation results
But how good is the data?
And do we have models to do this?

"At the national level, we did not detect any significant effect of PDM on mobilizing wood. The national estimated average effect of -0.68 ± 3.76 m3 / ha more between 2005 and 2010"

WP3 Evaluation
Step 1: learning from experience

Questions addressed by studies

Research

1. Are stakeholders likely to harvest? [willingness to harvest, or stated intention to harvest]

2. Would they be likely to harvest if conditions changed? [focusing on constraints to WTH]

3. What are stakeholders currently doing and why? [factors influencing *behaviour* not WTH]

Appraisal

4. Is there a tested technology that would sustainably increase harvest? ['technology' includes forest management practices, and DSS]

5. Are there governance tools to encourage owners to adopt that technology?

6. Are stakeholders likely to adopt the governance tool(s)?

Evaluation

A. Do stakeholders adopt the governance tool(s)?

B. Do stakeholders adopt the tested technology?

C. Do stakeholders change WTH or stated intention to harvest [as a result of technology + governance]?

D. Do they change their harvesting behaviour?

E. Is there a net increase in wood mobilised as a result?

F. What other side effects or trade-offs occur?

Bayesian Belief Networks

Louise Sing
Morgan Vuillermoz (FCBA)
Patrick Reumerman (BTG)
Mart-Jan Schelhaas (Alterra)

Outline

- Introduction
  - Purpose of the modelling
  - Why adopt a BBN approach?
- BBNs
  - Introduction
- SIMWOOD BBNs
  - SIMWOOD Conceptual BBN
  - Guidelines on their use in SIMWOOD
  - Auvergne pilot project
  - Gelderland and Overijssel CMS*i* pilot project

Introduction: purpose

- RLL Task 3.2: Modelling potential wood resource/biomass mobilisation [Optional]:

  - Develop participatory models (using Bayesian belief networks and/or Multi-criteria decision analysis), using the **expert knowledge** of key stakeholders … **to complement quantitative modelling of the impacts of possible solutions** using GIS.

  - Discuss outputs with stakeholders and record the key points that arise.

Why adopt a BBN approach?

(1) To explore and increase **understanding** of the factors affecting wood mobilisation in the model region, and how a solution/intervention might result in changes to forest management and the volume of wood mobilisation achieved.

BBNs can combine the available qualitative and quantitative data for the region.

Why adopt a BBN approach?

(2) To provide more detailed information about the **potential change in forest management** that can be achieved by an intervention to the European scale modelling in WP3.

Why adopt a BBN approach?

(3) To provide a **stakeholder discussion tool** for use within the RLL meetings that can capture stakeholder knowledge about the strength of influence of different factors on wood mobilisation in the model region.

BBNs have been used in a number of participatory processes and other EU projects: MERIT (5th Framework project), Openness(7th Framework project).

BBN introduction

- BBNs organise knowledge - either quantitative evidence or qualitative data (from expert's knowledge, judgement, experience and beliefs) based on **cause and effect** relationships among key variables.

Two elements of a BBN

(a) Network diagram

Graphical representation of the system

Key variables organised as parent and child nodes

Relationships are defined by uni-directional arrows (arcs)
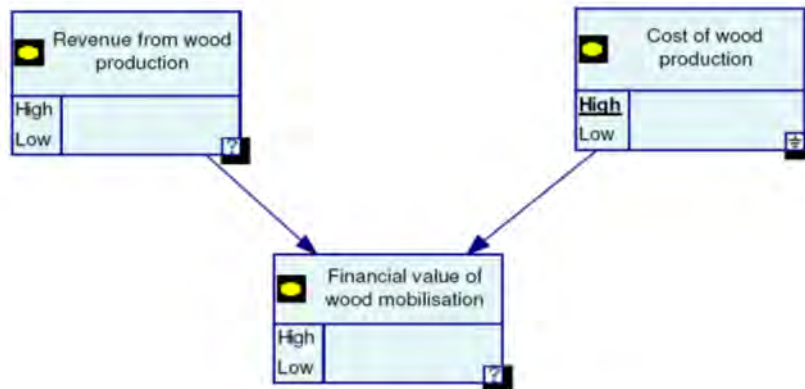
(b) Conditional Probability table

Records the probability distribution of one variable (parent node) affecting the state of another (child node)

Captures uncertainty of the relationship

Simple example: wet grass

weather	sunny	cloudy	rainy
on	0.7	0.1	0
off	0.3	0.9	1

weather	sunny		cloudy		rainy	
sprinkler	on	off	on	off	on	off
wet	1	0	1	0.2	1	1
dry	0	1	0	0.8	0	0

SIMWOOD Conceptual BBN
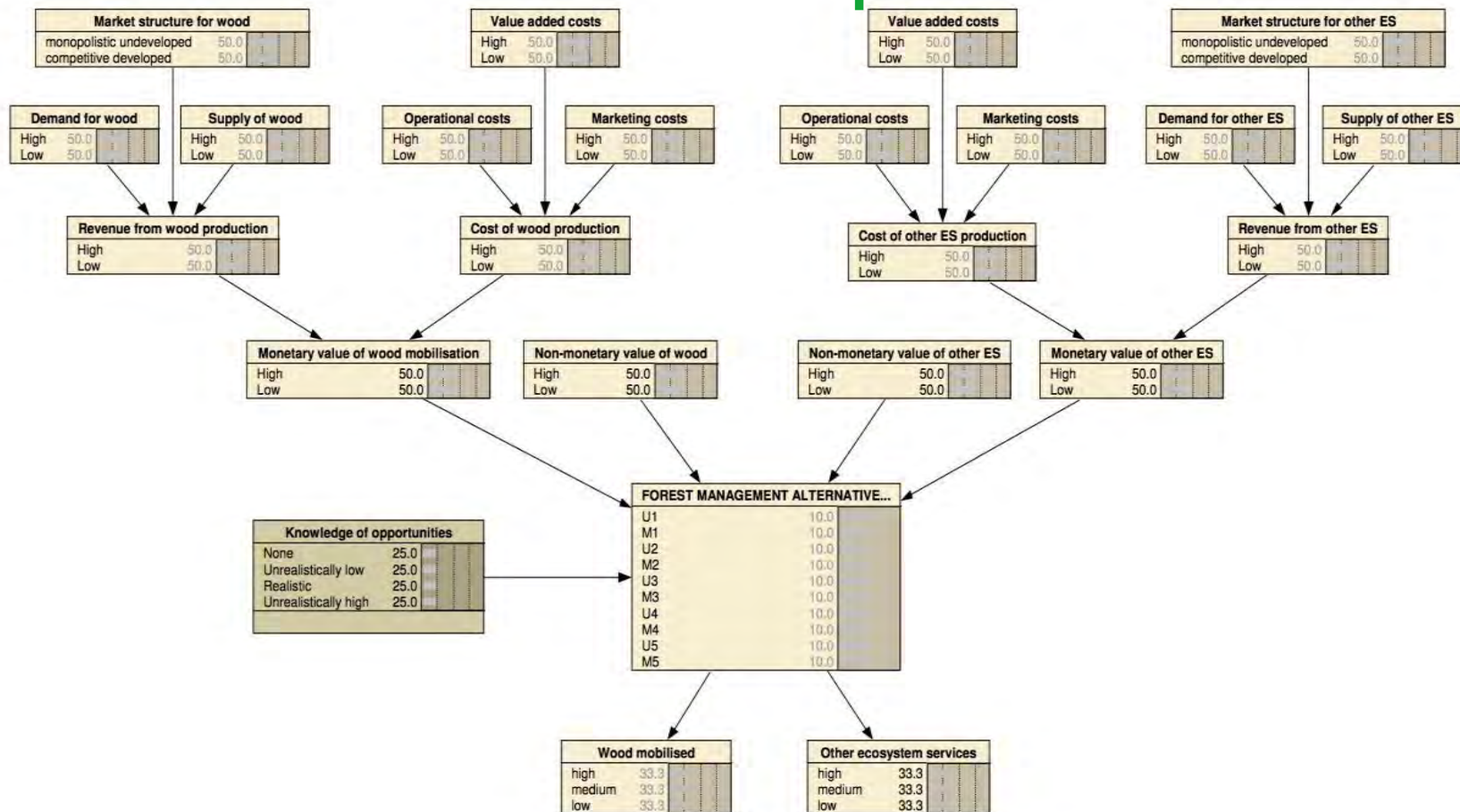
SIMWOOD Conceptual BBN

- The role of the BBN modelling in SIMWOOD is to capture the different factors that explain the distribution in FMAs across a model region as a series of interconnected nodes

- A useful tool for discussion with stakeholders

- BBN can provide information on changes to forest management approaches as a result of a pilot project to the EFISCEN modelling work

Seven-step guidelines for using BBNs in SIMWOOD

- Adapted from the MERIT guidelines

- Recommend the conceptual BBN forms the starting point in developing the network, although this may not be the best approach for your Model Region

- Aim is to make use of the available data and knowledge from the RLLs, and involve the relevant stakeholders at various stages

Step	Tasks	Who is involved	Associated RLL tasks*	Suggested Timing
1. Define the problem	What variables are your trying to impact? What actions are available to make this impact?	RLL coordinators and/or researchers	Task 2.5b	Following first RLL
2. Identify variables, actions and indicators	List relevant variables Identify key indicators, actions (interventions) and data sources	RLL coordinators and/or researchers	RLL task 3.3a (solutions template) RLL task 3.3b (conceptual model for wood mobilisation)	Following first RLL
3. Design pilot network	Develop the first draft BBN Send to stakeholders for feedback Refine network	RLL coordinators and/or researchers		Following first/second RLL
4. Collect data	Collect data from all available sources	RLL coordinators and/or researchers		Following second RLL
5. Define the states for all variables	Selection of states for each variable	RLL coordinators and/or researchers in collaboration with expert stakeholders		Following second RLL
6. Construct conditional probability tables via Delphi analysis	1. Survey stakeholders 2. Compilation of results 3. Analysis of results to obtain final scores (possible Delphi analysis) 4. Run network	Stakeholders to fill in survey; RLL coordinators to compile results; researchers to analyse results & run network using final scores		Following second RLL
7. Presentation of network to stakeholders and refinement	1. Present network and help provide interpretation 2. Obtain feedback and refine as necessary 3. Carry out sensitivity analysis on key variables	RLL coordinators to present results; Stakeholders to provide feedback; RLL coordinators to compile results; researchers to update networks		At 3rd RLL
Analysis of method and write up of results	1. Write up results for Simwood 2. Establish any opportunities for journal papers	RLL coordinators & researchers		Following 3rd RLL

EFISCEN Space modelling in SIMWOOD

Mart-Jan Schelhaas
Gert-Jan Nabuurs, Geerten Hengeveld, Bert van der Werf, Wim de Winter
(Alterra)

EFISCEN Space essentials

- Modelling the diameter distribution of a 1ha plot anywhere in Europe
- Driven by Europe-wide growth and mortality functions for the 20 most important tree species (groups)
- Harvesting is simulated by specific harvesting rules or patterns
- Output on species/diameters classes of standing stock and harvest
- Initialised on (subsets of) NFI plot data

EFISCEN Space optionals

- Conversion to stemwood volume using local volume conversions
- Conversion to whole-tree biomass (giving branch- and topwood potentials)
- Conversion to biomass carbon
- Estimates of harvesting costs (currently based on NL situation)
- Estimates of revenues (based on price per species/diameter class)
- Additional indicators based on current output or subsequent modelling (Shannon index for species or diameter structure, deadwood, soil carbon)
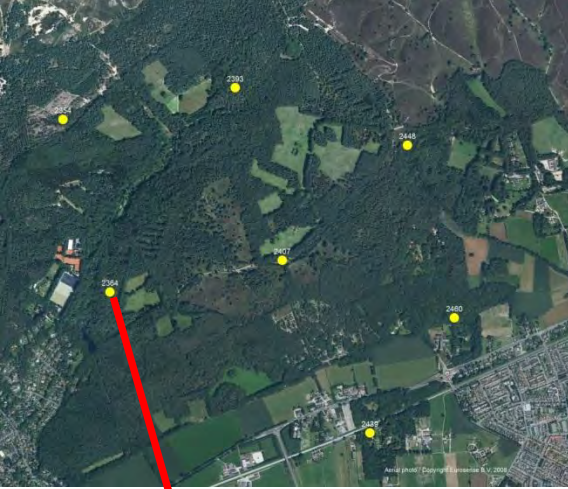
How doe

NFI plot

initialisation

Growth & mortality

www.simwood
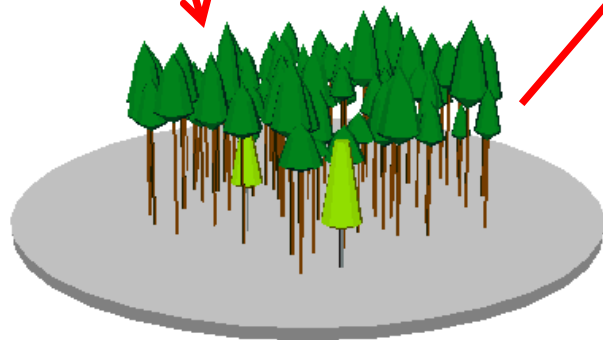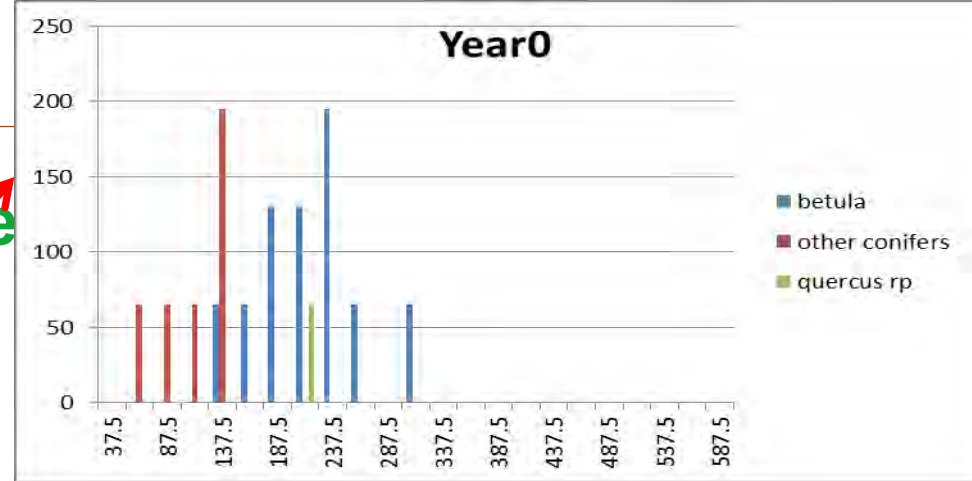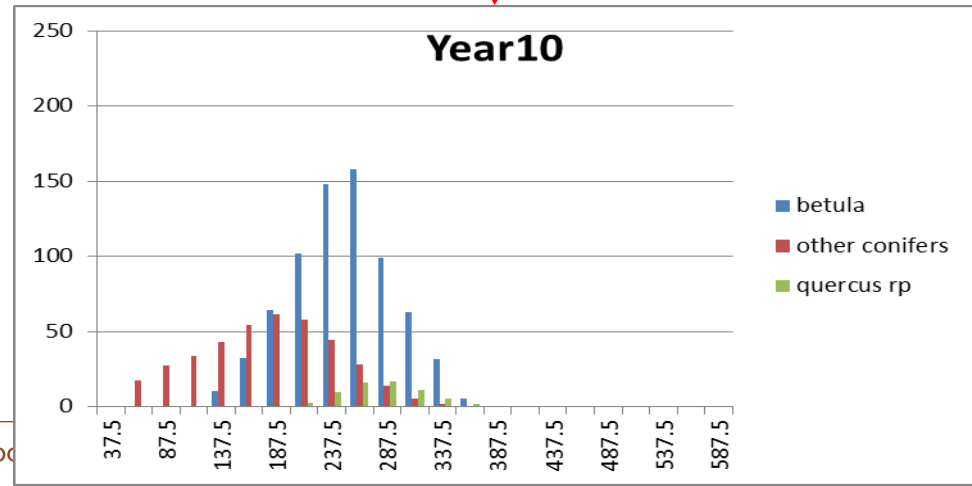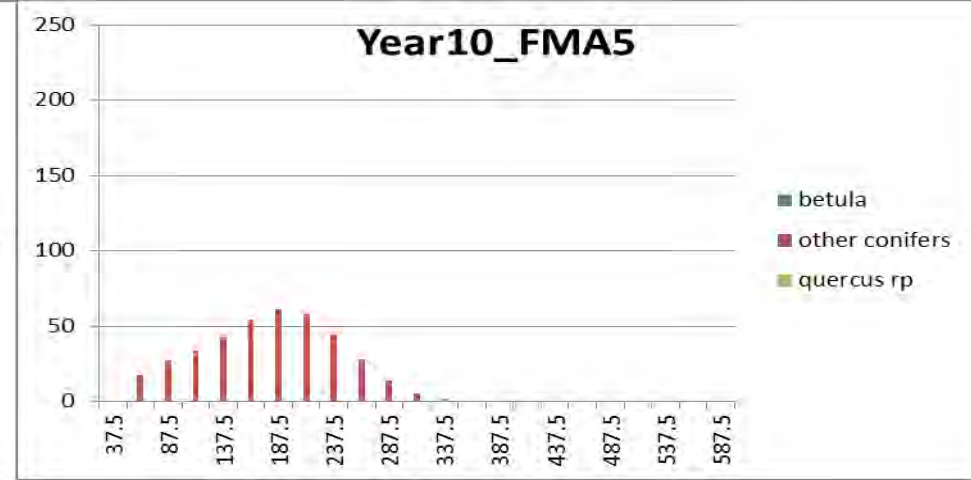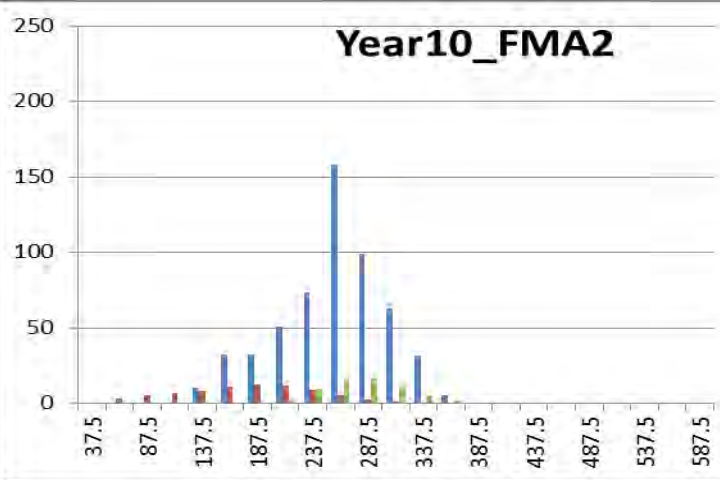
Harvest options
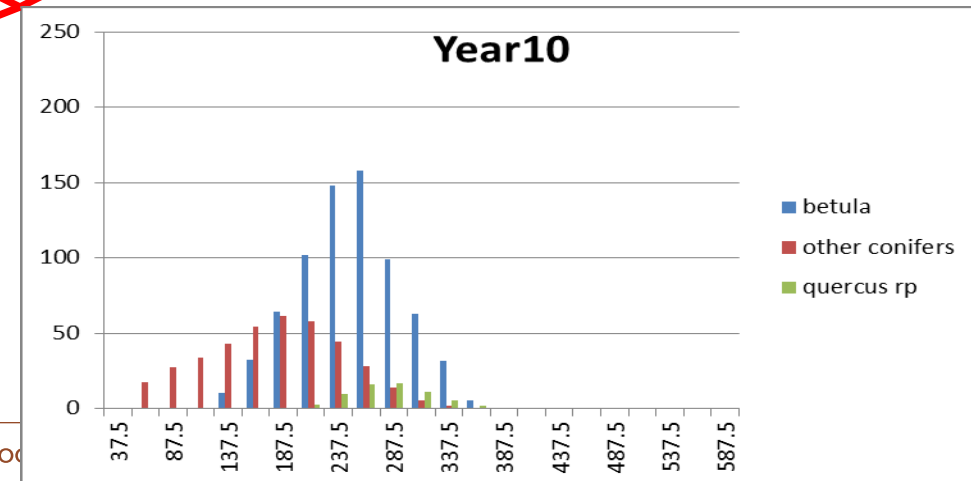
Link with the BBN
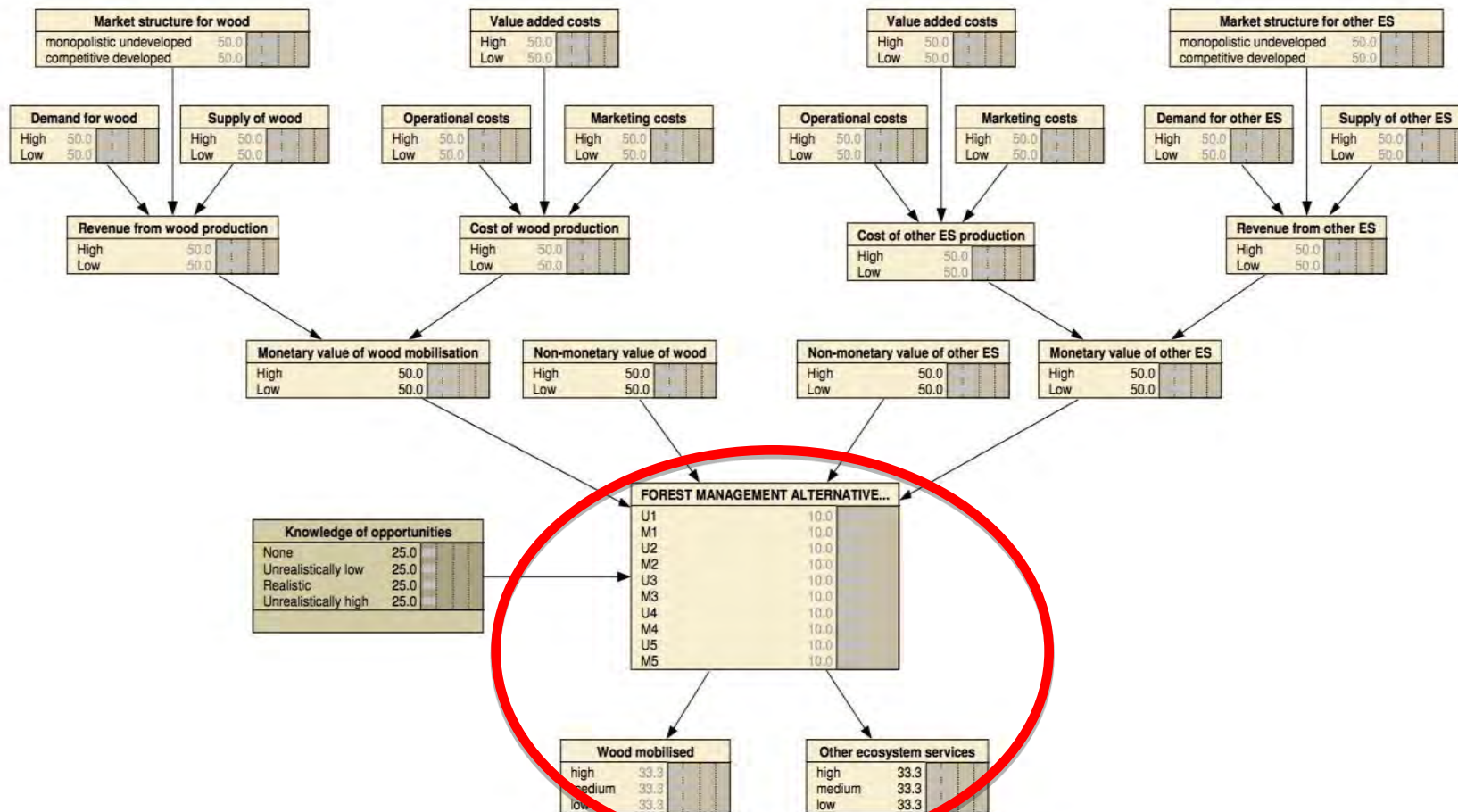
Link with the BBN

- More insight in of effect of pilot project on wood mobilised (quantification)
- As well as in development of the forest
- And hopefully as well on other ecosystem services
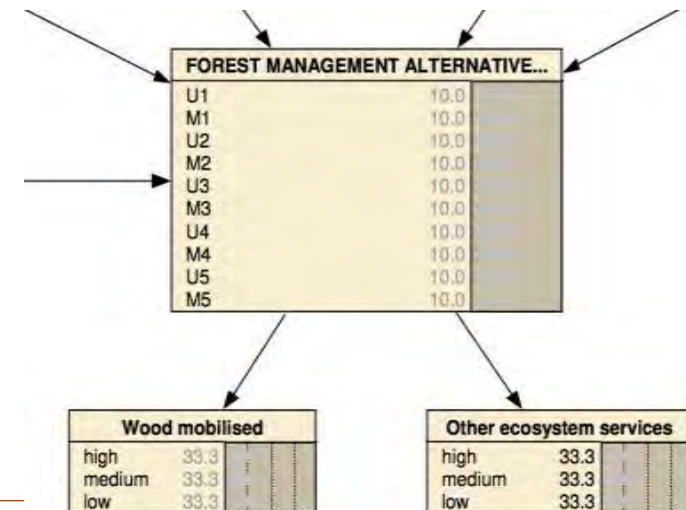
Summary

- More or less operational in 8 case studies
- 2 case studies still waiting for data
- No data expected for remaining cases
- Growth and mortality functions to be updated
- To be discussed case by case what modelling is useful
- Does not have to be linked to BBN

Auvergne Pilot Project BBN

Louise Sing (FR)

Morgan Vuillermoz (FCBA)

Auvergne Pilot Project

- **Pilot project:** Capacity building for sustainable logging practices in steep terrain and related forest management requirements

- **Background:** Reluctance of forest managers to harvest steep slopes due to uncertainty

- The pilot project aims to increase wood mobilisation on steep terrain by increasing knowledge and practises of forest companies through capacity building

PILOT PROJECT
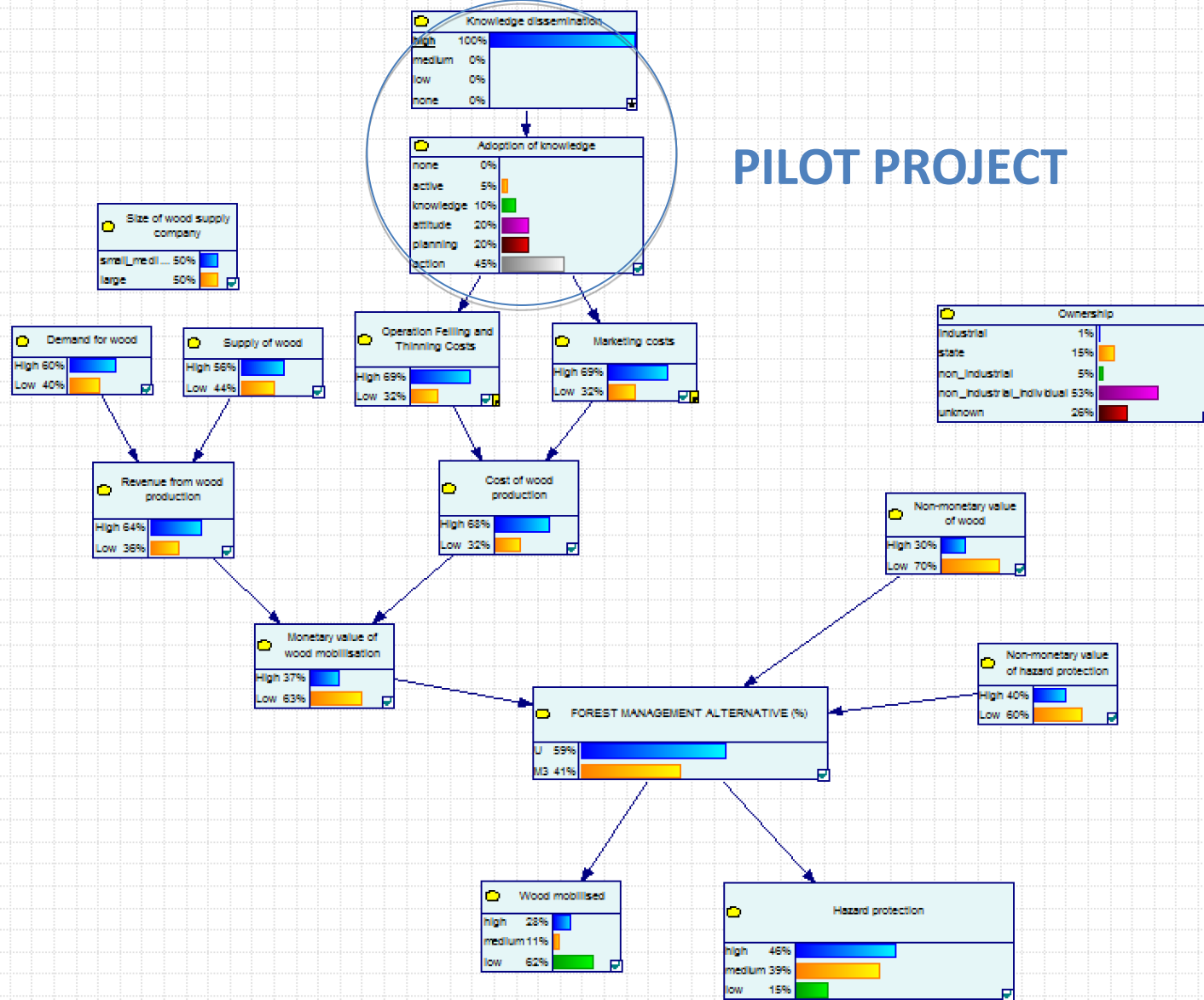
Pilot project
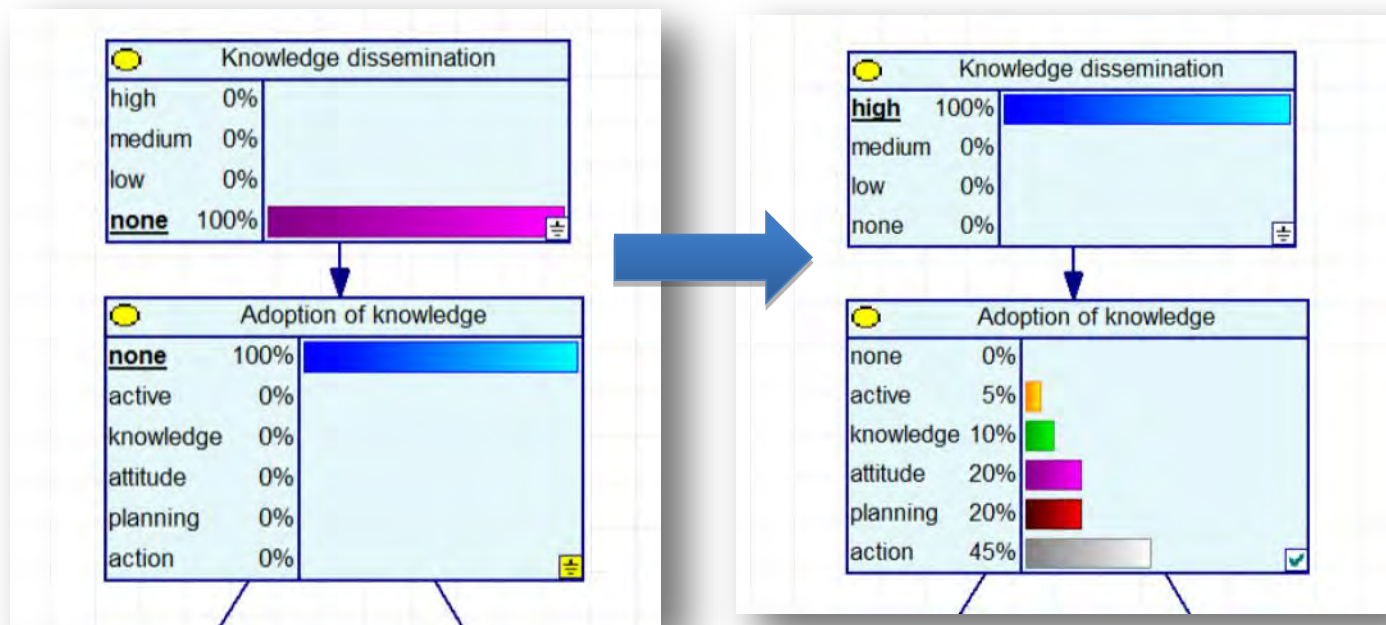
PILOT PROJECT
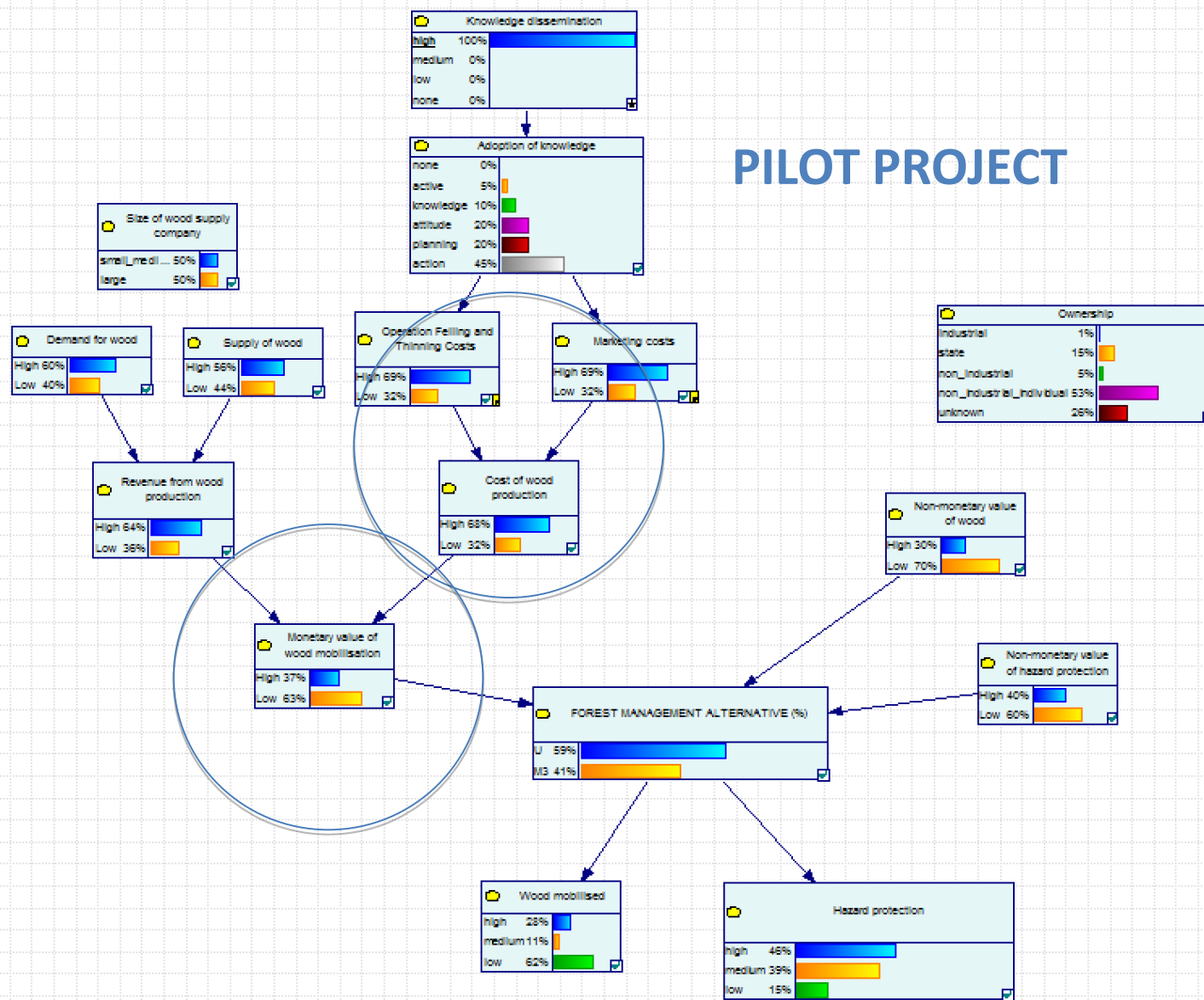
Outcomes
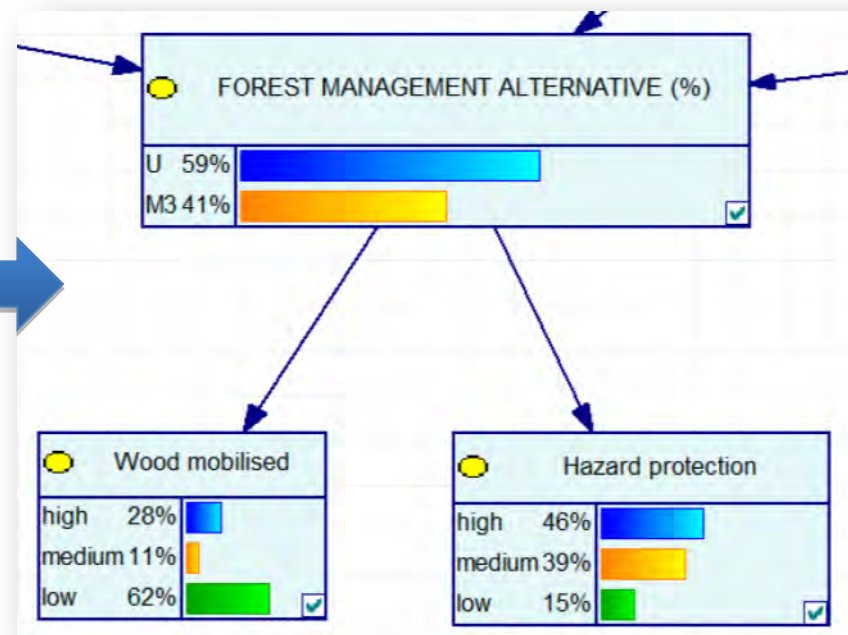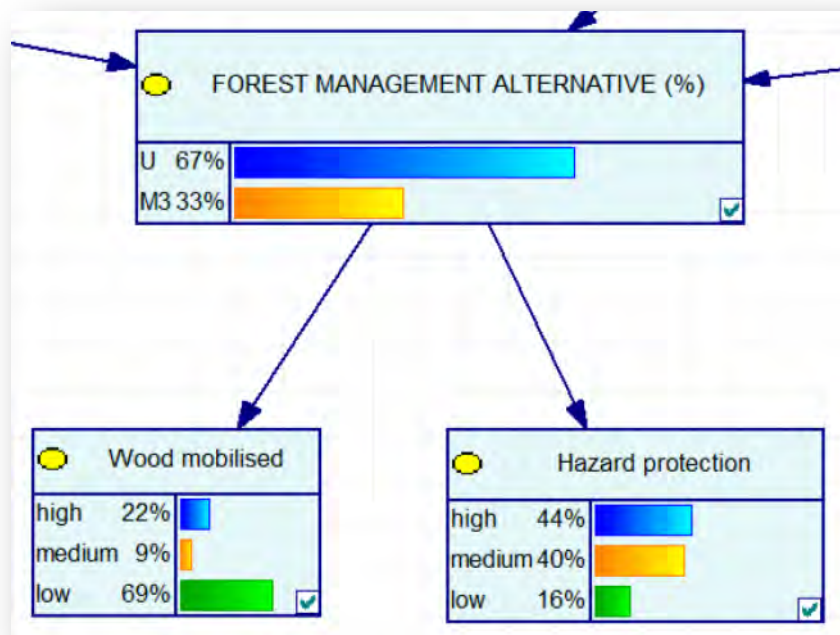
Next steps

- Discuss the suitability of the BBN structure for reflecting the processes in Auvergne with stakeholders
- Discuss the values in the CPT
- Change conceptual states to actual states where possible, depending on data available

Implementing Auvergne in EFISCEN Space

- Select plots from NFI database in Auvergne with slope class 1 or 2 (15-45%) => 23.8% of the plots, 665 plots, representative for about 177,000 ha

- No info is present about management at the plot

- For U (unmanaged), no harvest is applied

- For M3 (managed), current harvest pattern from NL is applied

FOREST MANAGEMENT ALTERNATIVE (%)

U 67%

M3 33%
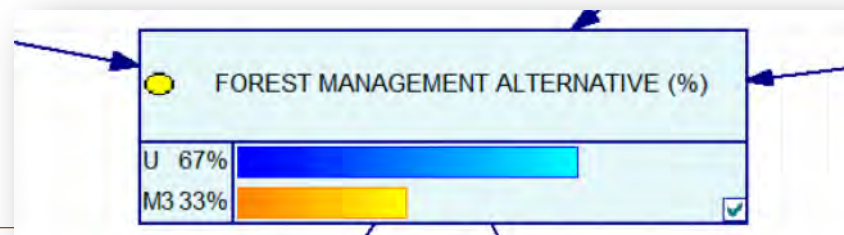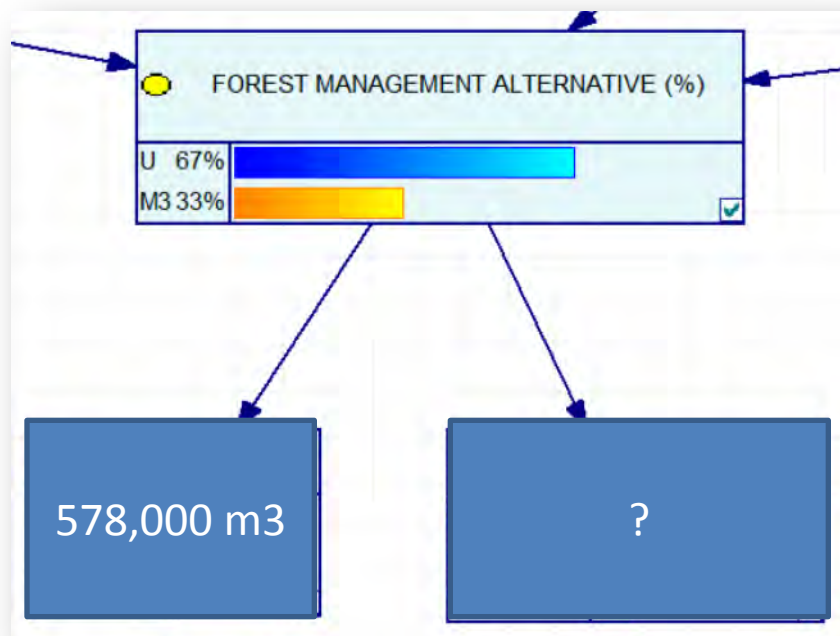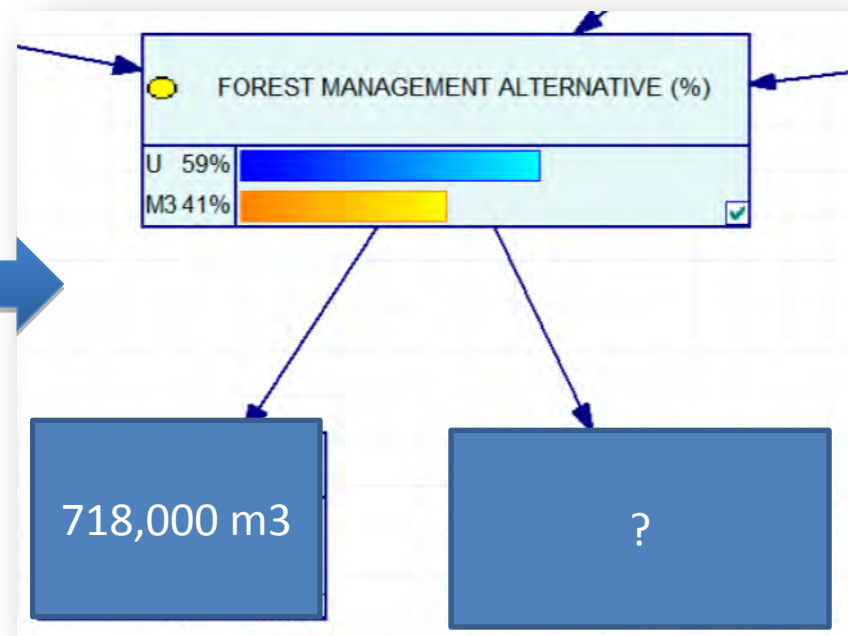
Outcomes

To do

- Update harvest pattern/rules
- Additional output (harvest by species and assortments)
- Add cost calculations (when desired)
- Add effect on ecosystem services (when desired, to the extent possible)
- Iterate with stakeholders

Gelderland and Overijssel CMS*i* Pilot Project BBN

Patrick Reumerman (BTG)

Mart-Jan Schelhaas (Alterra)

Biomass module pilot project

- **Background:** Low average plot size and fragmented ownership account for inefficiencies in harvesting and logistics.

- **Pilot project:** Development of a biomass (IT) module that helps in bundling harvesting and logistics activities for (initially) branch- and topwood.

- **Scope of the BBN:** Modeling of the influence of region-wide implementation of the (pilot)project on Forest management alternatives of NIPF (Non-Industrial-Private-forest-owners)

Pilot project

- Size matters
- Use is made of NIPF owner survey data

Subsidies, real estate renting, etc.

3 alternatives

Prediction of wood mobilised

SIMWOOD
Sustainable Innovative Mobilisation of Wood

Biomass module
yes 0%
No 100%

Appropriate equip...
yes 0%
no 100%

Size
Over_25ha 58%
Under_25ha 42%

Demand for wood
High 60%
Low 40%

Wood Supply Contracts
guaranteed 25%
irregular 75%

Operational Costs
High 71%
Low 29%

Revenue from wood production
High 47%
Low 53%

Financial value of wood mobilisation
High 38%
Low 62%

Financial value of other ES
High 47%
Low 53%

Financial Value Forest Maintenance
High 40%
Low 60%

Non-financial value of other ES
High 60%
Low 40%

Wood mobilised (m3/year)
Mobilised 182094
Not_mobilised 149124

FOREST MANAGEMENT ALTERNATIVE (%)
Unmanaged_U 36%
Close_to_nature_M2 33%
Managed_mulitpurpose_M3 30%

Wood mobilised per FMA

Biodiversity
high 43%
low 57%

Two effects of the pilot project

- Bundling leads to lower operational costs
- Bundling allows long term supply contracts, meaning higher prices

Outcomes
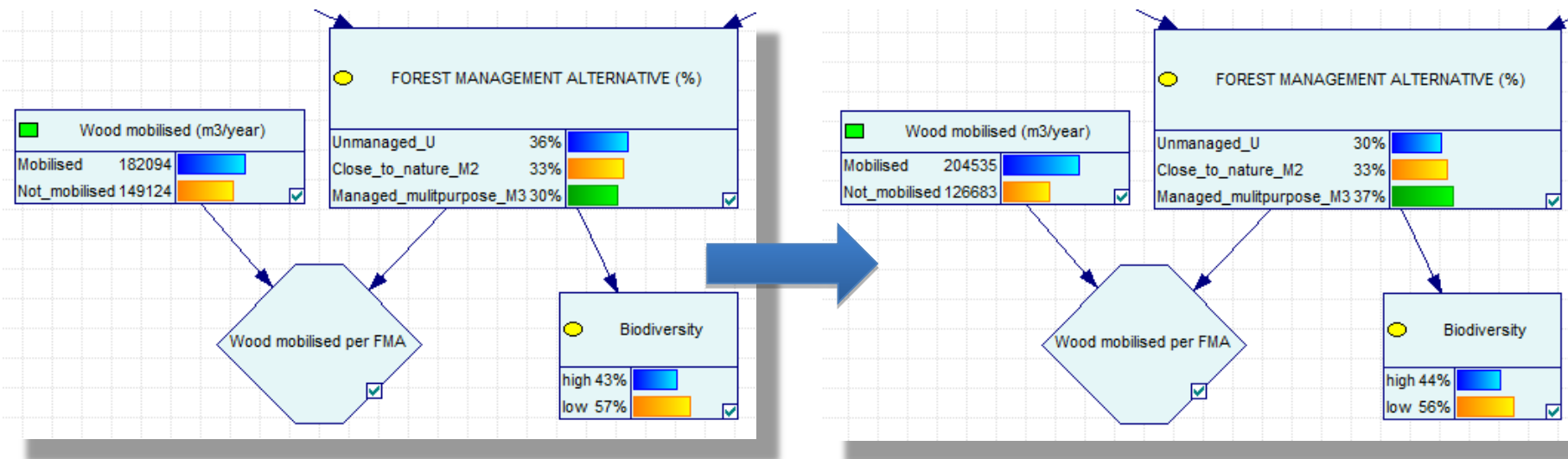
This is a first approximation. Problems of fitting actual harvesting data: is lack of harvesting because of FMA Unmanaged, or FMA M2?

Issues/observations

- **No feedback loops:** Increasing wood mobilisation can result in less subsidies through the SNL system. This cannot be included in the BNN

- **Motivation NIPF owners:** Many owners see harvesting as a means to an end (nature and cultural value of the forest). Less subsidies can mean in certain cases more harvesting. This is not modeled yet.

Next steps

- **Change the FMA:** A tailor-made FMA can be defined to account for the harvesting of branch- and topwood. Comparing the results can take place on the level of 'amount of wood mobilised'

- **Inclusion of 'actual data'**: Updating the BBN with RLL actor data, survey data, and data on harvest quantities per FMA

Implementing Gelderland/Overijssel in EFISCEN Space

- Select plots from NFI database in Gelderland/Overijssel that are privately owned. 573 plots, representative for about 67,000 ha
- Check SNL subsidy scheme: Nature (31%) or Production (69%)
- For U (unmanaged), no harvest is applied
- For M2 (close to nature), current harvest pattern on SNL Nature is applied
- For M3 (managed), current harvest pattern on SNL Production is applied

Wood mobilised (m3/year)
Mobilised   182094
Not_mobilised 149124

FOREST MANAGEMENT ALTERNATIVE (%)
Unmanaged_U   36%
Close_to_nature_M2   33%
Managed_multpurpose_M3 30%
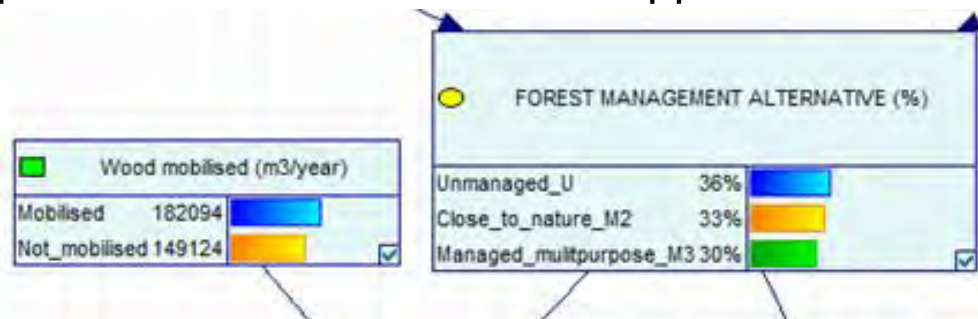
Extraction of privately owned NFI plots

State Forest Service

Other state-owned

Private

Nature management organisations

SIMWOOD
Sustainable Innovative
Mobilisation of Wood

Boseigendom in Nederland

- Bedrijf
- Gemeenten
- Landgoed
- Ministerie van Defensie
- Ministerie van Financiele Zaken
- Natuurbeschermingsorganisaties
- Natuurmonumenten
- Onbekend
- Overig particulier georganiseerd
- Overig publiek bezit
- Overig staatseigendom
- Privebezit
- Provincies
- Staatsbosbeheer
  - SBB
  - overig publiek
  - NBO
  - overig privaat

Subsidy scheme as indication for management (aim) (=FMA)

No subsidy scheme known

Nature-oriented
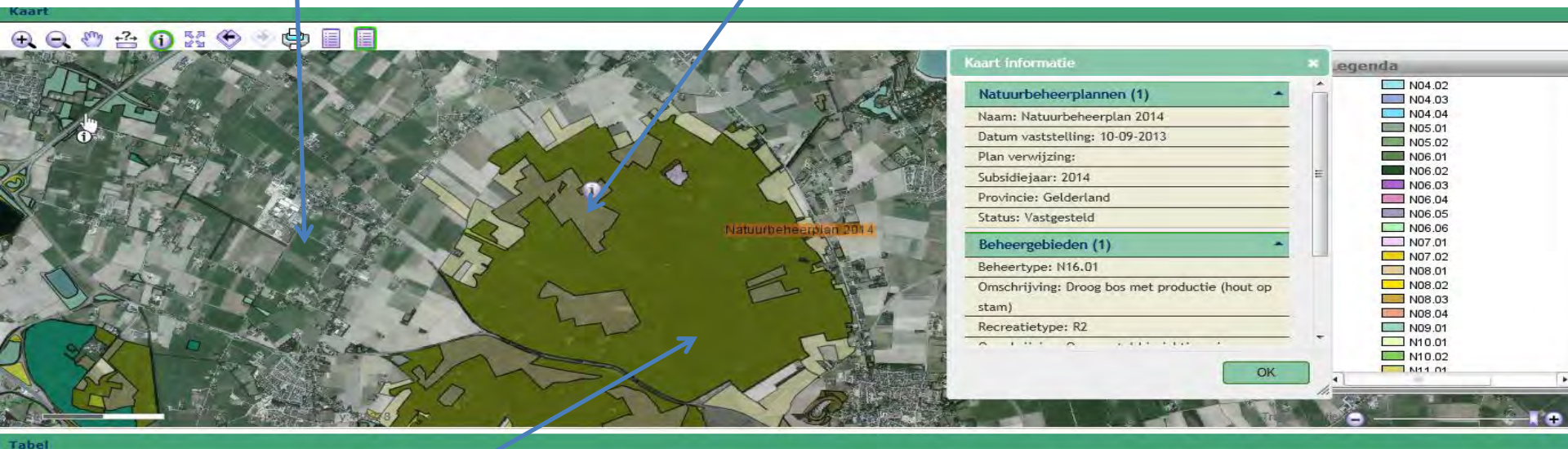
Production-oriented

Current management

- Nature:
    - About 50% of the plots not harvested in the last 10 years.
    - Average harvest 6.05 m3/ha/yr on harvested plots.
    - Average harvest 3 m3/ha/yr over all Nature plots.
- Production:
    - About 42% not harvested in the last 10 years.
    - Average harvest 6.23 m3/ha/yr on harvested plots.
    - Average harvest 3.6 m3/ha/yr over all Production plots.

Issues

- How much of the area is unmanaged (U)? Is the combination of Nature SNL and unmanaged a deliberate choice or an inactive manager?

- Same question for Production SNL and unmanaged?

- BBN indicates a few % area switch from U to M2, this would yield about 22 thousand m3 mobilised

WP4 Summary

- Task 4.1 Proposition and selection of pilots
  - Discussions at regional level to justify relevant target for pilot project
  - Initial considerations for a pilot project description template including
    - Purpose of the pilot project
    - Involvement of the partner SME(s)
    - Previsional implementation plan
    - Draft of an evaluation plan → to integrate stakeholders' expectations
- Task 4.2 Adaptation and 1st implementation
- Task 4.3 Interface with RLL

- Task 4.4 Collection of feedback
- Task 4.5 2nd implementation and final adjustment
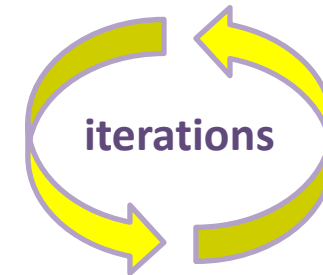
iterations

Implementation process

SIMWOOD
Sustainable Innovative
Mobilisation of Wood

SME + partners working hand in hand to test the relevance of a given measure as a way to overcome a critical barrier to wood mob' in their region

Target

- Reg' profile methodology to ensure that 5 domains are understood & taken into account when **choosing a target**
- (Optional) further investigation through focus study to secure the target with an additional piece of knowledge or information
- Validation of Target through RLL

Experimentation

- Experiment the application of the chosen measure through a Pilot project (from implementation plan , through actions, possible adjustments, feedback collection to results)
- Continuous involvement of stakeholders (RLL)

Evaluat° and Transfer

- Evaluation of the impact of the experimentation → Lessons learnt for the Region, SME & stakeholders
- Impact of broader adoption of the lessons learnt (enlarged target group; other regions in EU…)

Since SIMWOOD week

- 1st description by regional leaders
- Internal review → feedback to regional leaders
- 2nd description of the pilot projects
- PP launched and running

23 pilot projects including 1 from extra region (Lower Saxony)

Submission of deliverable D4.1 Description and planning of initiated pilot project

Consequences on common methodology

- Development of the evaluation strategy tuned to the pilot project and their respective RLL

- MOBILISER : parametrisation of the expert system with keywords

- Material for cross-regional exchanges

Feedback from pilot projects

- PP fully launched and running (long enough experimentation for evaluation to be relevant)

- RLL report after 1st meeting and just before Kilkenny

- Illustrations through the posters (to be used again on Wednesday)

Next breakout session

Collective workshop for each PP leader to start adopting the evaluation strategy

5 groups led by a facilitator (Aine, Bianca, Gary, Charles, Morgan)

3 questions will be raised :

- What change do you hope will happen?
- How will you know the changes did come true?
- What will be your next steps towards evaluating your pilot project?

Group A : engage forest owners

First name	Last name	Country	Pilot Projects	Breakout group	Facilitator
Aine	**Ni Dhubhain**	**Ireland**	**F owners**	**A**	**M**
Uwe	Kies	Germany	NRW	A	
Hans-Ulrich	Dietz	Germany	Lower Saxony	A	
Nadine	Karl	Germany	Lower Saxony	A	
Philippe	Deuffic	Ireland		A	
Evelyn	Stoettner	Ireland		A	
Richard	Sikkema	Italy		A	
Andrej	Breznikar	Slovenia	Slovenia	A	
Nike	Krajnc	slovenia	Slovenia	A	

Group B : PP dealing with governance

First name	Last name	Country	Pilot Projects	Breakout group	Facilitator
Bianca	**Ambrose-Oji**	**UK**	**Governance**	**B**	**M**
Roland	Schreiber	Germany	Bavaria	B	
Beatriz	de la Parra Peral	Spain	Leon	B	
Fatima	Cruz	Spain	Leon	B	
Xavier	Carbonell	Spain	Catalonia	B	
Jordi	Vayreda	Spain	Catalonia	B	
Amanda	Calvert	UK	Lochaber	B	
Phillip	Tidey	UK	Lochaber	B	
Andrew	Kitching	United Kingdom	North East England	B	

Group C: options for silviculture…

First name	Last name	Country	Pilot Projects	Breakout group	Facilitator
Gary	**Kerr**	**UK**		**c**	**M**
Cyrille	Pupin	France	Grand Est	c	
Alex	Kelly	Ireland	South East Region	c	
Maarten	Nieuwenhuis	Ireland	South East Region	c	
Mart-Jan	Schelhaas	Netherlands		c	
Alexandra	Ramos	Portugal	Alentejo	c	
Pedro	Ramos	Portugal	Alentejo	c	
Margarida	Tomé	Portugal	Alentejo	c	
Susana	Barreiro	Portugal	Alentejo	c	
João	Rua	Portugal	Alentejo	c	
Felipe	Bravo	Spain	Silviculture	c	

Group D: multi-functional decision making

First name	Last name	Country	Pilot Projects	Breakout group	Facilitator
Charles	**Harper**	**Ireland**		D	M
Christophe	Orazio	France		D	
Peter	Aurenhammer	Germany	Bavaria	D	
Cristina	Patricio	Portugal	Nordeste	D	
Sara	Sarmento	Portugal	Nordeste	D	
João	Azevedo	Portugal	Nordeste	D	
Felícia	Fonseca	Portugal	Nordeste	D	
Luis	Nunes	Portugal	Nordeste	D	
Fernando	Péres-Rodrigues	Portugal	Nordeste	D	

Group E: changing professional practices

First name	Last name	Country	Pilot Projects	Breakout group	Facilitator
Morgan	**Vuillermoz**	**France**	**Auvergne**	**E**	**M**
Philippe	Ruch	France	Harvesting	E	
Daragh	Little	Ireland	South East Region	E	
Pablo	Sabin	Spain	Leon	E	
A.Cristobal	Ordoñez	Spain	Leon	E	
Göran	Gustavsson	Sweden	Smaland	E	
Patrick	Reumerman	The Netherlands	Gelderland	E	
Louise	Sing	UK		E	

Derivations from original project plan

If applicable, explain the reasons for deviations from Annex I and their impact on other tasks as well as on available resources and planning

- Different paces and maturities regarding the prioritization of relevant targets in the regions
- 23 pilot projects launched after 1st RLL
- MS7 "Draft proposals of pilot projects complete" achieved in April 2015

If applicable, explain the reasons for failing to achieve critical objectives and/or not being on schedule and explain the impact on other tasks as well as on available resources and planning

- Not relevant now (December 2015)

If applicable, propose corrective actions.

- Not relevant now (December 2015)

Let's continue to share ideas about our pilot projects

Morgan Vuillermoz (FCBA)

Morgan.vuillermoz@fcba.fr ; +33 172 84 97 62

Task 6.1: Dissemination and Exploitation Strategy and Plan
(EFI, NUID-UCD, FCRA, FCBA, JRC, all partners)

2015: 3 editions of the Simwood external newsletter aimed at regional stakeholders

Issue 1: Jan 15 – project overview

Issue 2: Jun 15 – focus on Nordeste Transmontano, Portugal
                                 Castile and León, Spain

Issue 3: Dec 15 – focus on Yorkshire and NE England, UK
                                   South-Eastern Region, Ireland

Task 6.2: Development & maintenance of the SIMWOOD online presence
(EFI, NUID-UCD, FCRA, FCBA, JRC, all partners)

Launched Feb 2014, in 2015 so far

- c.4,000 unique visitors, accessing 18,200 pages

  (an increase of c.50% on last year)

- Regularly updated with presentations, publications, events, news.

Twitter 388 followers

LinkedIn group, 55 members

Task 6.3: Offline dissemination activities in each participating region & Task 6.4: Exploitation of results in other regions of Europe
(EFI, NUID-UCD, FCRA, FCBA, JRC, all partners)

- **Regions**

Regular updates of presentations/ publications /news/ events on project website regional pages

www.simwood.efi.int/model-regions.html

And in newsletter!

Task 6.3: Offline dissemination activities in each participating region
& Task 6.4: Exploitation of results in other regions of Europe
(EFI, NUID-UCD, FCRA, FCBA, JRC, all partners)

Due deliverables :

- **D6.3**:Policy brief presenting SIMWOOD pilot projects (M36)

- **D6.4**: European manual of integrated wood mobilisation solutions [main publication] (M46)

- **D6.5**: SIMWOOD final conference – Report [Paris/France] (M48)

- **D6.6** Report on dissemination and exploitation activities in the SIMWOOD model regions and in regions beyond the consortium (M48)

European manual of integrated wood mobilisation solutions

Challenges :

- Make the most of all the work achieved :
  - WP2 regional profiles and focus studies
    - Knowledge base
    - Barrier listed in regional profiles
    - Record of regional initiatives for wood mobilisation

Prospects for the market supply of wood and other forest products from areas with fragmented forest-ownership structures

BOKU

CENTRE TECNOLÒGIC FORESTAL DE CATALUNYA

Table·1:·Comparison·of·data·of·the·four·described·governmental·forest·initiatives.¶

initiative nr.	3	9	22	30
INPUTS				
subsidy input: €/ha, y for all measures	50,3	848,5	163,6	35,7
input of personnel capacities (years) / y	0,3	n.d.	1,0	0,1
OUTPUTS				
running metres/ha, y of road construction/improvem.	0,4	22,7	4,1	13,7
fm/ha, y of additional roundwood harvests	1,6	36,4	0,0	21,4
m² of forest conversion / ha, y	975	606	36	n.d.
size of decision-network (N actors)	15	7	6	4
% participating forest owners in the initiative's area	n.d.	100	4	39
forest owners trained / y	n.d.	n.d.	n.d.	n.d.
EVALUATIONS' OUTCOME				
mean evaluation of success (0... none to 3... full success)	2,1	2,1	2,3	2,8
project leaders' perception of success (pers. communic.)	++	+	--	+
problem density in % of relations	0,8	0,0	1,5	0,0

Source:·own·data/calculations,·Aurenhammer·(2015)¶

European manual of integrated wood mobilisation solutions

Challenges :

- Make the most of all the wo
  - WP2 regional profiles a
  - WP3 conclusions from
    - Review from Ana la

2.4.1 How has success been defined in evaluation?

There is a scarcity of evidence demonstrating successful mobilisation. Success is usually defined in the evaluation reports implicitly, or explicitly, as meeting the project objectives. At best this equates to achieving outcomes rather than impacts, and several studies point out that impact is a much longer-term expectation. Such outcomes can often be regarded as intermediate steps towards mobilisation, for example more engaged owners (defined for example as members of associations) or preparation of management plans.

2.4.2 What measures are generally successful and why?

Whilst some studies show that technological interventions can work, there is still a gap in demonstrating that these interventions can or will be adopted. Some evaluation reports show successful outcomes of advisory programs and technical support services which have helped landowners to develop management plans for example. The caveat with these approaches is a question of scale. Other studies explicitly test and question the value of intermediate measures, for example several studies show that forest management plans are not often implemented as intended.

2.4.3 How can successful measures in one area be translated into other regions?

European manual of integrated wood mobilisation solutions

Challenges :

- Make the most of all the work achiev[...]

  - WP2 regional profiles and focus [...]

  - WP3 conclusions from RLL and e[...]

  - WP4 conclusions from pilot proje[...]

    – List of pilot projects

    – Representation of nodes

    – Conclusions of pilot projects
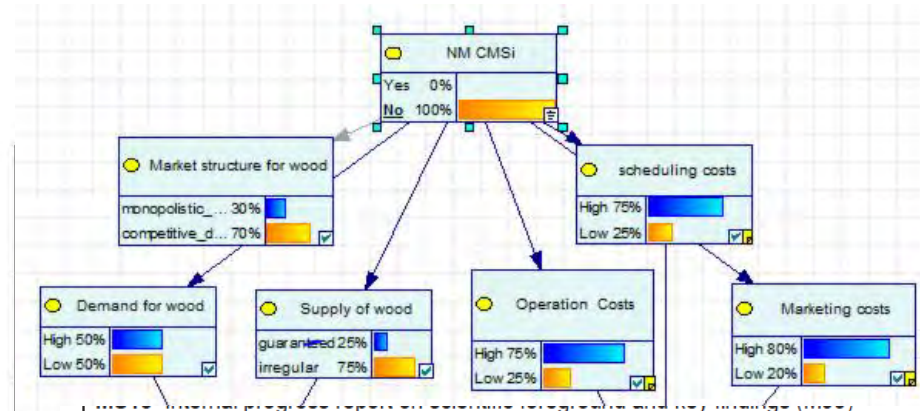
D3.1 Synthesis report of European model regions and regional impacts of current and pot[...] future mobilisation (M18)

D3.2 Actions for collaborative wood mobilisation and recommendations for pilot projects [...] firmed by Regional Learning Labs (RLL) (M22)

D 3.3 Synthesis report of key determinants and integrated regional solutions of current an[...] tial future mobilisation (M42)

D4.1: Descriptions and planning of initiated pilot projects (M24)

D4.2: Documentation and final evaluation of pilot projects facilitated by Regional Learning Labs (RLL) (M42)

D4.3: Synthesis report of regional pilot projects' added-value for wood mobilisation (M48)

European manual of integrated wood mobilisation solutions

Challenges :

- Make the most of all the work achieved :
  - WP2 regional profiles and focus studies
  - WP3 conclusions from RLL and evaluation
  - WP4 conclusions from pilot projects
  - WP5 benefit of the MOBILISER

17. → What solutions are propose…

Apply innovative harvesting techniques¶
Adapt harvesting working methods (including us…
- ☐ conditions in region¤
- ☐ Build roads to improve accessibility¤
- ☐ Innovative management techniques¤
- ☐ Species diversification¤
- ☐ Standardized practice¤
- ☐ Harmonize management activities¤
- ☐ Outreach tools towards the target stakeholders…
- ☐ Engagement of private owners¤

ID	barrier	barrDescription	domain	problemType
1	envImpact	environmental concerns (e.g. soil compaction), conservation	harvest, governance	supply, harvestingSkills&Means
2	fragOwners	fragmented owners, not collaborating	ownership	supply, willingnessToEngage
3	smallHoldings	most holdings under 20ha	ownership	supply, willingnessToEngage
4	topography	difficult to harvest due to irregular/steep terrain	harvest	harvestingSkills&Means
5	accessibility	poor road infrastructure, long distances to destinations	harvest	harvestingSkills&Means
6	poorWoodQual	wood quality on lands would not fetch good prices, sometimes due to poor management	harvest, management	demand, willingnessToEngage
7	poorNetworking	lack of good network of machinery, skilled labour, communication between owners, professional organisations, but especially between contractors. Also includes missing fundamental pieces of informaiton such as forest cadaster	harvest, governance	supply, harvestingSkills&Means
8	lackCapacity	few skills related to harvest, management	harvest, management, ownership	harvestingSkills&Means, willingnessToEngage
9	disinterest	little interest from owners to manage forests, includes "passive management"	ownership	willingnessToEngage

European manual of integrated wood mobilisation solutions

Challenges :

- Make the most of all the work achieved :
    - WP2 regional profiles and focus studies
    - WP3 conclusions from RLL and evaluation
    - WP4 conclusions from pilot projects
    - WP5 benefit of the MOBILISER
- Expend the scope beyond pilot projects
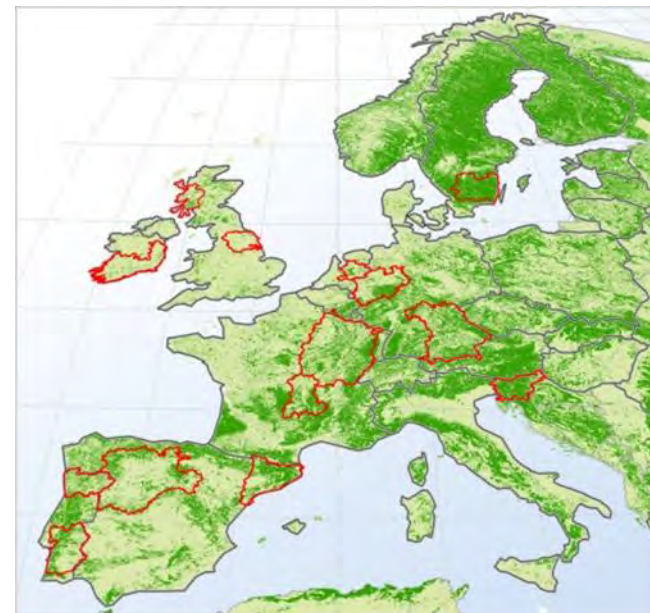- Bring added value to the existing analysis

European manual of integrated wood mobilisation solutions

The topic to address?

- Explain and describe the issues related to wood mobilisation
    - This information is spred over WP2, WP3 reports, but well summarised ….

        In bareers

2.4.1 How has success been defined in evaluation?

There is a scarcity of evidence demonstrating successful mobilisation. Success is usually defined in the evaluation reports implicitly, or explicitly, as meeting the project objectives. At best this equates to achieving outcomes rather than impacts, and several studies point out that impact is a much longer-term expectation. Such outcomes can often be regarded as intermediate steps towards mobilisation, for example more engaged owners (defined for example as members of associations) or preparation of management plans.

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2.4.3 How can successful measures in one area be translated into other regions?

25 August 2015   D3.2 Simwood Pilot Projects and WP3/4 Progress Report –   13

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European manual of integrated wood mobilisation solutions

The topic to address?

- Explain and describe the issues related to wood mobilisation

  - This information is spred over WP2, WP3 reports, but well summarised ….

    In bareers

- **Describe the solutions**

17. → What solutions are propose

Apply·innovative·harvesting·techniques¶

Adapt·harvesting·working·methods·(including·us conditions·in·region¤

☐¤ Build·roads·to·improve·accessibility¤

☐¤ Innovative·management·techniques¤

☐¤ Species·diversification¤

☐¤ Standardized·practice¤

☐¤ Harmonize·management·activities¤

☐¤ Outreach·tools·towards·the·target·stakeholders·

☐¤ Engagement·of·private·owners¤

European manual of integrated wood mobilisation solutions

The topic to address?

- Explain and describe the issues related to wood mobilisation

  - This information is spred over WP2, WP3 reports, but well summarised ….

  In bareers

- **Describe the solutions**

- **In an integrated way : describe requierements and links**
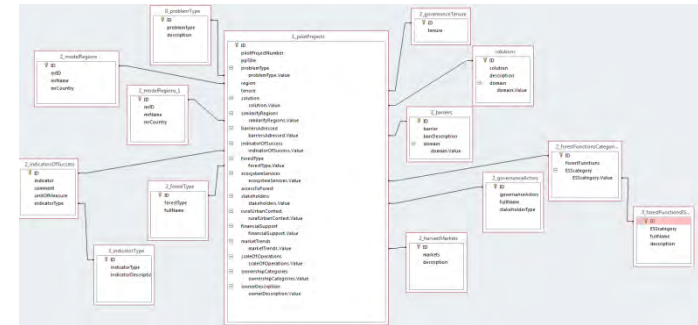
European manual of integrated wood mobilisation solutions
Tentative table of content

Executive summaries

(Languages?)

Barriers to wood mobilisation in Europe

Main barriers to wood mobilisation in Europe can be split into five domains: Governance, ownership, management, functions and harvesting.

Assessment of actions to improve wood mobilisation in Europe

- **Levers for wood mobilisation**
- **Synergies and cascading**
- **Indicators for actions evaluation**
- **Mobiliser outcomes?**

Conclusion on most efficient measures

ACCEPTABLE?

European manual of integrated wood mobilisation solutions
Compilation of information

- ABOUT BARRIERS

  - We can assume that the large set of pilot studies is represenattive of all the situations and describe all the existing barrers

  - The five big domains proposed are enough to group all type of barrers :
    - Governance
    - Ownership
    - Management
    - Functions
    - Harvesting

ACCEPTABLE?

A	B	C	D	E
ID	barrier	barrDescription	domain	problemType
1	envImpact	environmental concerns (e.g. soil compaction), conservation	harvest, governance	harvestingSkills&Means
2	fragOwners	fragmented owners, not collaborating	ownership	willingnessToEngage

European manual of integrated wood mobilisation solutions
Compilation of information

- ABOUT MEASURES
  - We cannot consider that all the pilot projects covers the whole range of actions that be implemented.
  - To write the document and have a relevant tool with mobiliser we need to set up a large list of measures
  - There are to many domains to make in simple
  - We suggest the following types of levers :
    - Financial and material incentives
    - Regulation (national, regional, local bylaws)
    - Organisation and entreprises
    - Développement of appropriâtes tools and techniques
    - Knowledge and persuasion
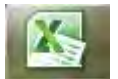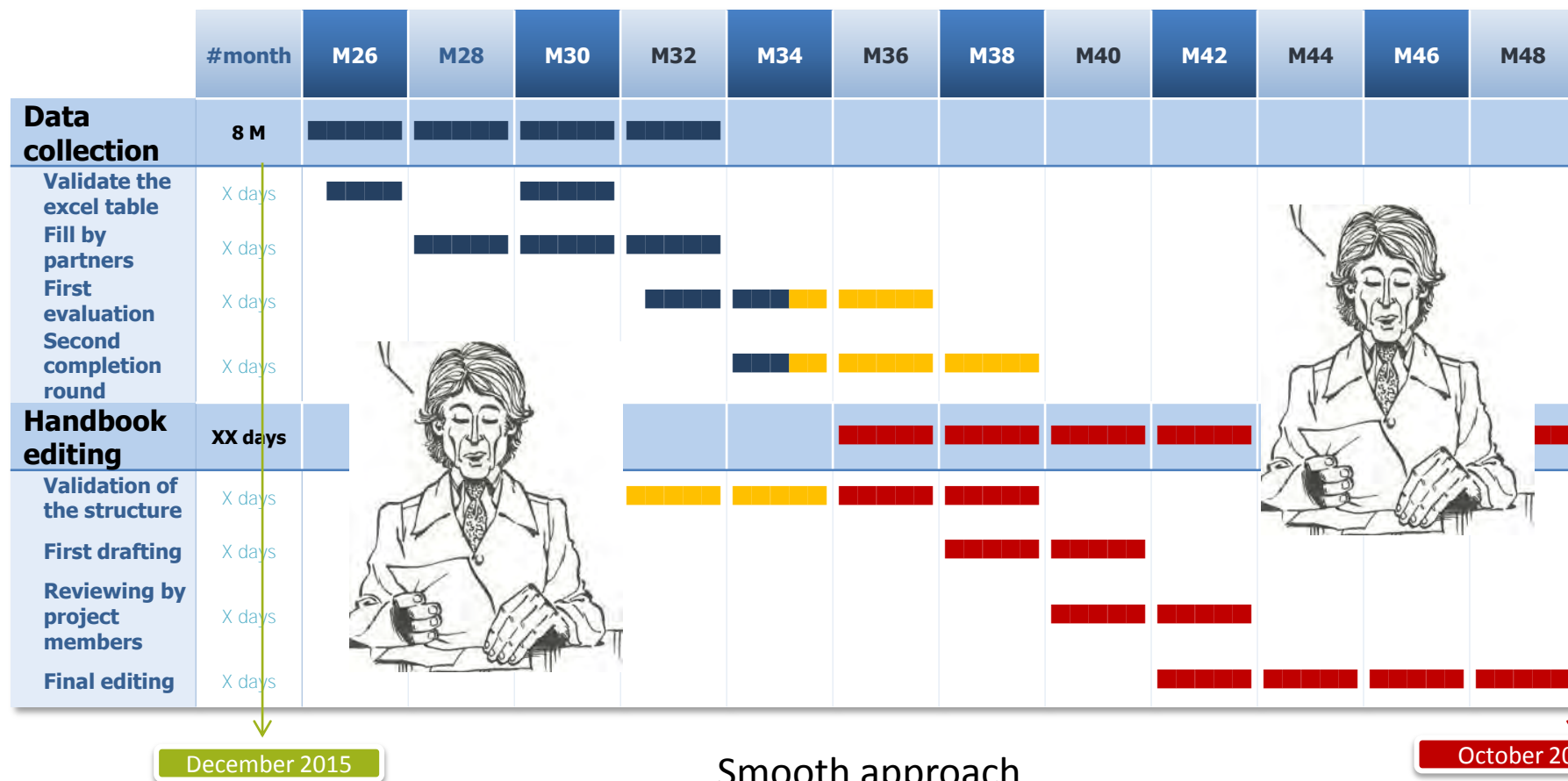
Smooth approach

www.simwood-project.eu
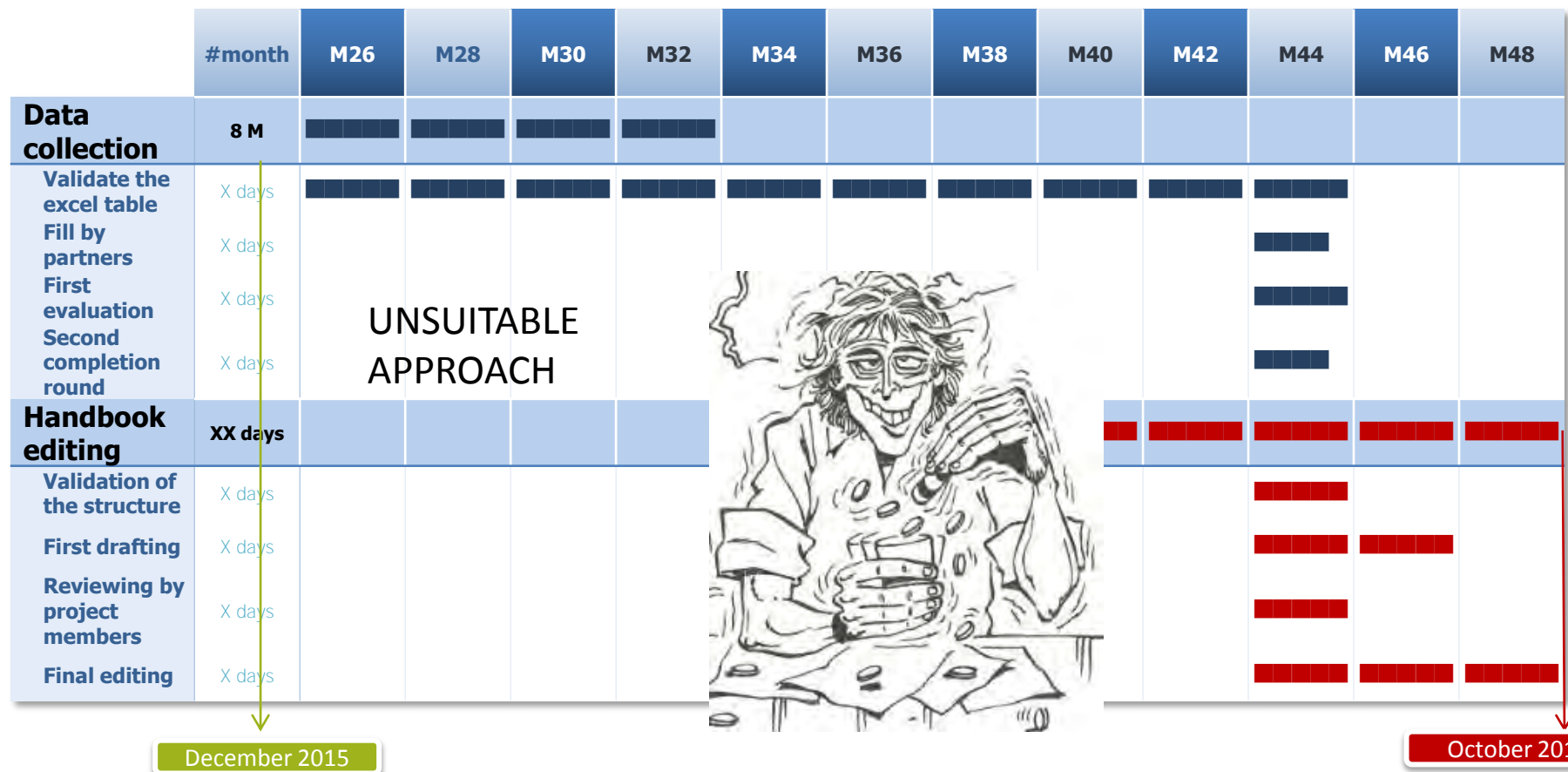
European manual of integrated wood mobilisation solutions
Compilation of information

- AS A RESULT WE WOULD GET
  - An excel sheet that can be used for the MOBILISER
  - A ready to print pdf file summarising all the options found by SIMWOOD members to improve wood mobilsaton.
  - Conclusions and executive summaries on more successful initiatives

Doing our best to avoid that :

ACCEPTABLE?

WP5 - European Monitoring and Policy Support

European Commission Joint Research Centre – WP5 leader

Jesús San-Miguel-Ayanz, Sarah Mubareka,

Dario Rodriguez, Richard Sikkema, Guido Schmuck

Update and discussion on the
SIMWOOD Mobiliser tool

WP5 - European Monitoring and Policy Support
Objectives of the Mobiliser

- The Simwood project should generate an operational prototype of an EU spatial information system ("Mobiliser")

- The objective of the Mobiliser

  - Provide access to state-of-the-art knowledge on wood mobilization through a user-friendly and informative interface, linking mobilisation to specific drivers such as geography, governance, technology etc. (5 SIMWOOD domains)

  - Act as a policy support-tool **for the policy makers** at all levels by showing what measures worked in what types of situations, including the pan-EU incentives. The Mobiliser should make the link between needed combinations of drivers (e.g. incentives are not always enough, we may also need further communication tools to tell local owners about the incentives.. Either of these are ineffective on their own)

How to structure the data for the Mobiliser?

- Data must be classified or structured based on the expected outcome of the Mobiliser

- Examples:

  - WP2 regional description templates

  - WP4 Pilot Projects have been described using a homogeneous set of keywords, this allows us to classify projects and facilitate the construction of the search tool (results presented in a few slides' time..)

  - Indicators. How to structure these?

The main outcome : MOBILISER Input-output concept

Main inputs

- Regional baseline information
- State-of-the-art know how
- Regional wood potentials
- Stakeholder participation (RLL)
- Pilot projects by SMEs

SIMWOOD 'MOBILISER' Information System

Profiles of model regions
Status quo of knowledge per domain

Tailor-made, integrated solutions
per model region and forest type

EU monitoring & up-scaling system
Impact assessment and transferability

= requires common criteria

Outputs per target group

Regional stakeholders
- Searchable knowledge base
- Directory to experts and DSS
- Tools for counseling

European stakeholders
- Status of regions and innovative initiatives
- Impacts of support programs

Uwe Kies (IIWH) & Roland Schreiber (LWF)

Map Tool

SIMWOOD
Sustainable Innovative
Mobilisation of Wood

Purpose: to lead a user to a selected series of solutions that are relevant to their own cases. To assess "relevance" the user should describe their situation, and the Mobiliser should find similarities among the works in the database.

For this to work, all solutions must be characterized using the same keywords. This will provide a larger pool of solutions to the user.

Search tool

19/24 respondents (some PPs may have been cancelled?)

Search tool

SIMWOOD
Sustainable Innovative
Mobilisation of Wood

Pilot projects by main domains

harvest • functions • governance • management • owne...
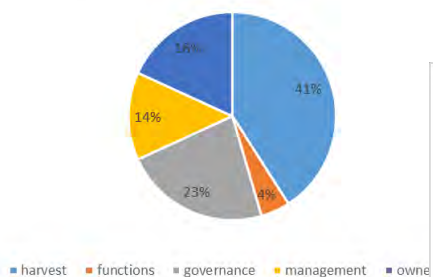
Frequency of barriers in Pilot Projects

small holdings
fragmentation of owners
passive management

Who is managing the forests?

1, 2%
8, 17%
16, 35%
5, 11%
16, 35%

■ owner ...
■ professi...
■ compar... owner
■ forest a... manage...
■ regiona... manage...
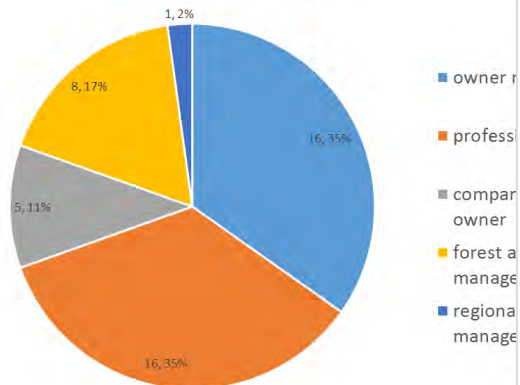
Forest functions in Pilot Project study area
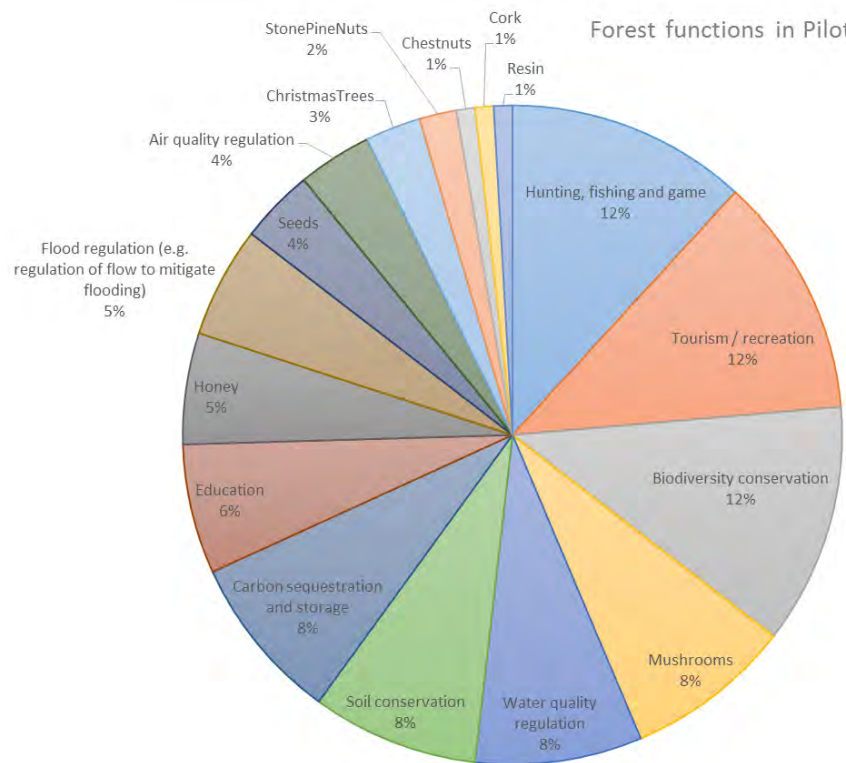
- StonePineNuts 2%
- Chestnuts 1%
- Cork 1%
- ChristmasTrees 3%
- Resin 1%
- Air quality regulation 4%
- Seeds 4%
- Flood regulation (e.g. regulation of flow to mitigate flooding) 5%
- Honey 5%
- Education 6%
- Carbon sequestration and storage 8%
- Soil conservation 8%
- Water quality regulation 8%
- Mushrooms 8%
- Biodiversity conservation 12%
- Tourism / recreation 12%
- Hunting, fishing and game 12%

What is next for 2016?

1. Launch call using Project Place, for local website links and high resolution maps of anything related to SIMWOOD (eg forest resource)

2. Search tool:
   - translation of keywords by partners into SIMWOOD languages
   - integrating solutions gathered in D3.1 Appendix C => 28 solutions in search tool. How to structure this?

3. Indicators
   - Modelling tool (?)

What is next for 2016?

1. Launch call using Project Place, for local website links and high resolution maps of anything related to SIMWOOD

Theme	Scale	Geolocation (1)	URL	Language(s)	Description
data	national	Braunschweig	http://bwi.info	deutsch, english	NFI data

(1) *required, to put clickable point on map*

What is next for 2016?

2. Search tool:

- translation of keywords by partners into SIMWOOD languages
  - *Send keywords to Pilot Project leaders for translation*
  - *no rush, best to consolidate list first)*
- integrating solutions gathered in D3.1, App C
  - *Same survey applies?*
  - *Who to send surveys to?*

Appendix C: D3.1

SIMWOOD SOLUTIONS TEMPLATES

INDEX

Model Region	Country	No.	Project	Page
Bavaria	Germany	1.1	Bavarian Climate Program 2020	2
Auvergne	France	3.1	Mechanized logging practices in Massif Central	6
Grand-Est	France	4.1	Forest Development Scheme - Bévet Arobiers	10
		4.2	New Forest Owners	14
NE England	UK	5.1	Activating owners to increase forest fuel supply	18
		5.2	Northern Wood Heat Project	22
		5.3	Economic Impact of the Forest Industry	24
		5.4	Biomass energy register	26
		5.5	Yorkshire Forestry Foundation Study	30
		5.6	Forest Futures- Final Report	34
		5.7	South West Forest- Final Report	38
Lochaber	UK	6.1	Evaluation of the Heartwoods project	43
SE Ireland	Ireland	7.1	Forest Roads Grant Scheme	47
		7.2	Forest Owner Groups 1	54
		7.3	Safety Information Pilot	57
Castile & León	Spain	8.1	Forest Resources Mobilization Program in CYL	60
Catalonia	Spain	9.1	Catalan Forest Owners Associations	64
		9.2	Municipalities of Berguedà for Biomass	69
		9.3	Wood mobilisation initiative in Central Catalonia	75
Nordeste	Portugal	10.1	No previous projects on wood mobilisation	82
Alentejo	Portugal	11.1	Improving Agroforestry Rural Competitiveness	83
Overijssel &Gel.	Netherlands	12.1	Harvesting biomass for use in small boilers	88
		12.2	Biomass module for CMSi	92
		12.3	Forming a collective of forest owners	96
Slovenia	Slovenia	13.1	Production of green wood chips	100
		13.2	A new tool for estimation of harvesting costs	104
Småland	Sweden	14.1	Energy from the forest	108
		14.2	Increase and optimise the use of bioenergy	112

What is next for 2016?

3. Indicators

   1. **Review of existing knowledge and evidence** Search tool ok?

   2. **Evaluation of pilot projects** Quantitative: Baseline y1-2 -> y4

   3. **Modelling the impacts of solutions** Reporting on modelling results or interactive tool?

<u>**For Mobiliser:**</u>

-> Heavy dependence on Task 4.4

-> Generic list of interventions should go into search tool

-> Narratives linked to map tool

What is for 2017?

1. Focus on single Mobiliser entry point (i.e. interface + url)
2. EU-monitoring and upscaling based on project outcomes
3. Launch and maintenance (D 5.2, September 2017)
4. Reporting on implementation and plans for maintaining and progressing with the system(D 5.3, September 2017)

WP5 - European Monitoring and Policy Support

European Commission Joint Research Centre – WP5 leader

Jesús San-Miguel-Ayanz, Sarah Mubareka,

Dario Rodriguez, Richard Sikkema, Guido Schmuck

Wiki tool

https://forestwiki.jrc.ec.europa.eu/simwood/

Regional profiles

Map tool relies on the tables

What should the Mobiliser do?

Knowledge base   ➡️   **Expert system**
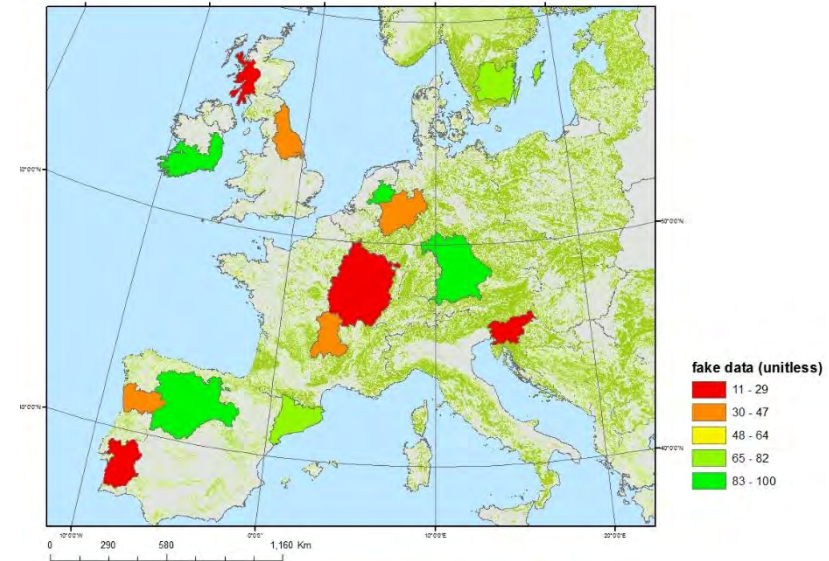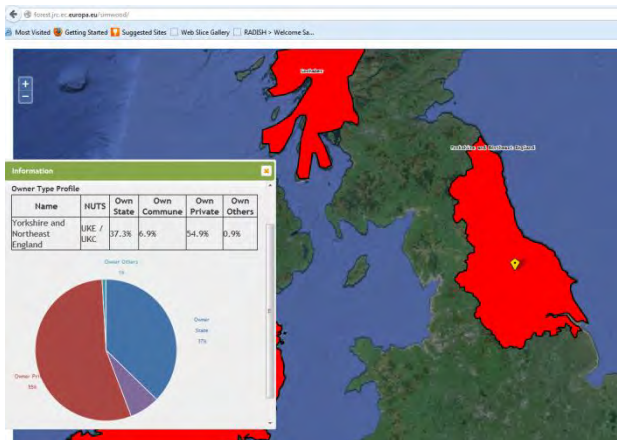
Information about each region is combined with information about other regions

State-of-the-art Wiki tables

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
		D	D	F	F	UK	UK	I	E	E	P	P	NL	SL	SW	FI	LV	RO
		Bavaria	N.Rhine	Auvergne	Grand Est	Yorkshire	Lochaber	SW Ireland	Castilla y Leon	Catalonia	Noredeste	Alentejo	Overijssel	Slovenia	Smaland	East Finland	Latvia	Romania
	extension file Project Place	word	word	word	word	word	word	word	word	word	word	word	word	word	word	word	word	word
	updated on Project Place at:	13 okt 2014	15-sep-14	22-okt-14	23-feb-15	18-nov-15	28 October 2014	21-okt-14	4-aug-14	5-aug-14	26-jul-14	30-okt-14	3-jul-14	18-okt-14	1-sep-14	31-jul-15	13-okt-15	11-okt-15
	inserted on Project place by:	Schreiber	Kies	Vuillermoz	Ruch	Dhubain	Calvert	Olstner	Sabin	Dhubhain	Azevedo	Rua	Dhubhain	Dhubhain	Dhubhain	Regolini	Romagnoli	Barioud

Table #

2	Context																	
2.0	Key impact factors for wood mobilisation	p	y	n	y	p	y	y	y	y	y	y	y	n	y	n	y	y

2.1	Forest Ownership
2.1.1	Productive forest area by ownership categories
2.1.2	Productive forest area by number of holdings
2.1.3	Demographic breakdown of forest owners
2.1.4	Percentage of owners according their primary forest

2.2	Forest Governance
2.2.1	Regulations and wood mobilisation
2.2.2	Incentives and wood mobilisation
2.2.3	Use of professional support

2.3	Forest management
2.3.1	Total productive area by species and forest type.
2.3.2	Registrated change of forest cover in the past ten ye
2.3.3	Predicted change of forest cover in next ten years by
2.3.4	Present composition of productive forests in terms
2.3.5	Total productive area by age class distribution & by
2.3.6	Total growing stock (m^3) by species and age-class.
2.3.7	Forest management alternative[1] used in productive
2.3.8	Ownership type by management plan.
2.3.9	The total area (ha) that was damaged by various bio
2.3.10	Estimated certified forest area by ownership type vi

2.4	Forest functions
2.4.1	Carbon stock by forest type and species
2.4.2	Distribution of deadwood with the forest estate

2.5	Forest harvesting
2.5.1	Annual harvest volume (in m^3 over bark) in 2012.
2.5.2	Annual increment (in m^3 over bark) in 2012.
2.5.3	Predicted changes in harvest volume over the next 1
2.5.4	Predicted changes in annual increment over the nex
2.5.5	Details of saw/veneermills operating in region.
2.5.6	Details of pulpmills/panelboard mills operating in
2.5.7	Details of energy/pellet plants operating in region.
2.5.8	Details of firewood market in region.
2.5.9	Method of timber sales (%).
2.5.10	Characteristics of logging enterprises in the region.
2.5.11	Share harvested volume by felling type
2.5.12	Number of felling machines by type.
2.5.13	Share harvested volume by haulage type
2.5.14	Number forest haulage equipment
2.5.15	The forest estate by topography/slope
2.5.16	The forest estate by soils
2.5.17	Main forest types and harvesting constraints

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	TOTAL SCORE	10x	20x	12x	13x	16x	24x	11x	15x	12x	13x	15x	26x	13x	10x	9x	20x	20x
	MAJOR: nothing filled out	7x	10x	11x	9x	11x	18x	5x	8x	4x	7x	9x	24x	5x	6x	0x	14x	10x
	MINOR: to be checked with JRC	3x	10x	1x	4x	5x	6x	6x	7x	8x	6x	6x	2x	8x	4x	9x	6x	10x

A

B

C

How to proceed? - please first check Project place

State-of-the-art WIKI (tables with information from WP 2 Regional profiles)
1. An overview table with colors (17 regional profiles; 37 tables)
2. Also, in case you need empty tables ➔ you can use empty template
3. Subfolders regional profiles ➔ Reports & excel tables are uploaded soon

❑ Three actions for follow up:
   1. okay, no further action needed
❑ 2. consultation with JRC (key attention points)
❑ 3. no data indicated so far. But if any new data are are become available
   (e.g future expected mobilization via increased harvests),
   ➔ please insert them. But please no changes to Excel format

Note: JRC uploads all on Friday 4 DEC, incl. table with <u>key attention points </u>A, B!

How to proceed? – key attention points A & B

A. Supply of wood: data of forest area's tables should be more or less similar

B. Demand of wood.
- Table 2.5.1 (<u>harvested volumes</u>) data should be in the same order as tables:
- 2.5.5: sawlogs processed by saw & veneer mills (including poles);
- 2.5.6: pulpwood, chips etc. processed by pulp & panel mills;
- 2.5.7: logs, chips, etc. used by energy plants <u>and pellet mills</u>. Newly included!
- 2.5.8: firewood used by households (residential heating).

Note: demand of all kinds of mills/plants AND residential heating ≈
    local harvest + harvest from elsewhere + imports from abroad

Proposed deadline revision of tables in the regional profiles: **1 February 2016**

How to proceed? – key attention point C

C. Supporting technology, e.g. equipment in the forest

- ❑ Felling equipment, tables:
- ✓ 2.5.11 (% of harvested volume) or
- ✓ 2.5.12 (number of equipment)
- ❑ Extraction: transport from felling site to forest road ("*hauling 1*"):
- ✓ 2.5.13 (% of harvested volume), or
- ✓ 2.5.14 (number of equipment)
- ❑ Final transport: from forest road to all kind of mills/plants ("*hauling 2*"):
- ✓ 2.5.9 method of timber sales (standing, roadside, mill, other) AND
- ✓ 2.5.10 number logging enterprises (felling & haulage; haulage, chipping)

Proposed deadline revision of tables in the regional profiles: **1 February 2016**

Up-to-date summary (RP, FS, PP's, etc)

Table 2.0 Key impact factors

Old division

1. Prices, e.g. timber, pulp
2. Factors influencing the private economy
3. Climate conditions
4. Forestry knowledge & skills
5. Rules, laws, and regulations

➔ This division did not work, as each regional profile made its own division

➔ Need for one kind of template, in order to evaluate the key impacts

How should key impact factors for mobilization be summarized?

Key impact factors for wood mobilization (summary table 2.0)
If possible, table should preferably summarize the five main domains:
- ✓ 2.1 Forest ownership
- ✓ 2.2 Forest governance
- ✓ 2.3 Forest management
- ✓ 2.4 Forest functions
- ✓ 2.5 Forest harvesting

For example 2.2 Forest governance
2.2.1 Regulations and wood mobilization
2.2.2 Incentives and wood mobilization
2.2.3 Use of professional support

Impacts on wood mobilisation / harvesting!
Can we learn (insert new information) from focus studies, pilot projects, RLL's & other info?

For example 2.5 **Forest harvesting**
2.5.17 Harvesting rates (from 1 to 4) and <u>harvesting constraints</u> per forest type

Astrid Oelsner

SIMWOOD Project-Management

Project-Management

Overview

- Financial Project Status
    - Timeline
    - Project Cash Flow
    - Actual status of partners
    - Financial Forecast
- Upcoming Issues 2016/ 2017
- Upcoming Project Meetings
- Election of SME participation EB & DB

SIMWOOD Reporting Periods & Payments

Prefinancing

Interim Payment I

II

IP III -FP

Period I

Periodic Report I

Period II

Periodic Report II

Period III

Final Report III

Time (month)

1   6   12   18   24   30   36   42   48

Current position

Project Cash Flow

Payment	[%]	Time of Payment (expected)
Pre-Financing	48,33	Dec 13
1st Interims Payment	35,71	Oct 15
2nd Interims Payment	00,96	Apr 17
Final Payment	10,00 (+ 5% Guarantee Fond) = 15,00	Apr 18

84,04 % of Total Budget already received
Only accepted costs are owned by partners!

Beneficiary		Total Budget [€]	Owned by beneficiaries	Owned by EC	
			Costs accepted in RP1 [€]	Costs to be spend in RP2 & RP3 [€]	Costs to be spend in RP2 & RP3 [% of total budget]
1	LWF	598.072	264.802	333.270	56
2	BayFOR	359.816	86.852	272.964	76
3	JRC	465.325	198.033	267.292	57
4	EFI	400.317	85.833	314.484	79
5	UCD	361.120	96.778	264.342	73
6	FCRA	586.972	258.767	328.205	56
7	FCBA	619.239	195.055	424.184	69
8	DLO	312.528	128.595	183.933	59
9	IIWH	423.130	187.517	235.613	56
10	KWF	250.392	91.294	159.098	64
11	UVA	209.600	93.253	116.347	56
12	CREAF	143.824	26.275	117.549	82
13	IPB	153.120	86.916	66.204	43
14	ISA	120.400	49.101	71.299	59
15	LNU	334.920	68.603	266.317	80
16	GIS	98.340	9.212	89.128	91
17	ZGS	93.060	20.809	72.251	78
18	BTG	419.829	222.563	197.266	47
19	AGRESTA	133.360	37.699	95.661	72
20	ECM	69.248	33.639	35.609	51
21	FBE	188.900	39.582	149.318	79
22	WWP	118.220	50.813	67.407	57
23	FEL	184.867	55.861	129.006	70
24	ARBOREA	79.824	29.058	50.766	64
25	ForestFin	126.960	68.659	58.301	46
26	ESS	207.320	68.359	138.961	67
27	SWA	183.532	65.591	117.941	64
28	RDI	223.350	97.648	125.703	56
		7.465.586	2.717.167	4.748.419	64

Costs = direct and indirect costs

Spend money according to the DoW!

Financial Project Forecast

- Each partner calculates costs til project end
- Determination on Planned Budget/ Cost status
- Discussion on financial project situation

➔ possibly shift of budget

➔ **Planned for May 2016**
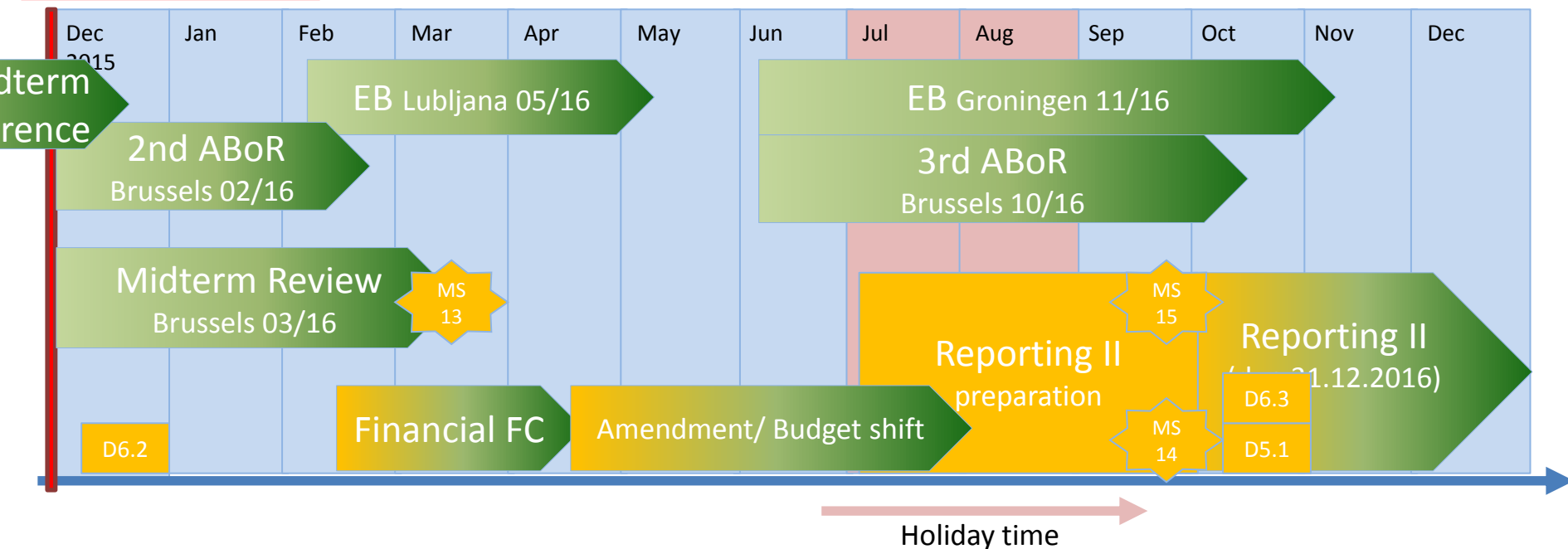
SIMWOOD Upcoming 2017

SIMWOOD – Sustainable Innovative Mobilisation of Wood

Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec

EB Schweden 05/17

Final Conference — Paris 09/16

4th ABoR — Brussels 02/17

5th ABoR — Brussels 10/17

End of Project

Project END — Closing Wor...

D6.5, D6.4, D5.3, D5.2

Reporting preparation

...orting (...12.2017)

D6.6, D4.3

Report Request Management

D4.2, D3.3

Final Report Management

Report Request Management

Holiday time
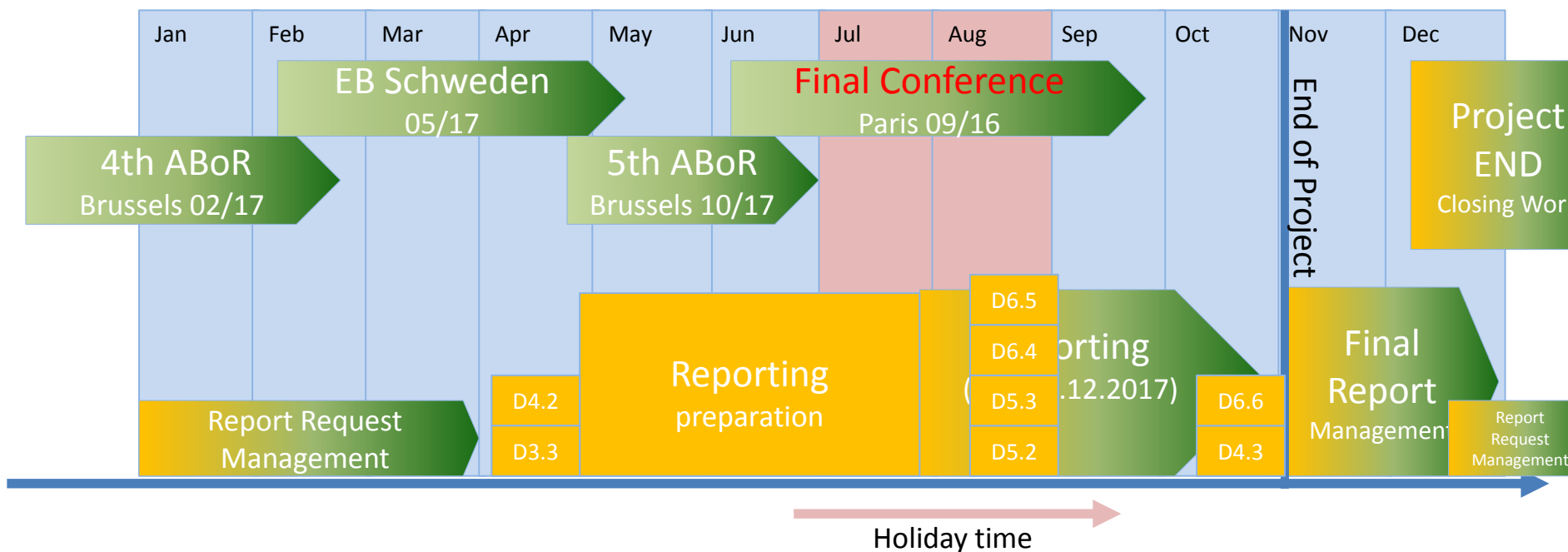
SIMWOOD Meeting Overview

Meeting	Month	Date	Venue
GA/Kick Off	1	28th /29th Nov 13	Freising
EB	6	7th /8th May 14	ISPRA
1st ABoR (MS5)	9	10th Feb 15	Brussels
EB	12	3rd /5th Nov 14	Palencia/ Braganca
GA/ Simwood week	16	2nd /6th Feb 15	Edinburgh
GA/ Midterm Conference/ ABoR	25	30th Nov /2nd Dec 15	Dublin
2nd ABoR	28	16th Feb 16	Brussels
EB	31	10th/11th May 16	Slovenia
GA	37	08th/09th Nov 16	Netherlands
Midterm Review	29	March 16	Freising/ Brussels
3rd ABoR	36	October 16	Brussels
4th ABoR	40	Feb 17	Brussels
EB	43	May 17	Sweden
GA/Final Conference	47/48	Sep/ Oct 17	Paris

Safe the date

Planning ongoing

SME participation
- Executive & Dissemination Board -

Project Period	Executive Board	Dissemination Board
11/2013 – 01/2015	1st rep: AGRESTA/ Pablo Sabin 2nd rep: SWA/ Phil Tidey	1st rep: SWA/ Phil Tidey 2nd rep: ForestFin/ Pedro Ramos
02/2015 – 05/2016	1st rep: AGRESTA/ Pablo Sabin 2nd rep: SWA/ Phil Tidey	1st rep: ForestFin/ Pedro Ramos 2nd rep: SWA/ Phil Tidey
05/2015 – 10/2017	1st rep: ? 2nd rep: ?	1st rep: ? 2nd rep: ?

Election requires GA voting

SME ELECTION

for
EB and DB

Period: 05/16 – 10/17

according to CA: 2/3 majority vote required

SIMWOOD SME´s

	- Small and medium-sized enterprises / industry -		
18	Biomass Technology Group BV	BTG	NL
19	AGRESTA S. COOP	AGRESTA	ES
20	ECM Ingeniería Ambiental	ECM	ES
21	Forêts et Bois de l'Est	FBE	FR
22	Wexford Wood Producers Ltd	WWP	IE
23	Forest Enterprises Ltd	FEL	IE
24	Associação Agro-Florestal e Ambiental da Terra Fria	ARBOREA	PT
25	Florestas e Afins	ForestFin	PT
26	Energikontor Sydost AB	ESS	SE
27	Small Woods Association	SWA	UK
28	Northwoods - Rural Development Initiatives Limited	RDI	UK

- (18) BTG   Patrick Reumerman
- (19) AGRESTA   Pablo Sabin
- (20) ECM   Beatriz de la Parra
- (21) FBE   Cyrille Pupin
- (22) WWP   Alex Kelly
- (23) FEL   Daragh Little
- (24) ARBOREA   Cristina Patricio , Sara Sarmento
- (25) ForestFin   Pedro Miguel de Matos Serra Ramos
- (26) ESS   Göran Gustavsson
- (27) SWA   Phil Tidey
- (28) RDI   Andrew Kitching

Thanks

see you

in the Netherlands (Nov 17)

Annex 4: Posters

Focus Study (1): Participatory governmental forest initiatives in Bavaria

Kilkenny, Ireland
30.11.-02.12.2015

Dr. Peter K. Aurenhammer

Introduction

This part of the study (no. 1) aims at identifying the actors and their role in 44 governmental forest initiatives' partial networks of Bavaria. These initiatives have been developed over the last decade(s), which much effort from the forest administration to support FOAs and the activation of forest owners.

Methodology

Actor-centred, analytical theory is applied (c.p. Krott et al. 2013, Aurenhammer 2011, 2013, 2015). With respect to methods, a focus is given on social network analyses (SNA) of decision networks, *combining quantitative and qualitative analyses*. To explain actors' roles in/for forest initiatives, SNA includes theoretically relevant independent variables: financial/material resources, trust, formal/informal competences and information variables. Quantitative SNA-based power analyses (N=37 cases; 252 persons); quantitative SNA-attached analyses of perceptions (N=44 cases, 271 persons); and qualitative analyses (N=16 cases, 175 persons).

Actors and their roles

Actors' overall influence varies (see Tab.1). It can be further explained by i.e. trust-centrality, information or incentive related relevancy of actors. Amongst the most frequently influential are the local forest administration (AELFs), forest owner associations (FOAs) and communes. The forest admin. attains frequently strong forest information role, also FOAs. The forest admin. also gains frequently high trust, competency- and incentive-relevancy. Incentive-relevancy holds limited explanatory value for influence.

Table 1: Frequency actors attain influential roles in 37 governmental forest initiatives.

Actor type	overall influence	forest information	trust	financial/material resources	personnel/time resources	formal/informal competences	N total, mentioned
local forest administration	33	36	36	22	35	36	37
other local administration	4	4	6	1	2	6	24
superior administration	1	1	2	1	1	1	18
Bavarian State Forests	2	1	1	1	0	1	4
forest research organisations	0	1	3	0	0	2	10
private forest owners (as groups)	9	6	10	0	3	13	33
communes/towns (incl. forest admin.)	12	6	16	2	8	12	30
forest owner associations/cooperatives (div.)	14	15	20	3	11	19	36
private forest consultants/experts	2	2	2	0	2	1	9
harvesting-/road construction companies	3	2	5	1	4	7	15
hunters and hunting associations (div.)	6	3	7	0	2	9	31
other forest/land owner associations	1	2	1	0	0	1	5
nature conservation associations / areas	1	1	1	1	1	1	7
youth-/tourism-organisations	0	0	1	0	0	1	8

Legend: Frequency of actors reaching more than 30% of the maximum value within a variable. red: in more than 30 cases; yellow >15 cases; green > 5 cases.
Source: own data, Aurenhammer (2015).

Preferences

Actors' preferences vary (see Tab. 2). Road construction, public relation, sustaining of protective functions, support to forest owner counselling gain highest priority. *Road construction* is a key priority to the AELFs (12%), other local administrations (12%), private forest owners (17%), communes/towns (18%), the FOAs (12%), other forest-related associations (16%) and private forest service companies (12%). *Roundwood marketing* is key to private forest owners (10%), the Bavarian State Forest Enterprise (18%), other forest related associations (16%) and private forest service companies (17%). *(Joint) roundwood harvesting* is key to other forest related associations (21%), also important to i.e. AELFs (10%), FOAs (9%) or actors like the nature conservation organizations (8%). It is of medium relevancy to private forest owners (5%).

Table 2: Comparison of priorities for goals of governmental forest initiatives (in %), as set by different actor groups.

	local forest administrations	local nature conservation adm.s	other local administration	private forest owners	communes / towns	Bavarian State Forests	Bavarian forest owner associations	other forest related associations	tourism and youth organizations	nature conservation organizations	hunters and hunting associations	private forest service companies	forest industry and energy utilities	all groups (incl. 'others')
Public relation and awareness raising measures	15	17	9	6	13	2	9	0	13	18	12	3	n.d.	11
Cooperation with social/youth organizations	3	0	0	1	4	0	1	5	0	0	0	0	n.d.	2
Activities in tourism and recreation	4	0	6	3	8	0	2	0	12	14	5	3	n.d.	4
Strengthening/developing new local value chains	4	8	5	3	3	0	3	0	0	0	0	4	n.d.	4
Strengthening/developing global value chains	0	0	1	3	0	0	3	0	0	0	0	0	n.d.	1
Focus on cooperation with Small and Medium Enterprises (SMEs) in forestry	0	0	4	4	1	0	2	0	5	4	4	5	n.d.	2
Utilization and marketing of Non-Wood-Forest-Products (NWFPs)	0	0	0	0	0	9	1	0	0	0	1	0	n.d.	1
Support of forest road / hauling road construction	12	5	12	17	18	2	12	16	10	8	9	12	n.d.	13
Measures to sustain/improve the protective functions of forests (soil, infrastructure)	10	5	14	10	11	20	9	14	30	12	17	8	n.d.	11
Cooperation with alpine pasturing associations	2	8	4	2	2	9	3	0	8	8	6	1	n.d.	3
Supporting Forest Owner Associations (WBVs, FBGs)	9	6	2	10	8	0	13	14	0	0	5	10	n.d.	9
Support the roundwood marketing from private forests	6	0	9	10	8	18	11	16	0	6	7	17	n.d.	7
Develop and implement (joint) additional roundwood harvesting	10	8	5	5	5	11	9	21	0	4	4	4	n.d.	7
Support to the private forest owner counselling	15	0	11	12	5	7	12	4	8	2	10	10	n.d.	11
Development of hunting management plans / concepts	4	3	10	5	6	0	3	2	5	6	7	7	n.d.	5
Development of nature conservation concept and legal advice in this area	1	19	3	2	4	0	0	0	0	14	6	4	n.d.	3
Measures related to water protection	0	21	4	3	2	0	1	0	5	0	2	2	n.d.	2
Measures related to forest preservation (protection against pests)	3	0	1	4	2	22	5	9	3	3	3	3	n.d.	4
N	76	9	11	36	30	3	50	4	4	4	21	20	0	271

Legend: values: relevancy of goals (for Bavarian governmental forest initiatives) in % of maximum points, as set/perceived by the actor groups from 44 cases/networks; the highest 3 values for each actor group are marked orange. Source: own data: Aurenhammer (2015).

Evaluation of change

The achievement of goals varies. It can be evaluated by the key actors identified. Generally, i.e. the *cooperation with small and medium enterprises (SMEs)* (2.0 from 3.0 points), *the support of FOAs* (2.1) and *of private forest owner counselling* (2.0) are perceived most successful. Also *road construction* and *roundwood marketing* (both 1.9) gain high scores. *Public relation measures* and such *rel. to protective functions* attain medium scores (both 1.7). Similar is with *(joint) harvesting* (1.6). In addition to this, actors identified potentials for improvement and future solutions. Quantitative change *varies*, but reaches up to 23 m/ha, y roads, 36 m³/ha, y harvests, 10%/y forest conversion and 100% owner participation.
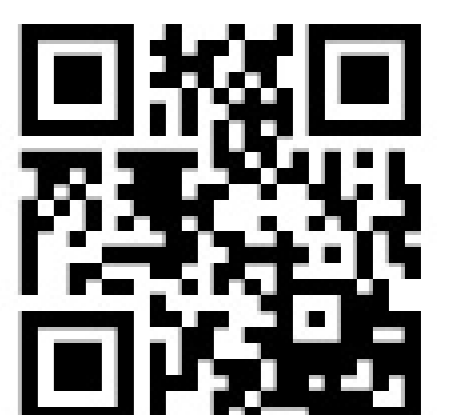
Focus Study (2): Forest Owner Associations' networks in Bavaria

Dr. Peter K. Aurenhammer

Kilkenny, Ireland
30.11.-02.12.2015

Introduction

This part of the study (no. 2) aims at identifying the actors and their role in 21 Forest Owner Associations' (FOAs') partial networks in Bavaria. Their foundation has been promoted politically and their development is (was) supported by the forest administration (for decades), professionalising their way of activating forest owners.

Methodology

Actor-centred, analytical theory is applied (c.p. Krott et al. 2013, Aurenhammer 2011, 2013, 2015). With respect to methods, a focus is given on social network analyses (SNA) of decision networks, *combining quantitative and qualitative analyses*. To explain actors' roles in/for forest initiatives, SNA includes theoretically relevant independent variables: financial/material resources, trust, formal/informal competences and information variables. Quantitative SNA-based power analyses (N=11 cases; 93 persons); quantitative SNA-attached analyses of perceptions (N=21 cases, 74 persons); and qualitative analyses (N=8+8 egocentric cases, 65 persons).

Actors' influence

Actors' overall influence varies (see Tab.1). Comparing 11 cases, amongst the most frequently influential are the forest owner associations (FOAs) and the local forest administration (AELF). In several cases also the regional umbrella organizations of FOAs (FVs), private forest service companies, energy and waste management companies, wood trading companies and labelling/certification companies are considered important actors (with varying influence though).

Table 1: Comparing actors overall influence in 11 forest owner associations' networks.

actor type (below) / cases	1	2	3	4	5	6	7	8	9	10	11
local forest administration	56			40	67	17	33	100	17	50	33
superior administration										22	
forest research organisations						7	3	0		11	
private forest owners (as groups)			10	+	0	13					
communes/towns (incl. forest admin.)			28								
forest owner associations/cooperatives (div.)	42	67	78	87	58	53	69	83	92	56	100
regional forest owner associations						13	6	83		22	
forest experts, consultants				+							
private forest service companies			10	+	8	13	11		8		33
hunters and hunting associations (div.)						20					
other forest related associations						7	6				
energy utilities	8	33						5			33
forest industry				+		13	6		13		
trading companies	33	50		+					13		
labelling/certification companies	11							5	33		
technology producers							17				
N (persons)	4	3	7	7	4	5	13	3	5	3	2

Legend: Actors overall influence in % of the maximum value. + indicated non-quantified feedback. red: values >= 70%; yellow 50-69%, dark green 30-49%, light green <30%. N (persons) = responds.
Source: own data, Aurenhammer (2015)

Preferences

Actors' preferences vary (see Tab. 2). Roundwood marketing from small private forests, joint harvesting (i.e. service contracts) and road construction measures, a close cooperation between the forest administration and the FOAs, in counselling and initiatives, gain highest priority. *Joint harvesting and road construction* is a key priority to the AELFs (19% of total points), private forest owners (27%), the FOAs (14%), private forest service companies (13%) as well as forest industry and energy utilities (14%). *Roundwood marketing* is key to the AELFs (16%), the FOAs (15%), private forest service companies as well as forest industry and energy utilities (both 21%).

Table 2: Comparison of priorities for goals of forest owner associations (in %), as set by different actor groups.

	local forest administrations	private forest owners	Bavarian forest owner associations	private forest service companies	forest industry and energy utilities	trading, labelling/certification companies	all groups (incl. 'others')
Public relation and awareness raising measures	12	13	8	0	3	20	7
Activities in tourism and recreation	0	0	1	0	0	0	0
Strengthening/developing new local value chains	1	0	8	10	5	7	6
Strengthening/developing global value chains	2	0	2	0	7	0	2
Focus on cooperation with Small and Medium Enterprises (SMEs) in forestry	3	0	9	24	10	13	9
Utilization and marketing of Non-Wood-Forest-Products (NWFPs)	1	3	3	0	0	0	1
Measures to sustain/improve the protective functions of forests (soil, infrastructure)	0	0	1	0	0	0	0
Further education and training (i.e. chain saw courses)	7	0	10	6	7	33	8
Support the roundwood marketing from small private forests	16	0	15	21	21	0	16
Support the roundwood marketing from large private forests	0	0	3	5	9	0	3
Implement joint harvesting (i.e. service contracts) and road construction measures	19	27	14	13	14	0	15
Organising auctions/submissions of high grade timber	5	17	4	5	3	0	4
Development of hunting management plans / concepts	3	7	3	0	5	0	3
Development of nature conservation concept and legal advice in this area	3	27	1	0	2	0	2
Measures related to water protection	2	0	0	0	3	0	1
Measures related to forest preservation (protection against pests)	2	0	1	0	0	0	1
Measures to protect regeneration, afforestation, collective orders of seedlings	8	0	9	5	4	0	7
Close cooperation betw. the forest admin. & WBV/FBG, in counselling and initiatives	15	7	9	13	8	27	11
N	16	2	33	9	12	1	74

Legend: values: relevancy of goals (for forest owner societies) in % of maximum points, as set/perceived by the actor groups from 21 cases/networks; the highest 3 values for each actor group are marked orange. Source: own data: Aurenhammer (2015).

Evaluation of change

The achievement of goals varies. It can be evaluated by the key actors identified. Generally, i.e. the *support of the roundwood marketing* from small private forests (2.2 from 3.0 points), *the close cooperation between AELFs and FOAs* (2.3), *measures to protect regeneration, afforestation and the collective orders of seedlings* (2.3) and the *further education and training* (2.3) are perceived most successful. Also i.e. the *implementation of joint harvesting and road construction measures* (1.9) and the *focus on cooperation with SMEs in forestry* (2.0), are perceived as strongly implemented. Furthermore, actors identified potentials for improvement and future solutions. Quantitative change *varies*, but i.e. ranges from 1.9 – 7.6 m³/ha, y or 11 – 513 m³/member, y of harvests; from 151 – 588 €/ha, y turnover.
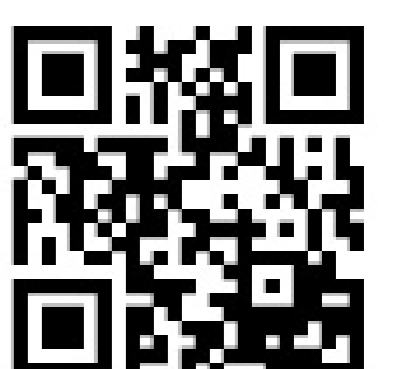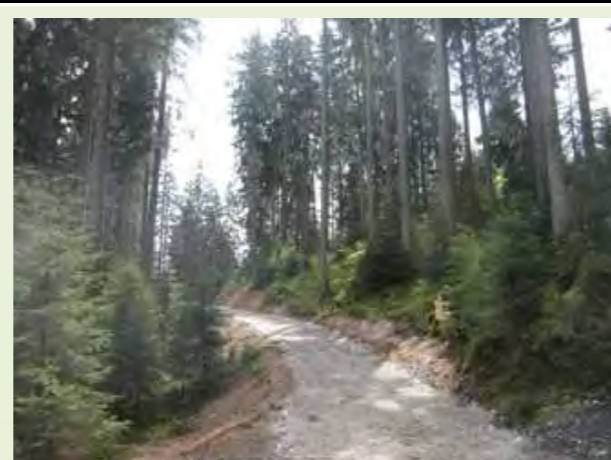
Focus Study (3): Forest Owners' Decision-Networks and Perceptions

Bayerische Landesanstalt für Wald und Forstwirtschaft

SIMWOOD Sustainable Innovative Mobilisation of Wood

Kilkenny, Ireland
30.11.-02.12.2015

Dr. Peter K. Aurenhammer

Introduction

This part of the study (no. 3) aims at a better understanding of private forest owners decision making on how to use their forests. Forest owner structures are very different. Therefore a focus is on analyses of forest owners types' networks and preferences. Results are relevant to assess potentials / develop strategies for wood mobilisation.

Methodology

Actor-centred, analytical theory is applied (c.p. Krott et al. 2013, Aurenhammer 2011, 2013, 2015). Analysis is based on a telephone survey (N= 180 people; 8 communes), including egocentric network analyses and perception related survey components. The sampling was random within 8 layers, drawn from parent populations (datasets of 8 communes' forest owners). The method used for calculations, was a weighted/unweighted layer analyses, considering 8 types of forest owners (the 10%-oldest, -youngest, -'smallest', -'largest', -most distant living (to their forests); the local living, the female and the male). Forest owner analyses, drawn from initiatives, were chosen randomly too (i.e. from the parent population of forest owners in the boundaries of an initiative) (methods: personal interviews; N=39).

Actors' role in decisions

Actors' overall influence varies (see Tab.1). Generally, the local forest administrations (AELFs; 0.9 / 5.0 points), the forest owner associations (FOAs; 1.7) and the family or relatives (0.9) are most influential to the forest owners' management decisions. In the owner types largest, men, youngest and locally living owners, AELFs and FOAs gain more influence. The influence can be further explained by the relevancy actors gain reg. various factors.

Table 1: Actors and their role for private forest owners' decision-making in forest management, by owner types.

Legend: values: multiply weighted means of points (from 0= not at all important/relevant to 5= extremely important/relevant) for each variable, by owner types and for all types/communes; the most important actors as perceived within an owner type are marked dark green (if values >=2.0), green (if 1.0-1.9) or light-green (if <1.0). N= number of forest owners (interviewed). Source: own data, Aurenhammer (2015).

Preferences

Generally, the key priorities for Bavarian forest owners are to *secure roundwood production* in the long run *for subsistence needs* (4.2 points / 5.0), to *sustain and improve forest preservation and protection* (3.9), *to sell and process their timber by local SMEs* (3.8) and to *implement measures related to water protection* and *forest conversion* (both 3.5). (c.p.Tab. 2)

Table 2: Private forest owners' priorities in their forest management, by owner types.

Private Forest Owners' (N=180; 8 communes) perception (by owner types) on the importance of various goals in their forest managment / utilization	support activities with children and the youth	support measures for recreation and tourism	increase roundwood production for the markets (marketing)	secure roundwood production in the long run for subsistence needs	our timber should be especially sold to and processed by local small/medium companies	our timber should be increasingly sold to more distant and/or larger wood processing industries	byproducts of forestry and non-timber forest products should be increasingly used and developed	the site development (forest roads, hauling tracks) of forests should be improved	changes in hunting practice / new hunting concepts are needed	improvement of the local organisation among forest owners	create better connected forst land plots (voluntary land exchange)	(joint) implementation of nature conservation measures	sustain and improve forest preservation (pests) and forest protection (soil and infrastructure) measures	implement measures related to drinking/spring water protection	adaptation of forest use to agricultural (pasturing) needs	construct wind energy plants in your forest (forest region)	support forest conversion (more broadleaved species or fir) to increase the adaptation of my forests to climate change	develop new income possibilities for forest ecosystem services (water, air, carbon)	N
10% oldest	2,6	2,0	1,9	3,9	3,5	1,5	1,8	3,0	2,3	2,4	1,6	2,3	3,6	3,5	2,3	1,4	2,7	2,1	29
10% youngest	3,0	1,8	2,8	4,7	3,4	1,3	2,6	3,4	2,9	2,0	2,0	2,5	4,1	3,5	2,3	1,4	3,3	2,6	21
10% smallest	3,8	2,8	2,1	3,7	3,9	0,9	2,5	2,7	2,5	1,7	2,3	3,4	4,0	3,6	2,2	1,2	3,9	1,9	17
10% largest	2,1	2,2	3,4	4,8	3,7	1,6	2,3	3,9	3,4	2,7	2,0	2,7	4,3	3,4	2,4	1,2	3,5	1,7	24
10% most distant	3,1	2,3	1,9	3,3	2,5	1,1	2,6	2,1	2,3	2,1	2,1	2,9	3,6	3,4	1,6	1,3	3,5	1,8	20
living locally	3,0	2,6	3,2	4,2	4,4	1,5	2,7	3,4	2,4	2,9	1,7	2,9	3,8	3,6	2,8	1,9	3,4	2,1	22
woman	3,0	2,6	3,0	4,4	4,1	1,2	3,0	2,5	2,3	2,3	1,9	3,5	3,9	3,6	2,6	1,4	3,8	2,2	22
men	2,9	2,7	2,6	3,9	3,9	1,2	2,8	2,8	2,6	2,5	2,3	2,9	3,4	2,2	1,3	1,5	3,5	2,4	22
all types & communes	2,9	2,4	2,7	4,2	3,8	1,4	2,5	3,1	2,6	2,4	1,9	2,8	3,9	3,5	2,4	1,5	3,5	2,2	180

Legend: values: multiply weighted means of points (from 0= not at all important/relevant to 5= extremely important/relevant) for each priority, by owner types and for all types/communes; the most important priorities as perceived within an owner type are marked dark green (if values are >=3.5) or green (if >=2.5); colours used with goals: highlight goals of similar categories. N= number of forest owners (interviewed). Source: own data, Aurenhammer (2015).

Evaluation of change

The achievement of goals varies. So does the problem pressure ('relevancy for action'), assigned to each goal. It can be evaluated by the owners surveyed. Generally, the highest need for action is seen for above major priorities, with the exception of *forest conversion*. Also the *increase of roundwood production for markets* reaches higher relevancy for action, in contrast to *improving the site development*. *Owners, participating or being members of forest initiatives* clearly differ in their preferences, in the role actors play for their decisions – but also in their structural data. For 'members', the AELFs and FOAs gain more, the family less relevancy in their decisions. They hold higher priority to produce for the market and to do site development - but they own also more forests, live closer to these; indeed use less for subsistence. (c.p. Tab. 3)

Table 3: How forest owners participating in initiatives differ from those who don't.

Private forest owner groups	actors' influence on owners' decisions (max. 5 points)					owners' priorities in forest management (selected) (max. 5 points)				structural data of forest owners				N
	local forest administrations	forest owner associations	other associations / societies	harvesting companies	family or relatives	increase roundwood production for the markets (marketing)	secure roundwood production in the long run for subsistence needs	the site development (forest roads, hauling tracks) of forests should be improved	largest forest land plot (ha)	distance to largest forest land plot (km)	% of roundwood production for subsistence	% of subsistence production for energy use		N
members of WBV/FBGs (communes' survey)	1,1	2,5	0,4	0,1	0,8	0,1	2,9	4,3	3,2	4,7	20,6	64	65	126
participants of governmental initiatives (communes' survey)	1,8	2,3	0,4	0,1	1,1	0,1	3,0	4,4	3,4	6,7	17,7	56	59	33
non of the above (communes' survey)	0,3	0,1	0,1	0,0	1,4	0,1	1,7	3,6	2,4	1,8	53,5	83	79	48

Legends: see Tables 1 and 2. Source: compilation/parts of tables, own data, after Aurenhammer (2015).

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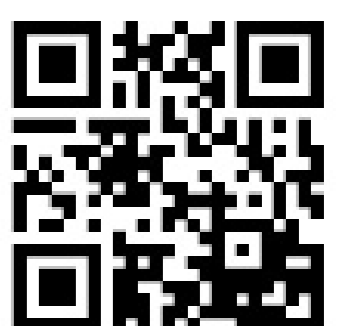
Pilot Project (1): Activation of Forest Owners in SW-Bavaria

LWF Bayerische Landesanstalt für Wald und Forstwirtschaft

SIMWOOD Sustainable Innovative Mobilisation of Wood

Dr. Peter K. Aurenhammer

Kilkenny, Ireland
30.11.-02.12.2015

Introduction

This pilot project (no. 1) aims at the 'Activation of forest owners to engage them in sustainable forest management with special emphasis on alpine forest-functions'. The PP 'Grünten' covers in total 2750 ha with 1000 ha of private and communal forests, on steep terrain, incl. a summit of 1738m, alpine pastures underneath and strong touristic use. The RLL and PP are an integral part of the Mountain Forest Initiative, starting in Grünten in 2008.

Common Approach

The PP is based on an initiative, led by the forest administration. **The 'clients'** are in principle all participating actors and interested external ones (c.p. Fig. 1):

- **Definition of goals ('targets')** and measures of the PP is done jointly by the actors involved (RLL, 'Round Table')
- The **implementation and evaluation plans have been developed** jointly with the actors involved (RLL, field visits)

Figure 1: The process of the pilot project 'Grünten'

2014-15	Step 1 Target	• Social Network Analysis • Supporting the participative process • Identifying obstacles and finding suitable solutions
2015	Step 2 Implementation	• Implementing the solutions the partners agreed on • Create positive examples to foster the trust basis
2016-17	Step 3 Evaluation and Dissemination	• Describing and measuring the impact of the chosen approach • Bringing the experiences to other regions/initiatives

Please contact Peter Aurenhammer (LWF) peter.aurenhammer@lwf.bayern.de

Targets of the PP

Key target is to start and support a decision-making process, that leads to satisfied and active owners and provides a forest management that tries to increase all the forest functions (ecosystem services) in a sustainable way. The chosen measures should lead to a better implementation of private goals, societal needs as well as climate change adaptation. The basis for this is a participatory approach. This should have also a positive effect on the enhancement of wood mobilisation.

Key targets are:

- Get into contact with the forest owners and other actors, provide advice to start and/or support their decision-making process.
- Create and show 'positive examples' of management (i.e. from joint harvests, hauling and road construction measures) to foster the trust basis between forest owners and the acting organisations.
- Gain more information about the forest condition and the goals/preferences of the forest owners to offer suitable measures (and financial aid) to meet as well the challenges of climate change.
- Reduce the risk of storms and pests, by forest conversion.
- Thereby support the state-wide forest policy.

RLL-based input

- 29.09.2014, 1st meeting & field visits with for. admin. (AELF)
- 21.04.2015, 1st RLL meeting (16 persons): **implementation plan** (around 40 measures for 2015), 1st quant. SNA results
- 26.05.-03.06., 22.-26.06.2015, field visits, interviews and ex-ante evaluation (4 persons, 'core group'):

  (1) Joint field visits for the ex-ante evaluation (based on 1st RLL & SIMWOOD's requirements, following a detailed evaluation plan). For several forest stands ex-ante evaluations (before measures) were prepared/documented jointly in the field. (AELF, LWF, KWF)

  (2) Focus Study and (ex-ante) evaluation: 35 experts and forest owners interviewed (2 local initiative networks); 32 forest owners interviewed in telephone survey (1 local commune); to gain insights on the actors and their roles, management preferences and perceived implementation, potential for improvement and solutions to future forest problems; as well as on forest owner preferences and networks (by LWF)

  (3) 'Factsheet Allgäu' on the status quo and potential for harvesting in steep terrain of this region (by KWF)

- **Further Steps**

  - November 2015: intermediary implementation report; Spring 2016: 2nd RLL and Grünten-SIMWOOD day; Autumn 2016: mid-term evaluation; Spring/Summer 2017: final ex-post evaluation (incl. SNA), 3rd RLL and presentation of evaluation results

Change & Evaluation

Previous measures' implementation, actors' role and networks have been evaluated (ex-post) (i.e. SNA, documents, field visits, c.p. Tab. 2, Fig. 2, 3). The new measures (about 40) for 2015 relate to silviculture (forest transition), (collective) harvesting, hauling, road construction and public relation. They have led to the following changes since the 1st RLL (preliminary estim. of change for 2015, c.p. Tab. 2):

Table 2: Quantitative measures of change

	2008-2014	2015 (estim.)
INPUTS		
subsidy input: €/ha, y for all measures	129	45
input of personnel capacities (years) / y	0,3	0,3
input of personnel capacities SIMWOOD (years) / y	N/A	0,2
OUTPUT/OUTCOME		
running metres /ha, y of road construction/improvem.	1,3	0,6
fm/ha, y of additional roundwood harvests	2,6	2,3
m² of forest conversion / ha, y	111	78
size of decision-network (N actors)	16	(in 2017)
% participating forest owners in the initiative's area	n.d.	7
forest owners trained / y	n.d.	n.d.
EVALUATION OF SUCCESS		
mean evaluation of success	2,0	(in 2017)
project leaders' perception of success (pers. communic.)	+	n.d.
problem density in % of relations	0,4	(in 2017)

Source: own data/calculation, Aurenhammer (2015).

Figures 2, 3: Social measures of change

Bayerische Landesanstalt für Wald und Forstwirtschaft

SIMWOOD
Sustainable Innovative Mobilisation of Wood
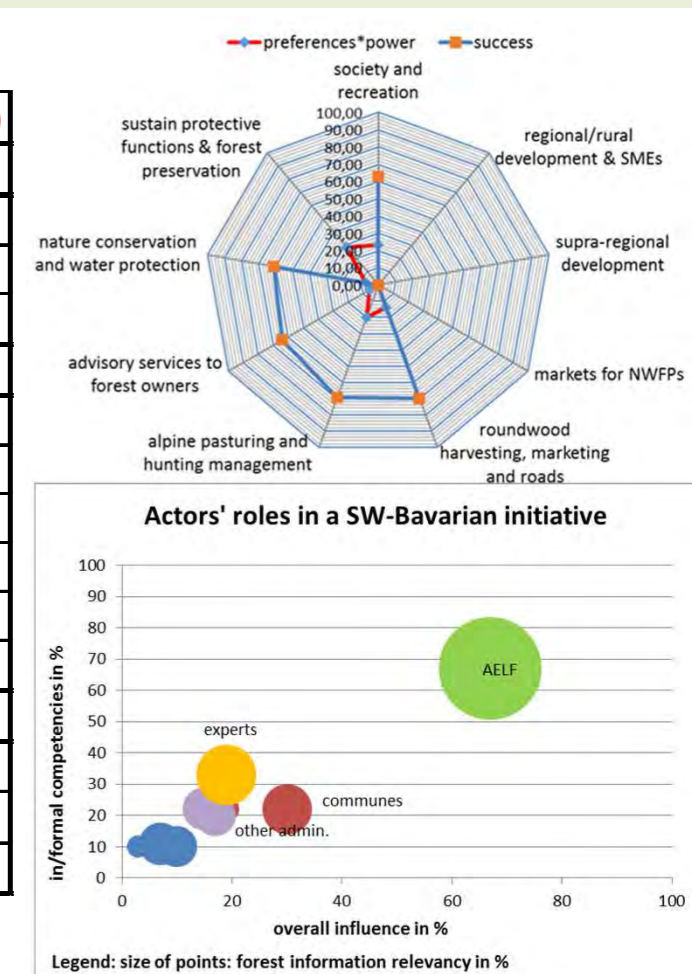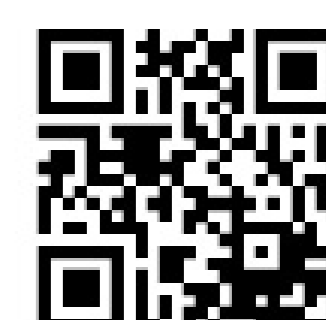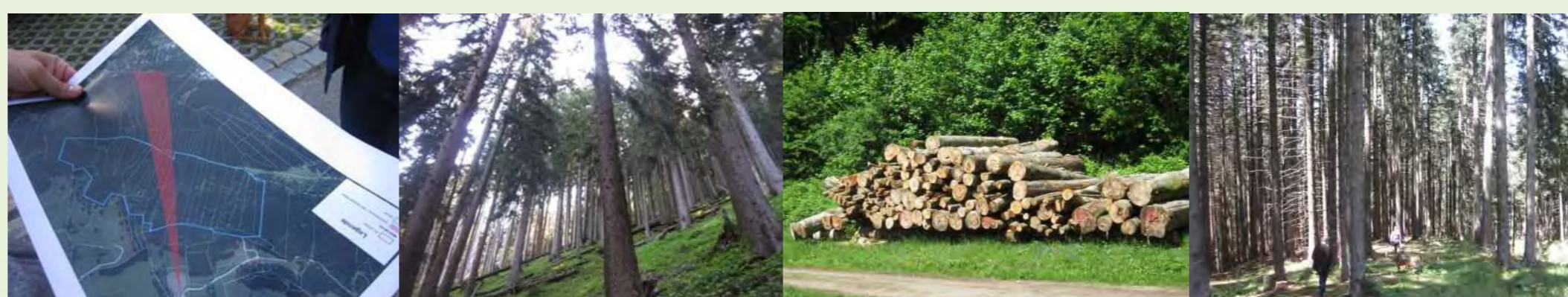
Pilot Projects (2): Activation of Forest Owners in NE-Bavaria

Dr. Peter K. Aurenhammer

Kilkenny, Ireland
30.11.-02.12.2015

Introduction

In the NE-region we have two pilot projects that aim at the 'Activation of forest owners to establish a sustainable forest management and to adapt the forest stands to the future climate'. Here we focus on the PP 'Bibersberg'. The pilot lies within the Frankenwald area, which is a large forest area with similar conditions: i.e. steep terrain, lack of access / forest roads etc. in many places. The RLL and PP are a continuation of the WIFF-Initiative, finalized in Bibersberg in 2014.
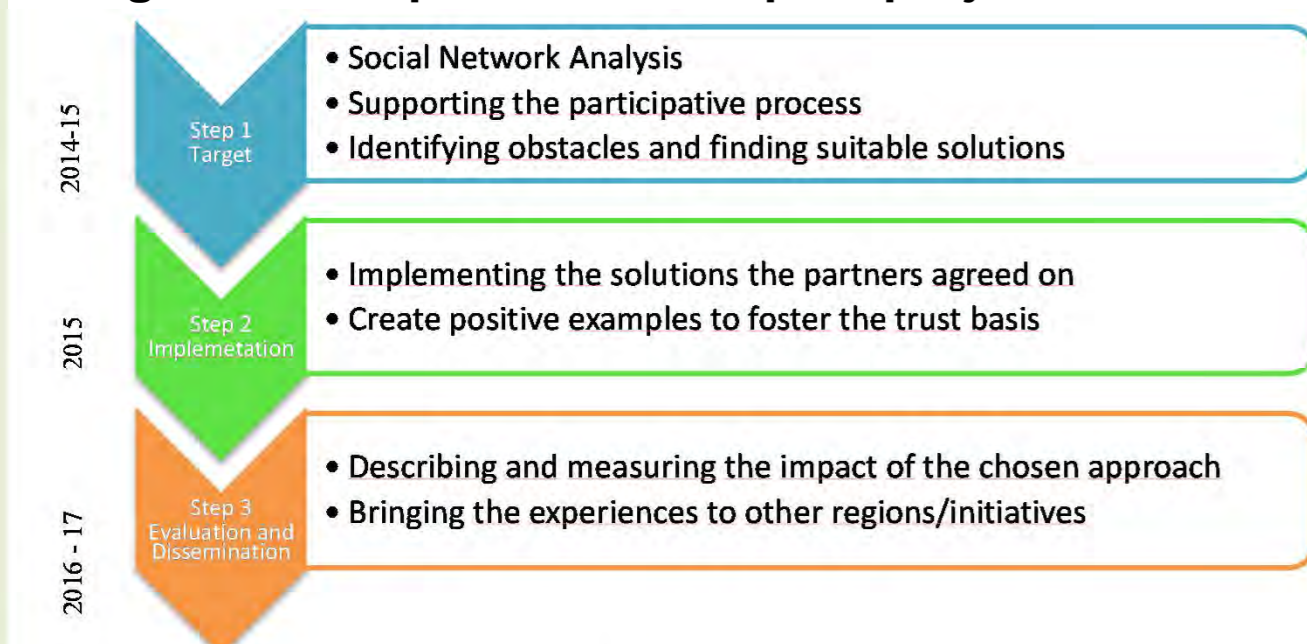
Common Approach

The PP is based on an initiative, led by the forest administration. **The 'clients'** are in principle all participating actors and interested external ones (c.p. Fig. 1):

- **Definition of goals ('targets')** and measures of the PP is done jointly by the actors involved (RLL, 'Round Table')
- The **implementation and evaluation plans have been developed** jointly with the actors involved (RLL, field visits)

Figure 1: The process of the pilot project 'Bibersberg'

2014-15 — Step 1 Target
- Social Network Analysis
- Supporting the participative process
- Identifying obstacles and finding suitable solutions

2015 — Step 2 Implementation
- Implementing the solutions the partners agreed on
- Create positive examples to foster the trust basis

2016 - 17 — Step 3 Evaluation and Dissemination
- Describing and measuring the impact of the chosen approach
- Bringing the experiences to other regions/initiatives

Please contact Peter Aurenhammer (LWF) peter.aurenhammer@lwf.bayern.de

Targets of the PP

Key target is to start and support a decision-making process, that leads to satisfied and active owners and provides a forest management that tries to increase all the forest functions (ecosystem services) in a sustainable way. The chosen measures should lead to a better implementation of private goals, societal needs as well as climate change adaptation. The basis for this is a participatory approach. This should have also a positive effect on the enhancement of wood mobilisation.

Key targets are:

- Get into contact with the forest owners and other actors, provide advice to start and/or support their decision-making process.
- Create and show 'positive examples' of management (i.e. from thinning) to foster the trust basis between forest owners and the acting organisations.
- Gain more information about the forest condition and the goals/preferences of the forest owners to offer suitable measures (and financial aid) to meet as well the challenges of climate change.
- Reduce the risk of storms and pests, by forest conversion.
- Thereby support the state-wide forest policy.

RLL-based input

- 24.09.2014, 1st meeting & field visits with for. admin. (AELF)
- 31.10.2014, 1st RLL meeting (18 persons): outcome of the WIFF project, discussion on potential future measures
- March/April 2015, AELF/LWF discuss with actors on foreseen activities (**draft implementation and evaluation plan**)
- 19.-23.5.2015, 2nd RLL meeting (21.5. 6 persons); field visits, interviews and ex-ante evaluation (6 persons, 'core group'):

  (1) Joint field visits for the ex-ante evaluation (based on 1st RLL & SIMWOOD's requirements, following a detailed evaluation plan). Ex-ante evaluations (before measures) were prepared/documented jointly in the field. (6 persons)

  (2) Focus Study and (ex-ante) evaluation: 16 experts and forest owners interviewed (a local initiative network); 55 forest owners interviewed in telephone survey (2 local communes); to gain insights on the actors and their roles, management preferences and perceived implementation, potential for improvement and solutions to future forest problems; as well as on forest owner preferences and networks (by LWF)

  (3) 'Factsheet Frankenwald' on the status quo and potential for harvesting in steep terrain of this region (by KWF)

- **Further Steps**
  - Nov. 2015: intermediary implementation report; late Spring 2016: 3rd RLL & mid-term eval.; Spring/Summer 2017: final ex-post eval. (incl. SNA), 4th RLL & presentation of eval. results

Change & Evaluation

Previous measures' implementation, actors' role and networks have been evaluated (ex-post) (i.e. SNA, documents, field visits, c.p. Tab. 2, Fig. 2, 3). The new measures for 2015 relate (collective) harvesting, landscape/nature conservation and recreation. They have led to the following changes since the 1st RLL (preliminary estim. of change for 2015, c.p. Tab. 2). Additionally some conservation measures took place in 2015.

Table 2: Quantitative measures of change

	2014	2015 (estim.)
INPUTS		
subsidy input: €/ha, y for all measures	848	0
input of personnel capacities (years) / y	0,1	0,01
input of personnel capacities SIMWOOD (years) / y	N/A	0,2
OUTPUT/OUTCOME		
running metres /ha, y of road construction/improvem.	22,7	N/A
fm/ha, y of additional roundwood harvests	36,4	7,0
m² of forest conversion / ha, y	606	n.d.
size of decision-network (N actors)	7	(in 2017)
% participating forest owners in the initiative's area	100	67
forest owners trained / y	100	n.d.
EVALUATION OF SUCCESS		
mean evaluation of success	2,1	(in 2017)
project leaders' perception of success (pers. communic.)	+	+
problem density in % of relations	0,0	(in 2017)

Source: own data/calculation, Aurenhammer (2015).

Figures 2, 3: Social measures of change

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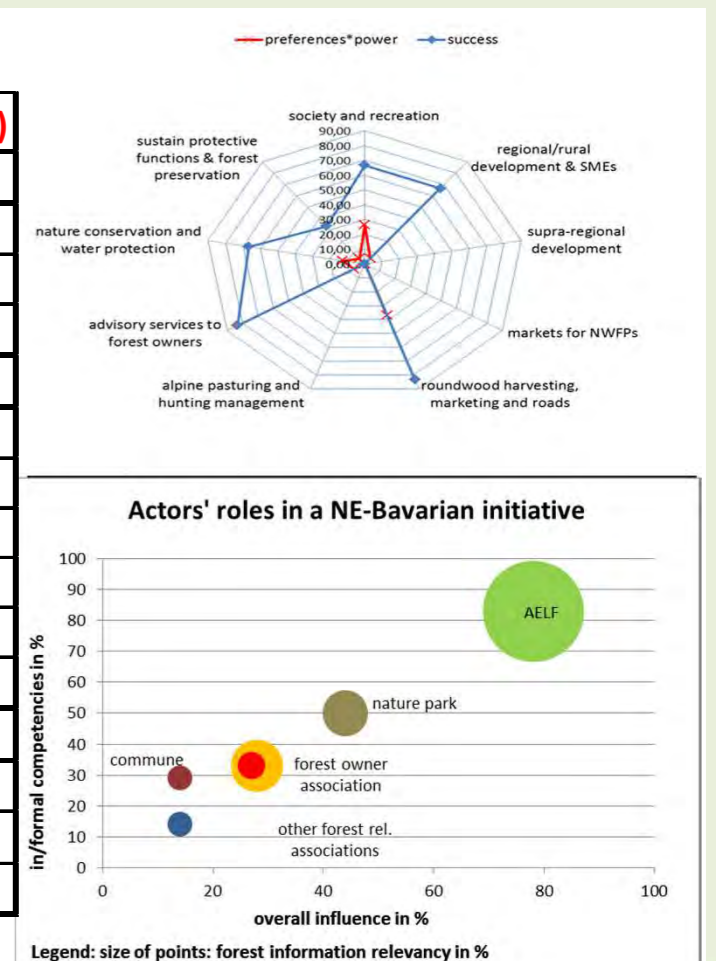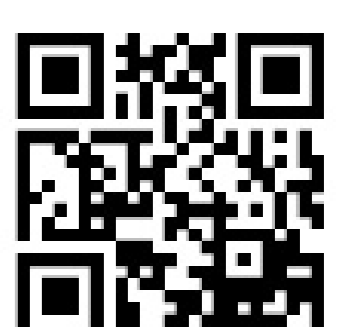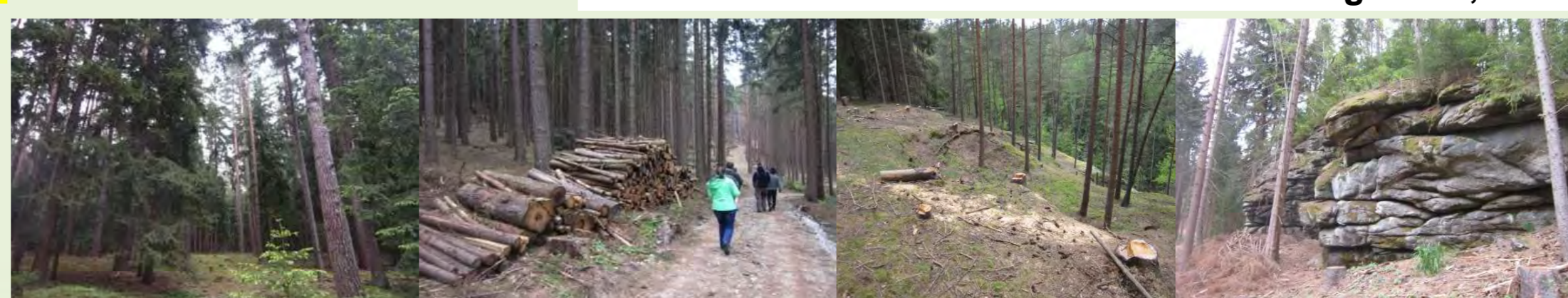
Forest inventory to support evaluation, management and mobilization in the Nordeste region

Introduction

The variability of forest characteristics in the Nordeste Transmontano region is reflected in the results of forest inventory which presents high sampling errors related to the estimates of volume stocks, even for the most representative species. One of the Focus Studies planed for this region (*Establishment of a regional inventory system to support forest evaluation and management*) aimed to establish a framework to improve estimates of wood stocks.

Following the SIMWOOD project philosophy, the following objectives were defined seeking stakeholders to get involved in forest inventory techniques.

Research

- Establishment of a pilot inventory to study data variability and define the dimensions the permanent inventory grid .

Knowledge transfer and interaction with stakeholders

- Organization of a workshop on new technologies in forest inventory: the case of terrestrial and aerial LiDAR,

- Collection of inputs from different stakeholders directly or indirectly involved in forest management regarding the actual situation, future trends, problems and possible solutions in Nordeste Transmontano region forestry.

Over 40 participants were exposed to new approaches, methods and techniques in forest inventory during the workshop developed as Regional Learning Lab concerning forest inventory with LiDAR technology.

During the field and lab practical session of the LiDAR workshop, the 23 participants , coming from forest companies and associations, among other organizations, could see and test new surveying instruments and open source software for LiDAR data processing and analysis.

Methodology

According to a statistical analysis performed with inventory data, the sampling errors related to the estimation of growing stocks in maritime pine and Pyrenean oak were above 40% and 30%, respectively. It was observed that to reduce SE for 20% we would need 4 and 3 times more plots than the actual number for maritime pine and Pyrenean oak, respectively. This could be achieved by using a 1 x 1 km sampling grid instead of the actual 2 x 2 km grid. Such a sampling effort would certainly increase the inventory costs.

The use of stratified sampling, namely stratification by dominant height, could reduce the sampling error by 10% or more according to simulations made. These results are interesting. However, the challenge to implement such a sampling scheme in the field is high. The possibility of a posterior stratification over the usual systematic sampling scheme can be considered as well but not without increasing complexity of the process and of the calculations.

An interesting possibility is to measure intermediate plots in addition to the plots that form the 2 x 2 km systematic sampling grid - *scheme with 4 plots of the 2 x 2 km systematic sampling grid (circles) and one intermediate plot (central square).*

Results

Feld measurements in intermediate plots, namely the measurements of vegetation, should follow the instructions manual for the collection of biometrical data in vegetation from the NFI. This is a public document from the Institute for Nature Conservation and Forests (ICNF), the Portuguese authority in forests in Portugal. This protocol is updated whenever necessary.

In Nordeste, a total of 346 intermediate plots are located in the forest stratum. These plots are part of the 500 x 500 m NFI base grid. From these plots, 54 are in pure maritime pine forests and 66 plots in pure Quercus forests. These last are identified as Qx in NFI land classification (other Quercus). While many of these plots are probably from Pyrenean oak, some other oaks can be present but this is currently unknown. This extra number of plots in relation to the actual number of NFI plots in Nordeste transmontano will increase the sample size for maritime pine and Pyrenean oak, helping to improve growing stock estimates. With this solution there is some compromise between costs and sampling error. Moreover, the possibility to treat the data according to a stratified sampling still holds.
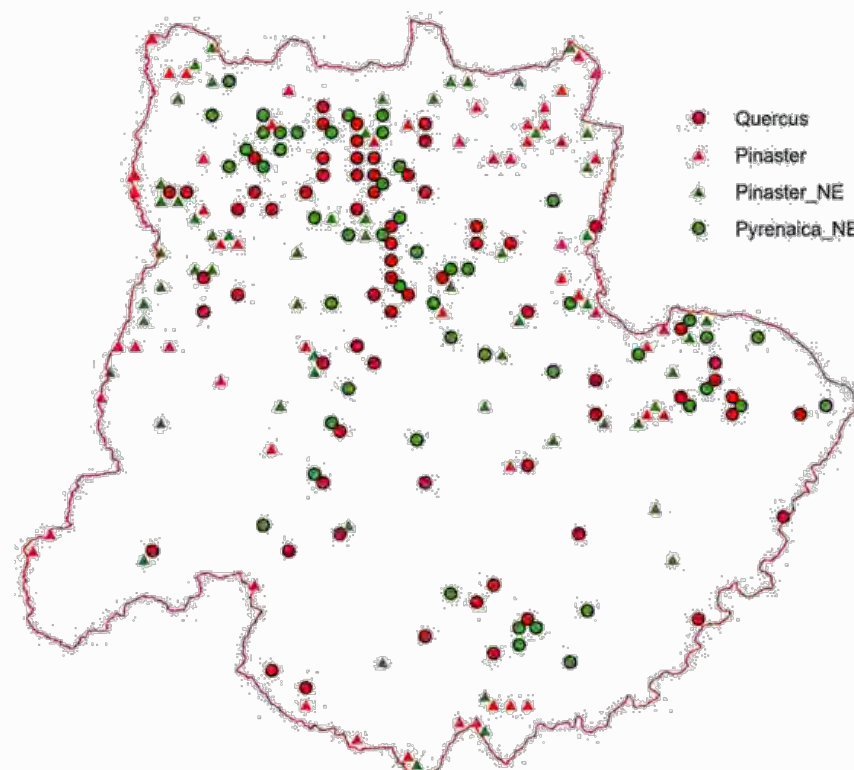
Location of actual NFI (green) and intermediate (red) maritime pine (triangles) and Pyrenean oak (circles) plots in Nordeste.

In the field trip to the pilot project area (Lomba), the participants could follow a real case of using LiDAR and had the opportunity to discuss and ask questions in an open debate environment about forest inventory and forest management in the Nordeste Transmontano Region

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Final remarks

Updated and accurate inventory data is a fundamental requirement in forest management and planning. New techniques and a new inventory system adjusted to the diversity of the landscape and the variability of forest growth in the Nordeste regions will improve significantly the quality of the data to be used in forest management and the quality of the estimates of yield in the local forests.

Nordeste Transmontano

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AppTitude©: A tool for forest suitability assessment

Introduction

Forests provide many goods and services supported by different functions and involving different stakeholders. For example, the actual social context favours recreational uses of forests but, at the same time, forest managers and owners aim the highest production of wood products. With this research we seek an optimization of the location of different activities according to different stakeholders expectations using expert opinion.

Forest management today has to integrate many disciplines and the trend in decision making is to use a multi-actor approach. Of the three classic pillars of sustainability (Economy, Society and Environment), Economy is most studied social science in forest management and it provides very objective assessment methods such as the economic viability index (NPV and IRR).

We have developed AppTitude® to help to understand heuristically the economic valuation of forest resources in the North-Eastern region of Portugal in order to establish the basis of work to delineate strategies to increase forest mobilization.

In this study we will use AppTitude® to create scenarios to support decision making regarding wood resources used by the energy industry (biomass for pellets, for example).

What are you looking for?

For example

DSS

Criteria set

Methodology

Value model

Hypothesis I: The value of biomass is determined by the industry that demands the resource through a set of criteria of interest.

In analytic terms, there are many methods to approach this kind of subjective context in Multi-Criteria analysis. Among others, there are two that stand out: the AHP and the MAUT.

Concept

Logistic

	Today		+20 yrs	
	Weight	Spatial weight	Weight	Spatial weight
Criterion 1	12%		8%	
Criterion 2	23%		25%	
	9%		9%	
....	17%		22%	

Pricing Model

Hypothesis II (Simple market rule): The price of biomass is related to its value (intrinsically and extrinsically).

Resource availability: Pricing

Available — Not available

- The price that the buyer is willing to pay
- The price for which the seller is willing to sell
- Min Price
- Max Price

Quantity Model

There are many possibilities of answering to the questions "How many resource are availability" and "where" including conducting a survey. However, this is very expensive. Additionally, forests are dynamic systems that grow and are harvested over time which makes the distribution of wood resources also to be spatially dynamic. To solve this problems we modelled stochastically the distribution of wood resources using data from the National Forest Inventory collected in the region.

Using models

- Specie
- Age
- Dominant height
- Density
- Basal area

LP Matrix generator

Creating future scenarios: LP restrictions

	Today	+ 20 yrs
Min. Price	15 €/m³	18€/m³
Max. Price	30€/m³	32€/m³

	Today	+ 20 yrs
Goal min volume	35 000 m³	55 000 m³
Goal max volume	50 000 m³	80 000 m³

- No industry competition
- No risks or hazards
- Focused on maritime pine, and for final cut only
- Minimum harvest age: 35 years.

AppTitude

Simulation results

All the methodologies used are combined to obtain the following results, sequentially: i) Evolution of the value and its spatial distribution, ii) Evolution of prices (intersection between the value and the trend of prices under the simple market rules), iii) Stochastic spatial forest characterization (initial framework of forest growth) , iv) Compilation of the LP problem according to LP restrictions, v) Temporal sequence of regional forest growth (under scenario rules) and harvested areas, and vi) Trends in regional forest Indicators.

Evolution of value in time

1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
17 18 19 20
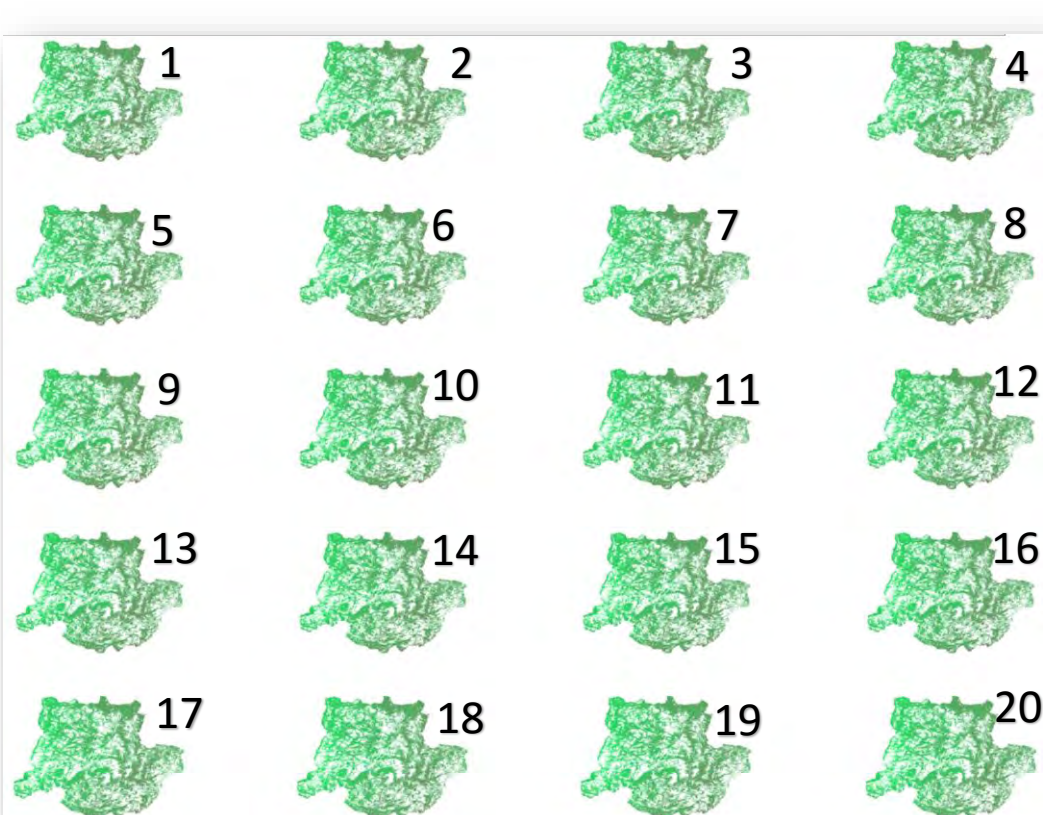
Evolution of price in time

1 2 3 4
5 6 7 8
9 10 11 12
13 14 15 16
17 18 19 20

Stochastic spatial forest characterization
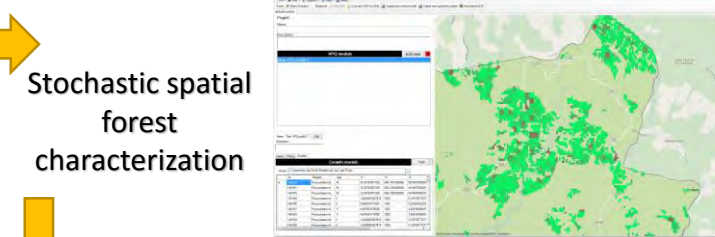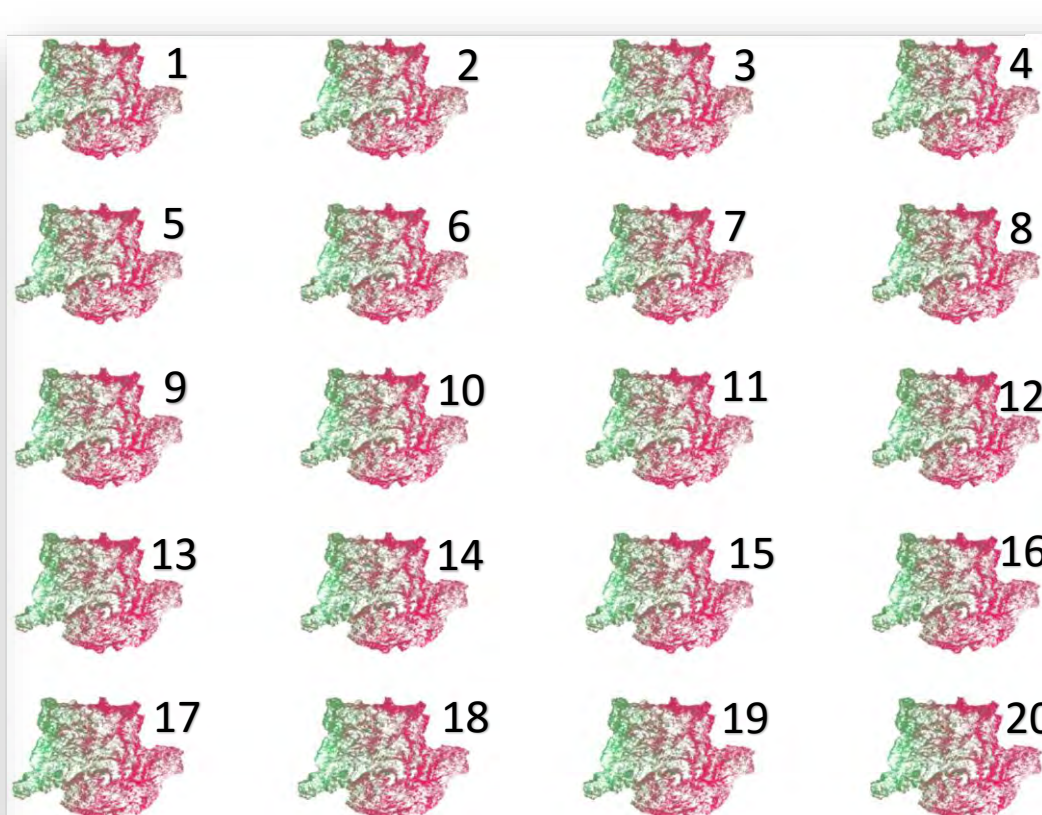
Scenario LP problem
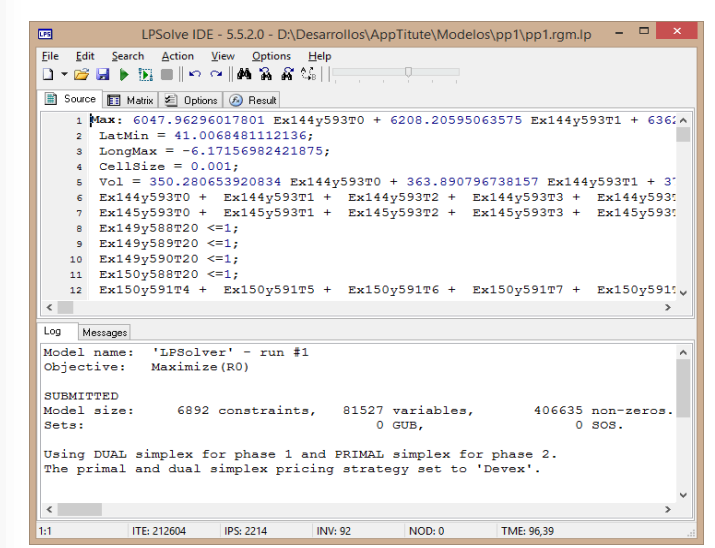
Regional spatial growth (0 – 20 yrs)

See results

Regional cut surface (0 – 20 yrs)

See results

Regional indicators

Average age (yrs)

40,00
20,00
1 3 5 7 9 11 13 15 17 19 21

Average volume (m³/ha)

400,00
200,00
0,00
1 3 5 7 9 11 13 15 17 19 21

Average volume (age >= 35 yrs) (m³)

1000,00
500,00
0,00
1 3 5 7 9 11 13 15 17 19 21
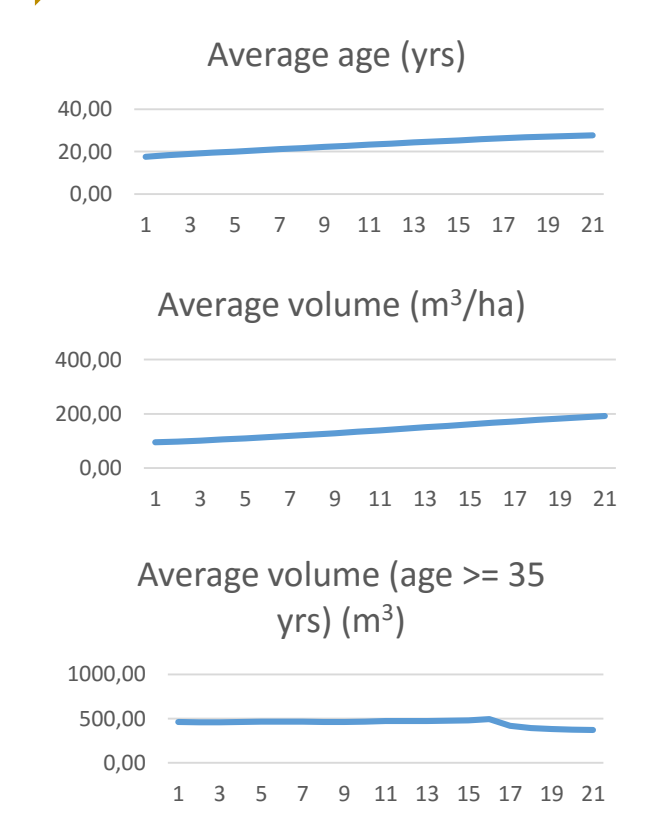
Then... Who is next?

Final remarks

The AppTitude tool combines for each ecosystem service or forest product three models (value, price and quantity) developed in last focus study (I, II and III), creating a present framework and a base to future simulation using different scenarios. To achieve it, the AppTitude implements a Linear Programming library to solve very big problems of Max/Min optimization and goal programing problems as Trade-Off analysis.

The AppTitude has a matrix generator tool for build generic linear programing problems automatically, with the goal of maximize the NPV for the region involving all the services and forest products under different restrictions (spatial and temporal).

The tool returns a simulation of how the forest will be in the future (max of 20 years) and is totally flexible to create different scenarios.

The philosophy of tool is been a researcher tool for regional management, focused in test different policies programs, and his use requires to know C# and other languages like linear programming syntax of *lp_solve* library.

See this poster in your device

Nordeste Transmontano

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Nordeste Region (Portugal)
A multiple integrative approach for participative and sustainable wood mobilization

Introduction

We are developing a Decision Support System (DSS) in the Nordeste Region that will be used during and after the project in several applications. One of these applications will be the Nordeste Pilot Project in the ZIF of Lomba, a test area within the Nordeste Region.

The priority target in this project is a system comprised of forest owners gathered under a common governance and management scheme in a particular area: the ZIF of Lomba. This area, located in the parishes of Vilar de Lomba e São Jomil in the Vinhais Municipality, is representative of the region. Most of the cover in the 2142 ha of the ZIF of Lomba is shrublands (45%) and forests (44%). This area was established and is managed by SME Arborea.

The Pilot Project will establish an experimental setting where factors and conditions considered as limiting or as potentially promoting mobilization will be tested, evaluated and eventually implemented.

Creation of an analytic base of work
Data (spatial and non-spatial) gathering, quality assessment, data conversion, model gathering and integration.

Development of DSS and tools
Conceptual decision support system, use and integration of all focus studies results, analysis and simulation of management/mobilization scenarios under spatial and temporal variability.

Knowledge

5 — Trade-off analysis (Future analysis)

6 — A protocol to minimize conflicts (Future analysis)

4 — Forest permanent inventory (Future feedback)

7 — How does forest ownership affect mobilisation?

3 — The forests in constant growth and evolution (Future scenarios)

2 — Forest Logistics evaluation (Present)

1 — Study of forests and their context (Past and Present)

Decision Support System

Future — t_n
Present — t_0
Past — t_{n-1}

Uncertainty

Evolution??

Evolution

Trade-off analysis

Production: Wood / Non-Wood

Services

Functions

Stakeholders — Industry Forest Owners Users ...

AHP ANALYSIS

Evolution models

Aptitude

Criteria — Environment Economic Social ...

Stakeholders — Industry Forest Owners Users ...

Development

Logistics assessment

FlorNExT

AppTitude

Trade-off analysis

Involvement of stakeholders
Stakeholders' characterization, definition of methods and processes for their involvement in forest management and decision making, establishment of a permanent Regional Learning Lab.

Test and Implementation of solutions
Protocols to possible solutions under defined goals; test of solutions using the DSS; application of possible solutions and evaluation.

Where?
Why?
Who?
What?
When?
How?
How much?

Possible solutions

Tools

Good solution?
Economic, Environmental and Social equilibrium? Sustainable?

NO

YES

Evaluation: feedback and improvement of the process.

Mark a goal

Region ← Pilot Project

Experimentation of promising measure to overcome identified barrier

<u>Governance</u>: Involvement of owners in group decision making using Analytical Hierarchy Process (AHP) and Multi-Attribute Utility Theory (MAUT) methods

<u>Ownership</u>: simulation of system's efficiency according to communal and individual ownership, property size, or distances to collection points

<u>Management</u>: forest management - application of modelling supported decisions (thinning; harvesting); landscape management – application of modelling supported decisions in landscape planning

<u>Functions</u>: evaluation and valuing of ecosystem services; integration of ecosystem services value (market and nonmarket valued) into group decision making with owners

<u>Harvesting</u>: definition of harvesting processes and machinery for the ZIF; evaluation of operation costs under different ownership and biophysical scenarios

Tools for forest growth/yield modelling: knowledge transfer for forest mobilization

FlorNExT 1.0

Introduction

The ability to predict growth and yield is a fundamental requirement for forest management as well as for forest planning and the forest industry. Forest growth is usually approached trough mathematical modelling at the individual tree or forest stand level, according to a specific period of time and silvicultural practices.

One problem with the equations used for this purpose is their dependence on a particular environmental context. In addition, forest growth equations are difficult to apply in practice when the user does not have minimal knowledge or experience in using forest models.

In the North-eastern region of Portugal (NE Portugal) there is a high heterogeneity with respect to biophysical variables and forest management practices which makes it difficult to obtain volume estimates. At the same time, there are not tools to facilitate the use of regionally adjusted forest growth and yield models for managers and stakeholders in general.

As part of an ongoing effort to increase forest mobilization in the Nordeste Region we developed a cloud computing application (FlorNExT®) to make forest growth and yield simulations in the Northeast of Portugal accessible to any forest manager or stakeholder (owner, consultant, researcher or businessman), as a way to support management in forest stands and to stimulate forest demand .

Development

This application has been designed to make it possible for any stakeholder to easily estimate standing volume, biomass and carbon content in maritime pine stands from stand data, as well as to estimate growth and yield based on four easily measurable stand variables: age, density, dominant height and basal area.

To do that we selected and analysed all forest growth models with potential application in the region for maritime pine (*Pinus pinaster*) and Pyrenean oak (*Quercus pyrenaica*) the species with the largest local distribution. Next, we tested the selected models with national inventory data (IFN 5, 2005), from which we selected the ones that performed better. Finally, we developed computer tools for two types of users: researchers and forest owners and managers. In both cases, we followed as key principles user friendliness, simplicity, scalability, and self-explainability in the development of FlorNExT®.

FlorNExT® implemented a dynamic of growth and yield model framework integrating different transition functions for dominant height (site index curves) and basal area, along with equations of tree and stand volume and structural models to plan thinning operations of different intensity.
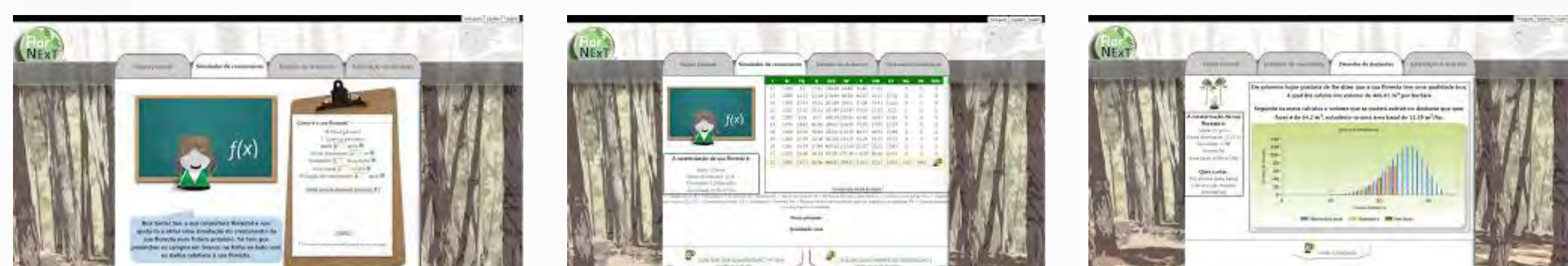
Nordeste Scale

FlorNExT® allows complex equations and models to be easily applied by forest managers and owners in the Nordeste region. It also allows to estimate fundamental indicators from few variables that are easily measurable in the field.

FlorNExT® was also designed to be friendliness, and self-explanatory.
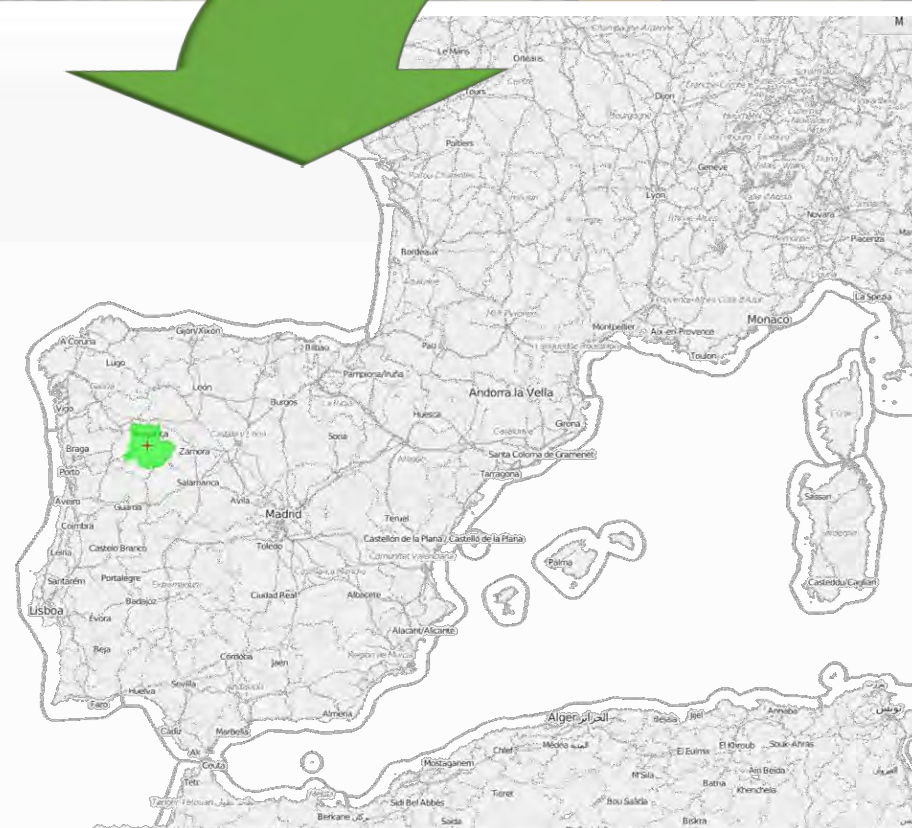
FlorNExT ® was developed as a public cloud application and no specific installation is required. It can be freely accessed from any Internet-connected device and it is compatible with the most common browsers .

The web page application is divided in four sections: i) Home, ii) Growth Simulator, iii) Thinning Design and iv) Information.

The "Growth simulation" uses as input data:
- Stand age (yrs.)
- Density (number of trees/ha)
- Dominant height (m)
- Stand basal area (m^2/ha) (optionally)

"Thinning" uses as input data the number or proportion of trees that the user wants to extract. Alternatively, the user can check the "I don't know" option for which the system applies a moderate thinning Wilson factor.
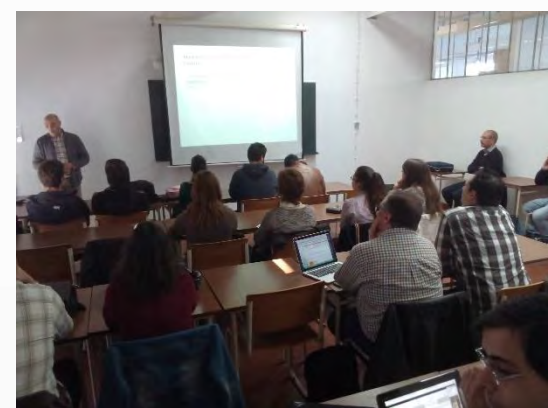
FlorNext® has been programmed in Visual Studio Web 2013 Express, using MVC technology. The languages used were C# and XML for models, drivers and configuration and Razor, HTML, JavaScript and CSS for displays. There are Portuguese, Spanish and English versions of the application.

SIMWOOD Scale

The diversity of species and different environmental contexts across the SIMWOOD geography make the use of agrowth and yield simulation tool developed for a particular region difficult to apply in others. The development of FlorNExT followed a modular design allowing the creation of similar tools for other regions simply by changing the modules (equations).

We created in this process Forest_MTIS®, a platform comprised of a set of files that in combination compiled a application such as FlorNEXT®. The structure of Forest_MTIS® (models (M), texts (T), images (I) and styles (S)) can be modified by the server manager and used to develop tools for supporting forest management in any other region.
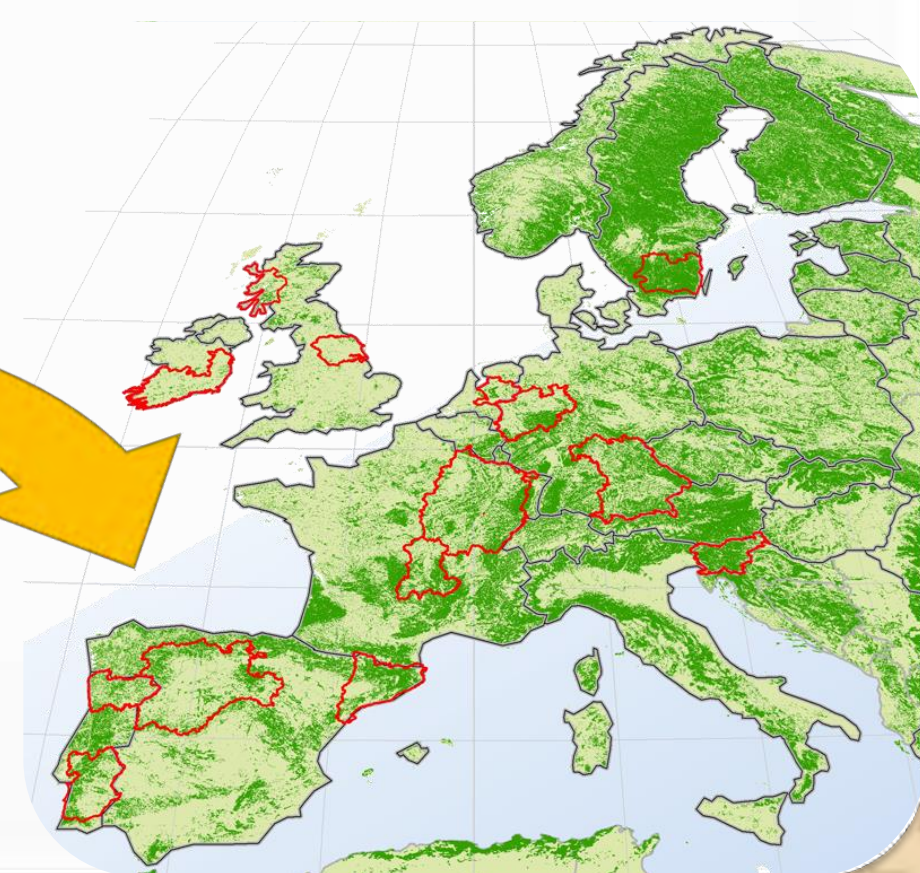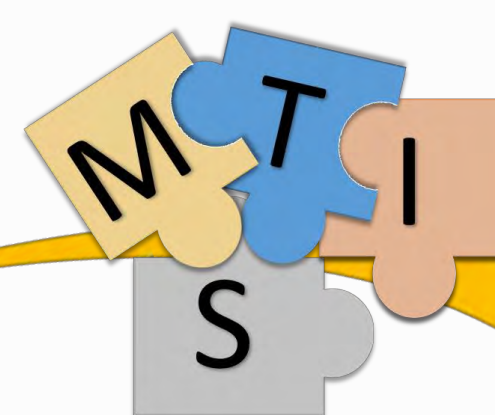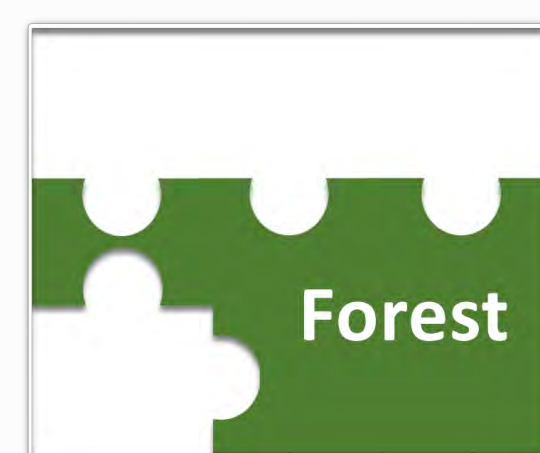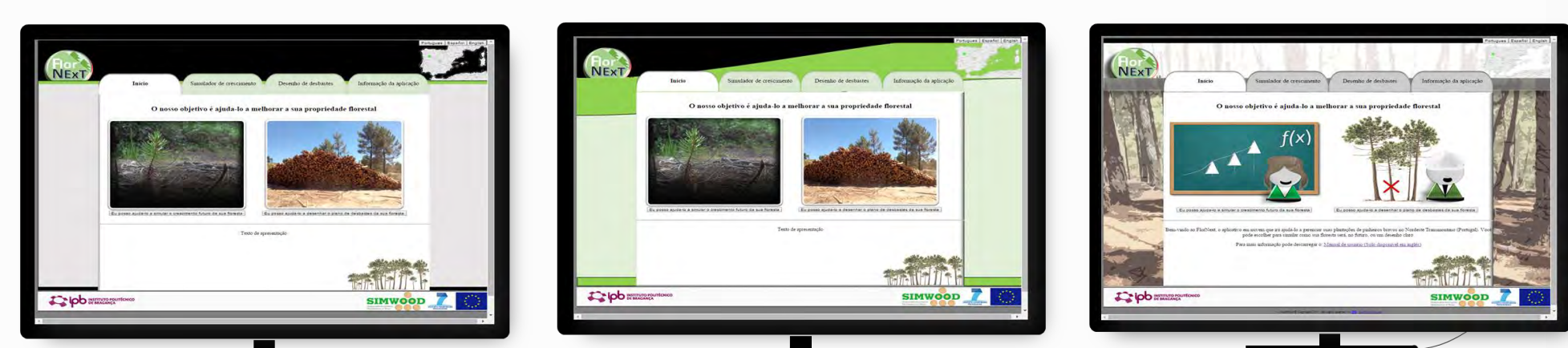
Final remarks

The development of tools like FlorNExT® are required to translate complex model equations into simple models and applications easy to operate and apply by any end user. Cloud computing improves the capability of development of friendly tools for users and simplifies the process of updating them. These tools are valuable resources for regions where forest mobilization is constrained by lack of usable information and models to support sustainable forest management.
The plataform Forest_MTIS helps the implementation of tools similar to FlorNExT in other regions in the SIMWOOD geography.

Nordeste Transmontano

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StandsSIM-MD: a Management Driven forest SIMulator

Susana Barreiro[1], João Rua[1], Margarida Tomé[1]

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StandsSIM-MD
Management Driven SIMulator for the Portuguese stands

Modular structure linking five main Modules

CONFIGURATION MODULE

The control parameters shape the execution of a simulation by setting some configurations:

- the number of years to simulate;
- the simulation processing mode;
- the tree species to be processed;
- the type of model to be applied: empirical stand-level or individual-tree, or Process-based (3PG);
- the input and output files' hard disk locations;
- the type of output files produced (yield table and/or Linear Programming)

CONCEPT

StandsSIM-MD processes any number of stands

1-PPS mode: applies a specific Prescription Per Stand

MULTI-PPS mode: applies MULTIple Prescriptions Per Stand

Output: Yield Table file

Output: Linear Programming file

Optimizer

Presently, StandsSIM-MD simulates:
- Eucalypt (*Eucalyptus globulus*)
- Maritime pine (*Pinus pinaster*)
- Stone pine (*Pinus pinea*)

Mixed stands are simulated separately for each species as pure stands with the area being set as *the proportion of the basal area of the species in the stand*.

INPUTS MODULE

This module is responsible for reading the input files and making some base calculations.

Model Type

- Process-based (3PG/Glob3PG)
- Empirical stand-level
- Empirical tree-level

Site data

Climate

Stand

Tree

Site data: Latitude, Altitude, Soil class, Fertility rating, Available soil water, Etc...

Climate: Temperature, Frost days, Rain days, Precipitation, Solar radiation, Vapour pressure deficit, Etc...

Stand: Area, Density, Composition, Structure, Age, Dominant height, Basal area, Volume, Biomass, Etc...

Tree: Species, Height, Diameter (dbh), Dominant code, Status code, Etc...

Assortments

Stumps, Sawlogs, Pulpwood, Other industrial roundwood, Residues

Logs top diameter, Log length, With or without bark, Volume or biomass, Prices, Etc...

GROWTH AND PREDICTION MODULES

The application of even- and uneven-aged models is implicitly defined by the information on species and stand structure.

Species	Stand Structure	Growth and Yield Models			
		Name	Type	Mixed species	Time-step
Eucalypt	Even/Uneven-aged	Glob3PG/3PG	Stand-level process-based (hybrid)	no	month
	Even-aged	Globulus3.0	Stand-level empirical	no	1-year
	Uneven-aged	GYMMA	Stand-level empirical	no	1-year
	Even/Uneven-aged	EucGOES	Individual-tree empirical	yes	1-year
Maritime pine	Even-aged	PINASTER	Individual-tree empirical	no	1-year
	Uneven-aged	PBIRROL	Individual-tree empirical	no	1-year
Umbrella pine	Even-aged	PINEA	Individual-tree empirical	yes	1-year

For more detailed information on the models see Rua et al (2015)

Despite 3PG model runs on a monthly time-step StandsSIM-MD runs on 1-year time-steps, structuring the data to be used in nested processing loops.

Flowchart

START Simulation

STANDS PROCESSING

Get stands/sites' data

Last stand ? — yes → **END Simulation**

PRESCRIPTION PROCESSING

Get new prescription

Last prescription ? — yes

Start simulation period

Get new FMA/cycle

Last FMA/cycle ? — yes

End of sim. period ?

New plantation ?

Initialize stand

GROWTH PROCESSING

Model type ? — Process based / Empirical Stand level / Empirical Tree level

3PG/Glob3PG

PINEA — Umbrella pine / Maritime pine — Sp

EucGOIS — Eucalyptus

PBIRROL — Even-aged structure ?

PINASTER

GYMMA — Even-aged structure ?

GLOBULUS

MANAGEMENT MODULE

Growth is projected according to prescriptions which schedule a sequence of Forest Management Approaches (FMA) along the planning horizon.

Each FMA schedules the Silvicultural Operations (SO) that will be executed at specific stand ages/simulation years during a period of time corresponding to one rotation or cycle (for even- and uneven-aged stands, respectively).

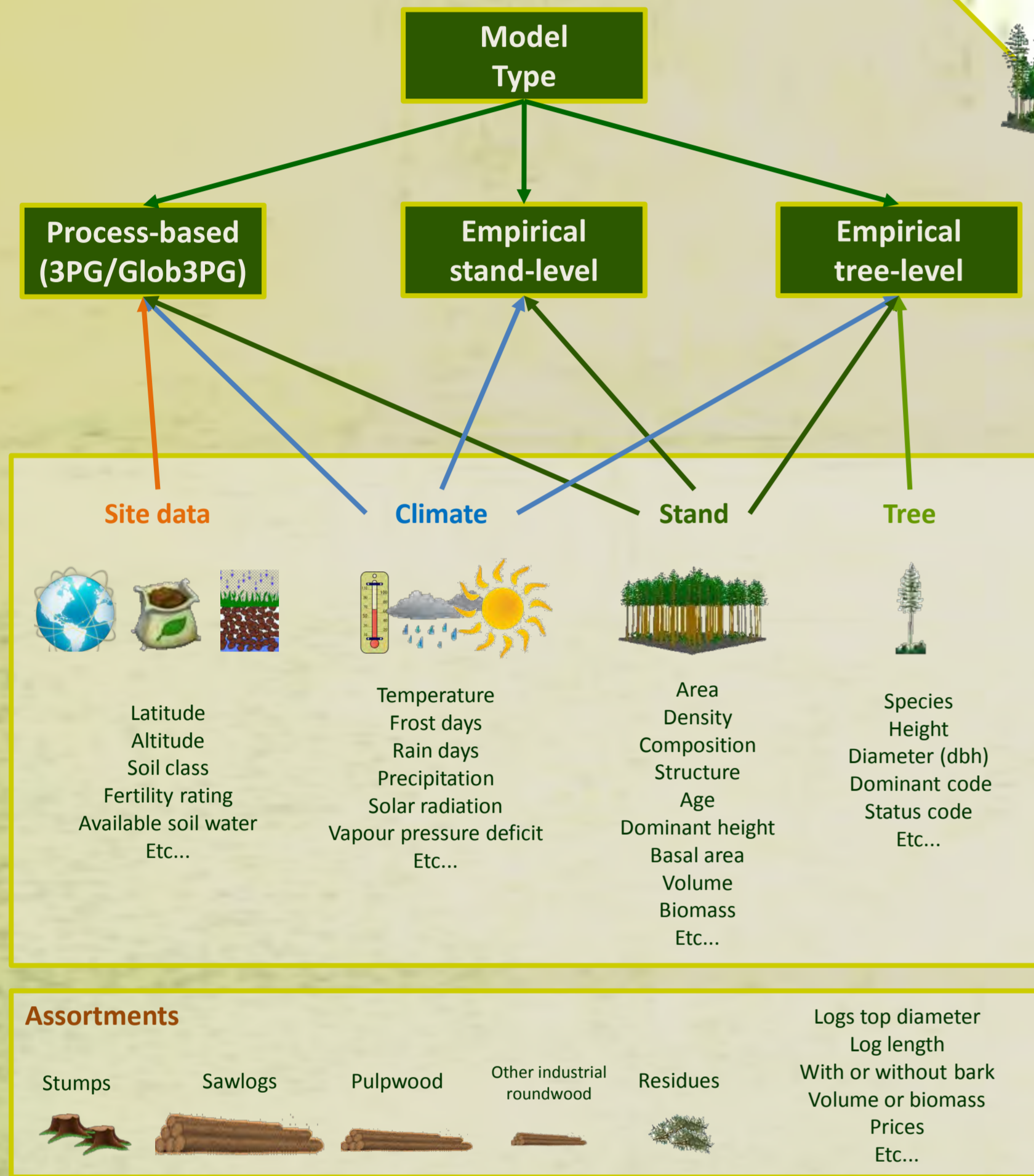The SO's are user-selected out of an official list of operations updated every 2-years (CAOF) for which labour costs are set by default and in some cases also consumable costs (e.g. seedling/seed and fertilizers prices, etc.). The user can choose to use the default values or edit and save them as he pleases. The cost of each operation is then used for estimating production costs and Net Present Value.

The afforestation component of Land Use Changes is also taken into account by this module which is responsible for the plantation of new stands using specific prescriptions that define when new stands are planted along the planning horizon.

OUTPUT MODULE

Consider the following example for which StandsSIM-MD will be used to forecast the evolution of a maritime pine stand considering a species conversion during the 60-years simulation period:

Stand input: Even-Aged maritime pine stand (14-years old)
Prescription (see *Prescription 1 described above*): Pine FMA where harvest takes place at the age of 50 followed by a plantation of eucalypt managed as planted in the first rotation and followed by 2 coppices
Growth models used: Pinaster and Globulus

The following timeline shows the silvicultural operations during the 60 years planning horizon:
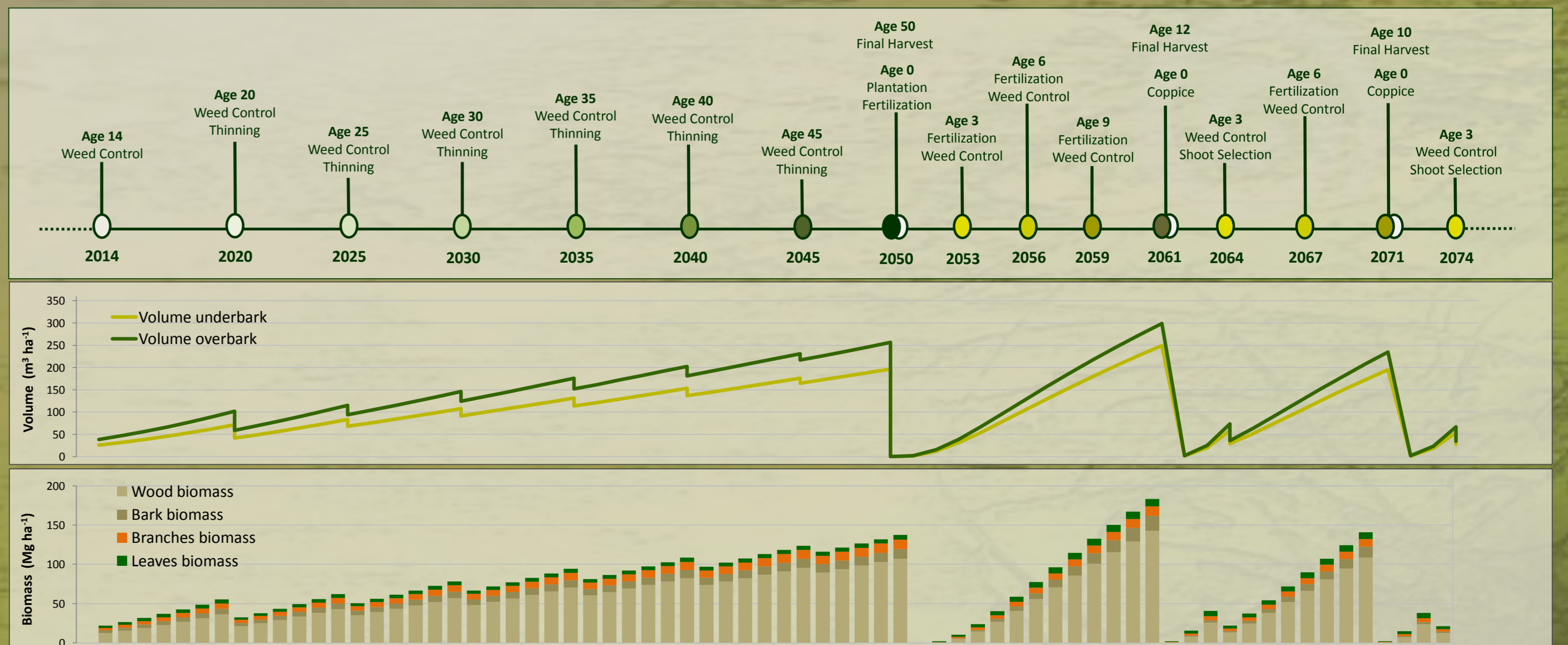
A wide range of environmental and some economic indicators are calculated per year. All outputs are .csv format files that can easily be opened in Excel allowing the user to build graphics or dynamic tables to carry out the desired analysis.

When running using the process-based model a suit of monthly time-step 3PG-specific outputs can also be produced.

HIGHLIGHTS & IMPROVEMENTS

StandsSIM-MD

- User configured
- Applicable at stand- or regional-level
- Application to forest inventory data with different strata
- Able to simulate any number of personalised management prescriptions
- Inclusion of individual-tree models for other species
- Essential for the preparation of forest management plans
- Assigning a realistic location to stands (spatial-explicit version)
- Development of a user-friendly graphical interface

Alentejo Region Portugal

Objective

- To define and quantify the use of wood products – FS1
- Maritime pine (*Pinus pinaster*)

Methodology

- **Meeting with stakeholders**, **forest private owners and local industry** to understand the business model involved- the forest management approach, the yearly outputs and the industry consumptions;

- **Describing the current Forest Management Approach (FMA)** most applied in the region for the existing maritime pine stands (see table below);

- **Characterizing the wood industries** from Alentejo and estimating their consumption;

- **Estimating the amount of wood annually produced for each type of industry** based on field data collected from samples of final cuts and thinning operations and the general data produced on inventory plots from last National Inventory;

- **Comparing our harvested wood estimates** with the estimated consumption in the region.

FMA Maritime Pine (Resume)													
Silvicultural Operations					Stand Age								
	0	1	...	10		12-14	...	18-20	...	25-28		30-34	...	35-38
Soil Preparation	√												
Plantation		1250											
Filling in		√											
Density reduction				√									
Prunning						√							
Thinning type								Below		Below		Below	
Final density				800/900				500		300/350		200/250	
Final Harvest														√

Results

Wood Type

It is the price of the wood that defines the wood destination.

Sawmill wood

Log wood
(pulpwood, fuelwood, panels)

119 Sawmills
(different consumption levels)

2 panels and 3 pellets Industries

About 1 819 000 m^3/yr

About 167 000 m^3/yr

Part of sawmill wood is used by pellet and panels mills.
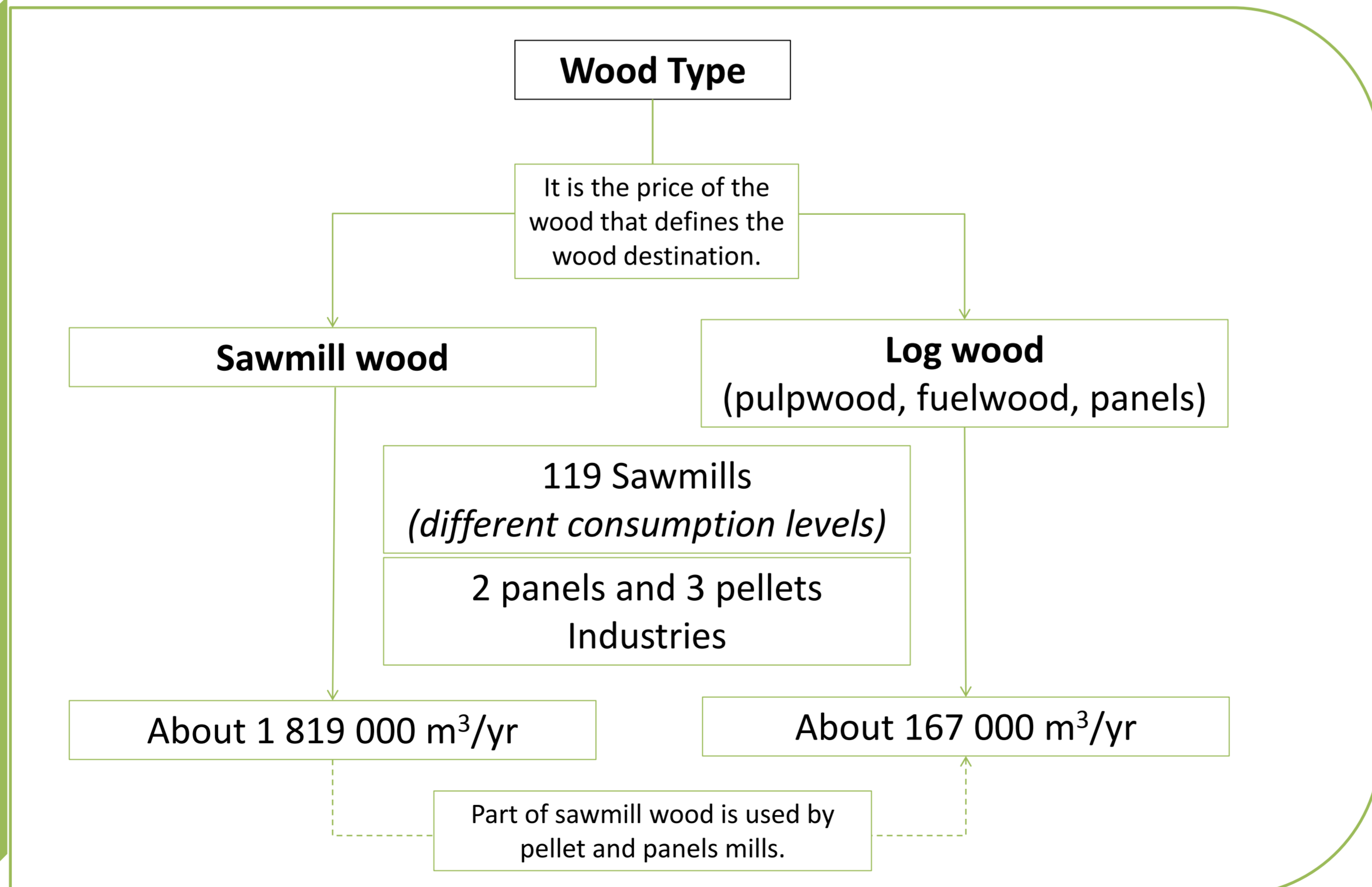
Wood flows are not totally controlled, therefore it was impossible to define the amount of wood that stays in the region and the one that goes to mills outside of the region.

Alentejo Region Portugal

Objective

- To organize and systematize information about non-wood forest products and services produced in the region, to evaluate their relation with the sustainable wood mobilization

Methodology

- Meeting with forest land owners and the companies that produce and commercialize these products or forest services to define the non-wood products and forest services most important in the Alentejo region for the development of forest areas;
- Estimating the productions of these goods/services as well as the trends in their future production and commercialization ;
- Clarify with the National Institute of Statistics (INE) under which group these products and services are classified, to try to have regional figures from each class.

Results

CURRENT POTENTIAL

Hunting
2664 hunting zones – 2, 67 millions of hectares
* M € / yr

Medicinal & Aromatic Plants
70,34 hectares
4,3 M € / yr

Eco-Turism
13750 beds
26 M € / yr

Cork
77 438 tones
31 M € / yr

Resin
750 tones
0,75 M € / yr

Honey
1992 tones
13,94 M € / yr

Stone pine cones
120 000 tones
84 M € / yr

Mushrooms
10,5 tones
0,17 M € / yr

* - Impossible to quantify

FOREST SERVICES

NON WOOD PRODUCTS

SUSTAINABILITY, FOREST INVESTMENT

FCBA
INSTITUT TECHNOLOGIQUE

Increasing professional know-how in steep-terrain conditions collaborative pathways for practitioners to broaden their wood mobilization horizon in these specific areas

Morgan VUILLERMOZ, Paul Magaud, Institut technologique FCBA, 10 rue de Galilée, 77420 Champs sur Marne , France, morgan.vuillermoz@fcba.fr

1. Target group: population of **forest companies (SME or larger)** who could mobilize more wood in steep terrain provided the feasibility of logging operations - in terms of economy, health & security, human resource management and environment - would be ascertained by the regional know-how.

2. Experimentation as pilot project in SIMWOOD: collaborative capacity building (with the help of a facilitator) about sustainable logging practices in steep terrain and related forest management requirements

| Prospection by service provider | Recommandations for forest Mgmt | Contract for harvest | Logging operation | Further forest Management |

Now

Reluctance and uncertainty
Reluctance and uncertainty
Reluctance and uncertainty
? Uncertainty about organization & profitability

2014 -2015

- Better understanding of which logging scenario CAN happen
- Good practices of the F. manager upstream before launching logging op'

Practitioners sharing their experience and raising common knowledge

New knowledge

- Common challenges
- Performance monitoring of current practices
- Documentation of good practices: H&S, €, env., productivity…

2016

Knowledge transfer to forest managers

Capacity building : Dissemination, training…

Knowledge transfer to loggers

Adoption of good practices: H&S, €, Env., productivity…

2016 -17

Dialogue about adapted silviculture regimes

Forest companies gathered at 1st RLL meeting on a cable-yarding site Sept. 2014

asap

More logging operations launched in steep terrain under balanced conditions (€, HR, ENV…)

New knowledge being progressively delivered to participating stakeholders

Outputs

2nd RLL in Sept. 2015

Onsite discussions with the logging company experimenting a new organisation

Memos distributed to stakeholders
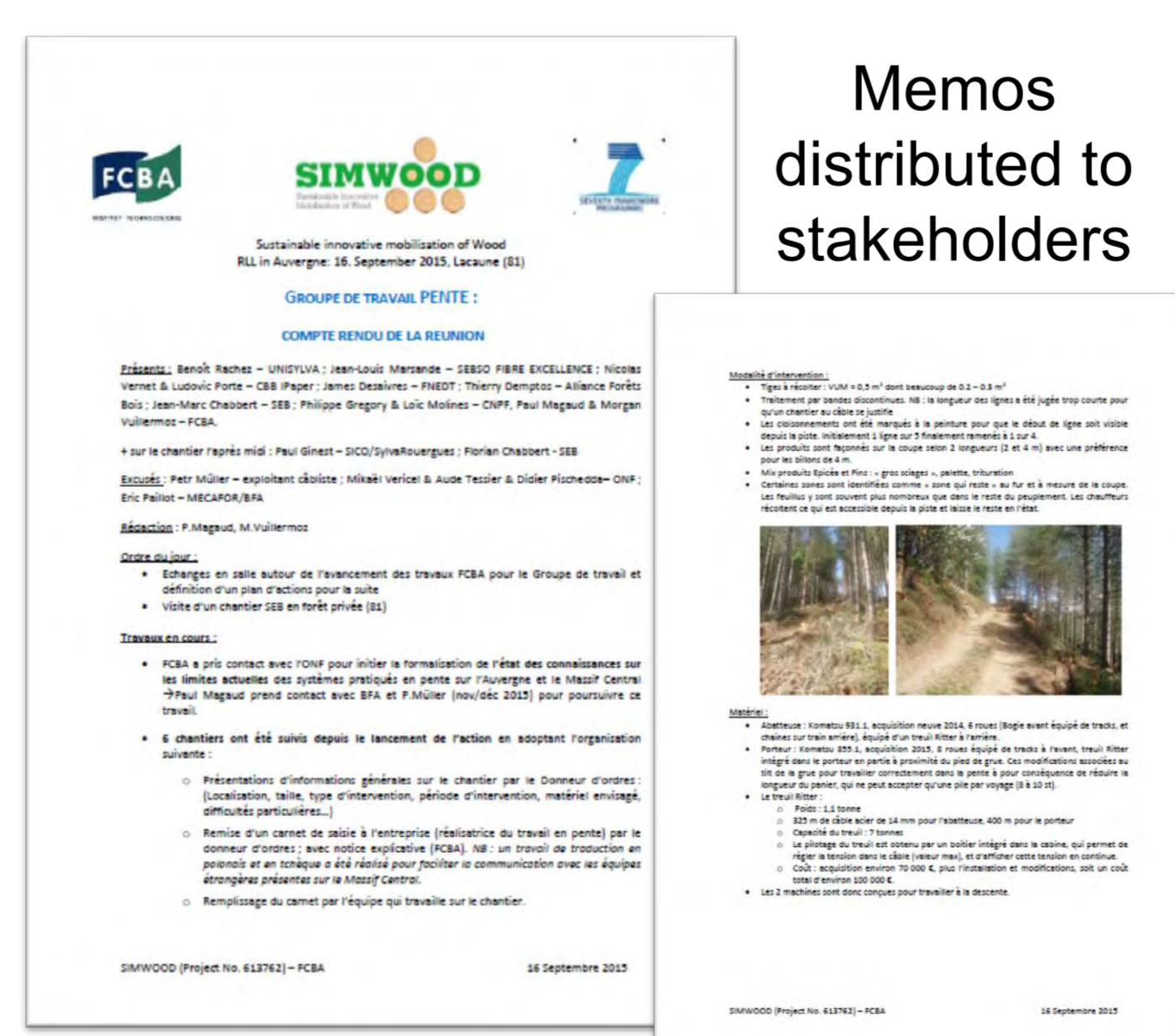
Other actions implemented in the Pilot Project:
- Communication to invite stakeholders to join
- Monitoring 6 working sites
- 1 to 1 interviews with logging co. to document and add together the current pieces of know-how (currently fragmented)
- Observatory of logging accidents: human safety and prevention of machine breakdown
- Open event: "*JT pentes*" 19 November 2015

3. Expected outcomes

- New forest management and associated logging practices being adopted by forest companies
- Adapted strategies being implemented for professional practitioners to reach out and connect to targeted forest owners
- Additional hectares where forest operations actually happen and additional volumes of wood are being mobilised

And beyond the regional boundaries…
- Is this form of collaborative capacity building relevant in other regions with such terrain or equivalent difficulties ?

Valdepoza marteloscope, a training space on tree selection.

Felipe Bravo Oviedo 1, Pablo Sabín Galán 2, Cristóbal Ordóñez Alonso 1,
José Reque Kilchenmann 1, Carlos del Peso Taranco 1.

GAP adressed in the focus study

Impact of thee selection criteria on timber production and quality

Objective of the focus study

To obtain knowledge on the impact of tree selection criteria in thinning and to transfer the results to operational forestry

SimWood activities

- Measurement of the marteloscope
- Evaluation of marteloscope
- Survey on tree selection preference by different stakeholders (classify by gender, economic activity, social/environmental preferences,...)

A Diameter distribution by species

B Marseloscope map

C Summary data for marteloscope
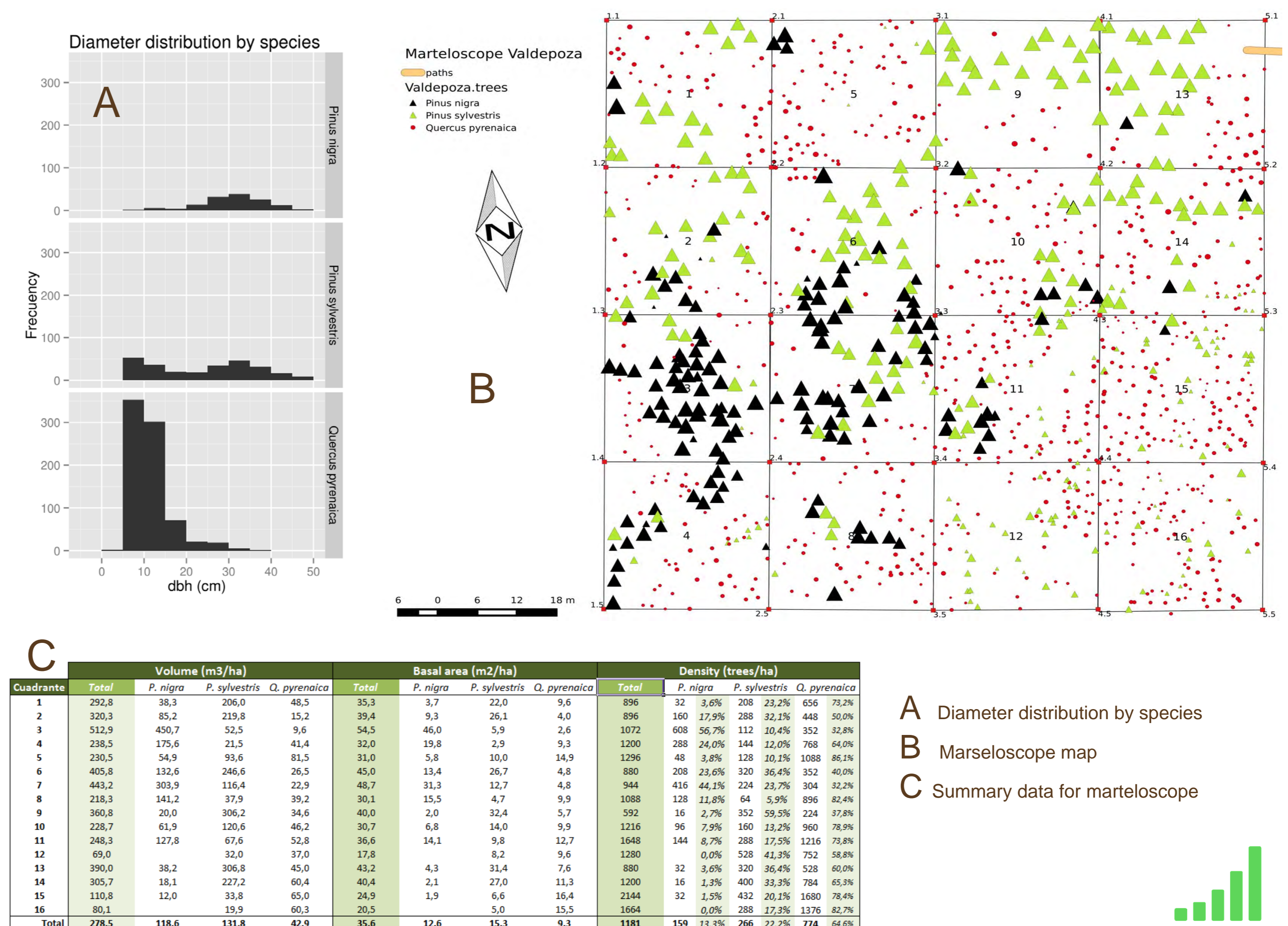
D Marker selecting trees for cuting

Simanfor

Model growth simulator will be used assessing the impact of thinning in wood production and forest products.
Free available at www.simanfor.eu
Models for species present at marteloscope will be codified soon.

Marteloscope

It is a didactic tool with a permanent plot where trees are measured and mapped with an associated software for tree selection on training silviculture.
The marteloscope could be used to develop skills in tree selection and marking but is's also a place for discussion between stakeholders.

Expected results

Improve knowledge in marking criteria by different stakeholders to overcome existing barriers in mobilizing wood.
Improving selvicultural schemes adapted to timbre facilities preferences.

SIMWOOD
Sustainable Innovative Mobilisation of Wood

Smartelo, a tool for managing marteloscopes data training

Diego Rodríguez de Prado, Felipe Bravo Oviedo, Cristóbal Ordóñez Alonso, Carlos del Peso Taranco.

GAP addressed in the focus study

Traditional forest marking methods.

Objective

To develop an tool useful for markers decisions data analysis

SimWood activities

- ⊙ Measurement of the marteloscope
- ⊙ New technologies applied to sustainable forest management and forest marking activities

A Main required data

B Principal results

C Complementary functions and outputs
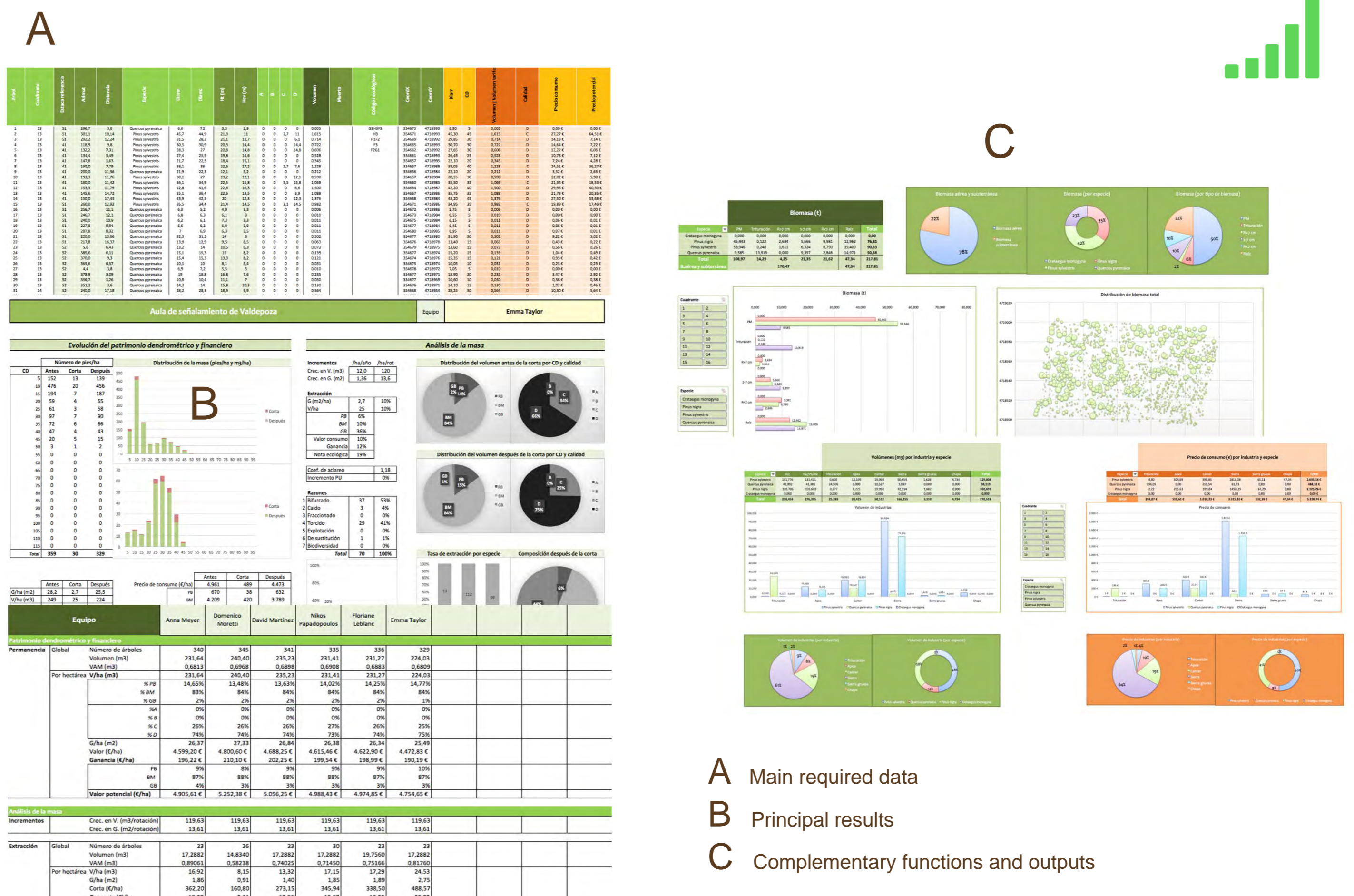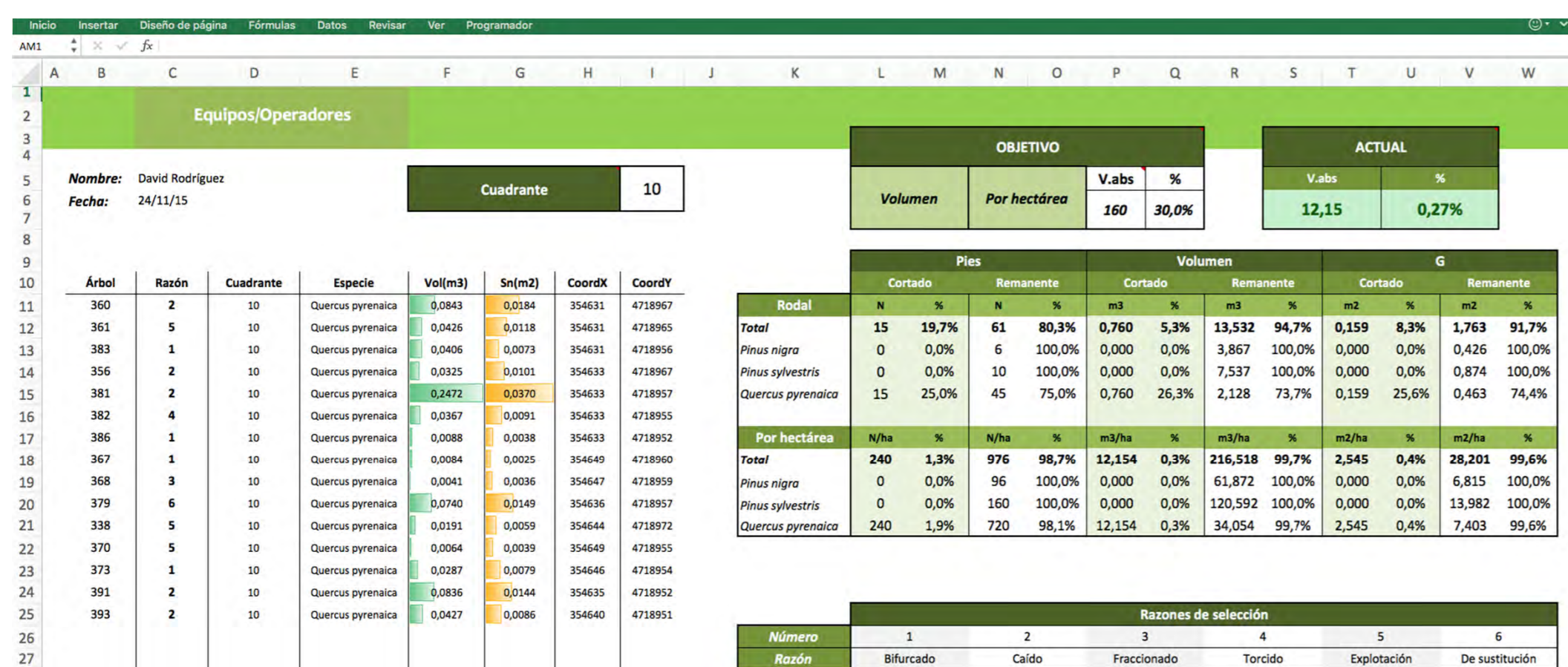
D Output from Smartelo (*tablet version*), showing the selected trees (left side) and the current marking situation (right side), depending on the fixed management objectives

Main features of Smartelo

- ⊙ Complete data analysis of the marteloscope
- ⊙ Numerical and graphical results
- ⊙ Different ways to obtain volumes and consumption prices (both current and potential)
- ⊙ Comparison of the results obtained by different users and teams carrying out the marking.
- ⊙ Biomass analysis and forest products divided by timber transformation industries
- ⊙ Ecological analysis of the marteloscope
- ⊙ User - friendly design and performance

✓ Tablet app totally new and developed for this project

Smartelo uses part of the excel developments done by Prof Max Bruciamacchie (AgroParisTech, Forest Center at Nancy) to analyze marteloscope data.

Expected results

- ⊙ Potentiation and implementation of new technologies into the forestry and educational sector
- ⊙ *Time and required resources reduction, as well as decision improvement in forest marking activity through the utilization of this application*

http://sostenible.palencia.uva.es/contents/smartelo

SIMWOOD
Sustainable Innovative Mobilisation of Wood

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Instituto Universitario de Investigación
GESTIÓN FORESTAL SOSTENIBLE

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Human tree selection in thinning operations

Felipe Bravo Oviedo, Cristóbal Ordóñez Alonso, Fátima Cruz, Carlos del Peso Taranco.

Objective of the focus study

To obtain knowledge on the impact of stakeholder's decision making criteria about tree selection in thinning and to transfer the results to operational forestry

SimWood activities

⊙Survey on tree selection preferences by different groups of stakeholders.
⊙Analysis of the participants background on decison making and marking selection.
⊙Evaluation of impact of tree selection and thinning intensities on forest development.

Groups of stakeholders

⊙Regional Forest Administration
⊙Associations and Foundations
⊙Entities linked to non timber uses of the forest
⊙Entities of environmental and forestry technical services
⊙Education and research centers
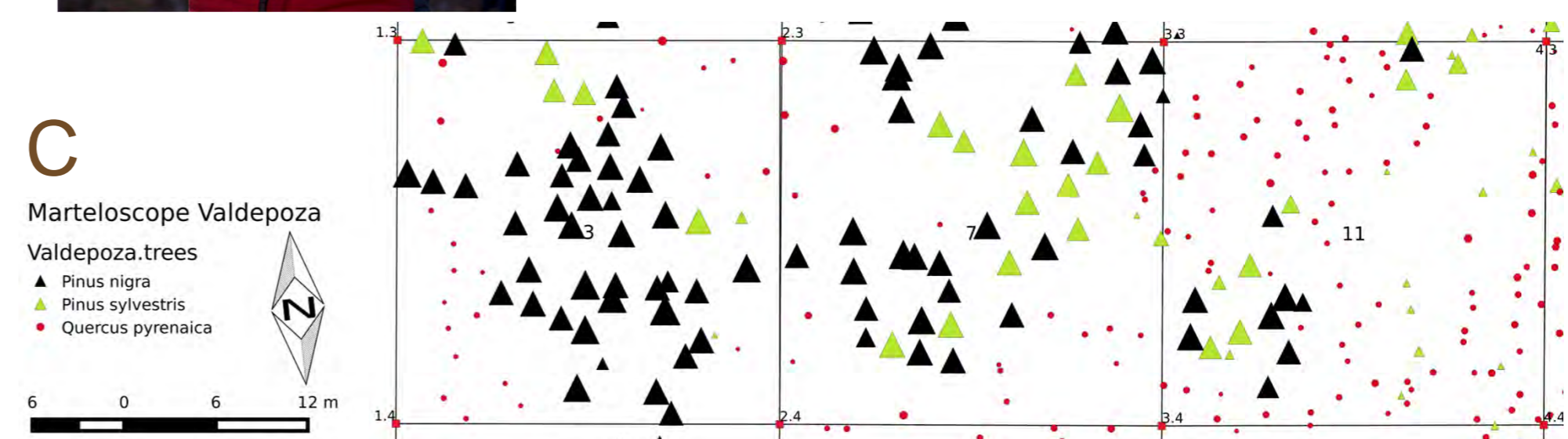
A & B Participants in the tree selection

C Map of quadrants used in the experiment

D Diameter distribution before and after tree selection made by trained foresters and others actors.

E Probability of tree selection based on tree diameter, species and group of marker (forestry and non forestry background) assuming that operator is 40- years old and tree total height is 10 m.
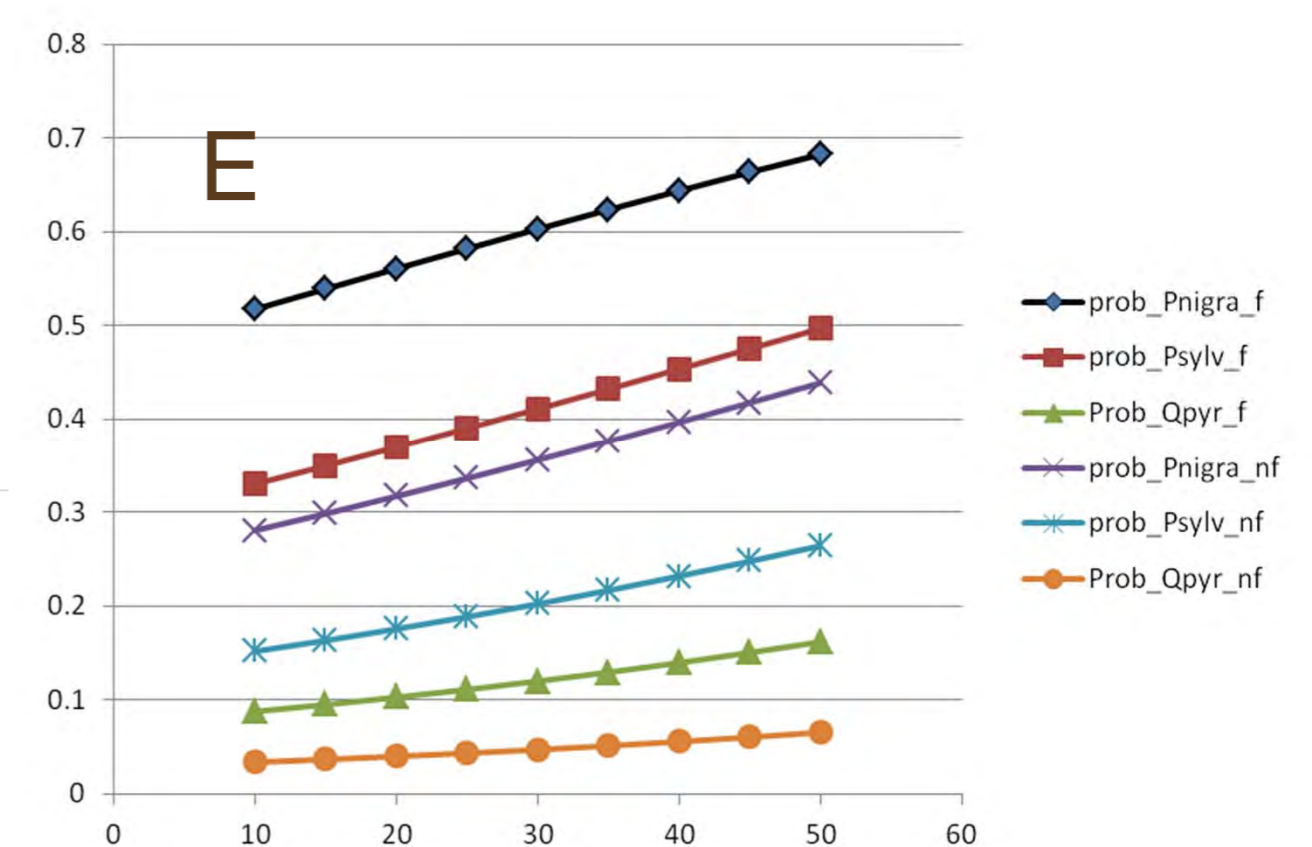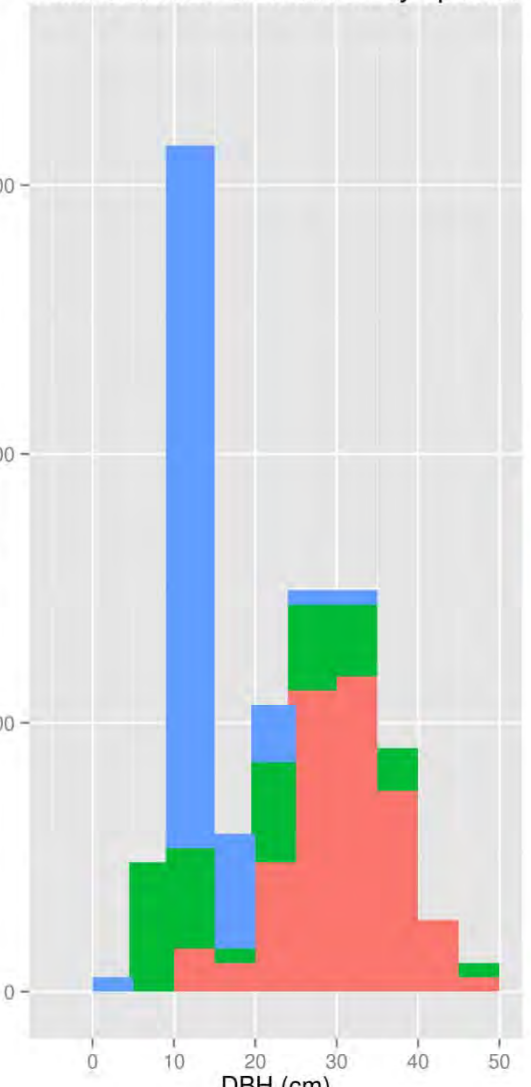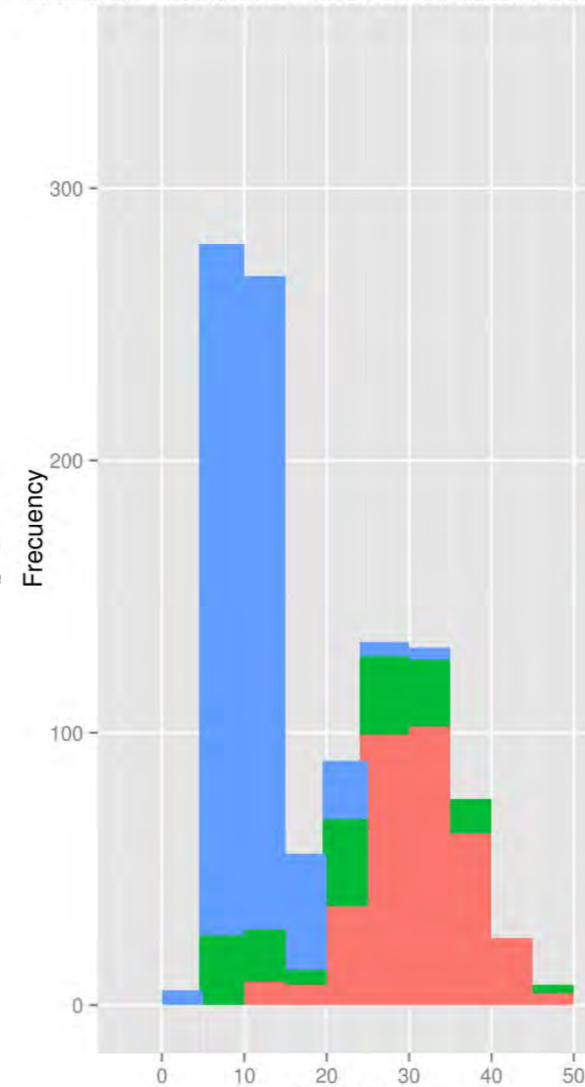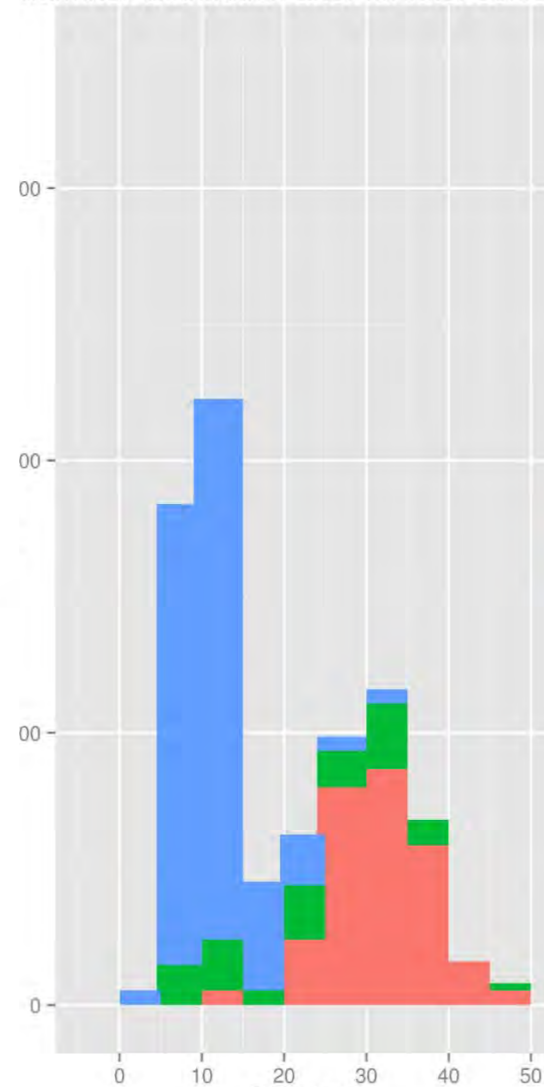
Experiment on human decision making and selection behaviour using Marteloscope

Marteloscope is a didactic tool with a permanent plot where trees are measured and maped with an associated software for tree selection on training silviculture.

Results

Forest protection is the main goal for most of the participants, though it is understood in a different way. People with specific forestry education are more likely to harvest trees. Forest management training is the most discriminant factor on marking behaviour and tree selection. Tree size and species are also important criteria on decision making. Pines have shown a higher probability than oaks to be selected.

http://research4forestry.eu

Contrast of different early-thinnings practices in a natural regenerated mixed stand

Felipe Bravo Oviedo 1, Pablo Sabín Galán 2, Cristóbal Ordóñez Alonso 1, Miren del Río Gaztelurrutia 1, Ricardo Ruiz Peinado Gertrudix 1, Andrés Bravo Oviedo1, Beatriz de la Parra Peral 3.

Target in the pilot proyect

Enhance wood mobilization in mixed forests in Urbion model forest, focused in early thinings.

Objective of the pilot project

To analyze the impact of thinning in tree growth and mushroom production in young and middle aged stands.
Analyze and test new logging operation schemes.

SimWood activities

- Instalation of experimetal site with different harvesting parameters
- Generate experiences of new logging schemes.
- Develop a dialogue document about logging operation practices-guideline
- Dissemination of SimWood results among participating companies
- Evaluation of early-thinning products

A — Mixed forest of *Pinus sylvestris* and *Quercus pyrenaica*
B — Plot installation
C — Lidar analysis of the experimiental plots
D — Testing harvesting trails with biobaler
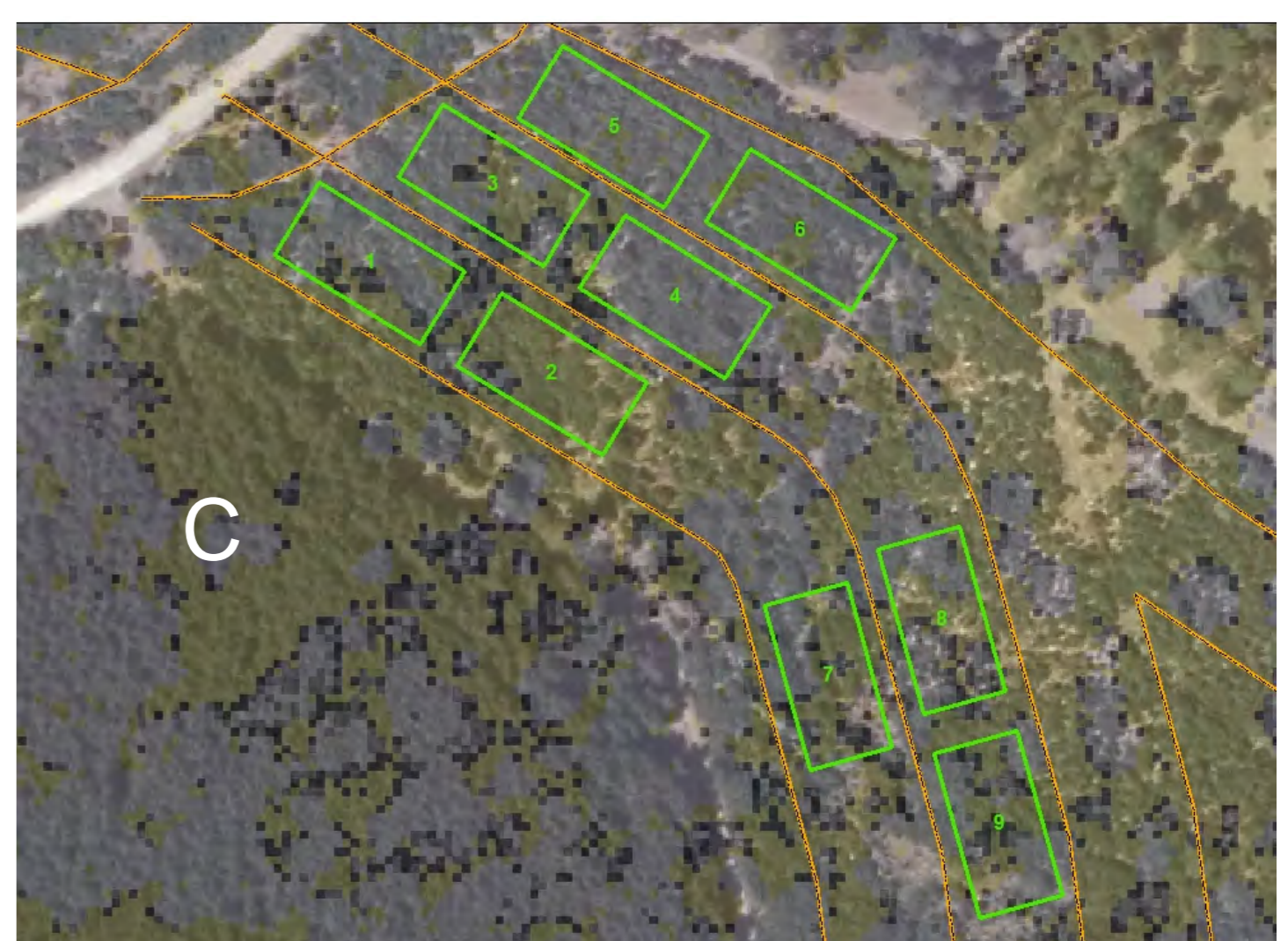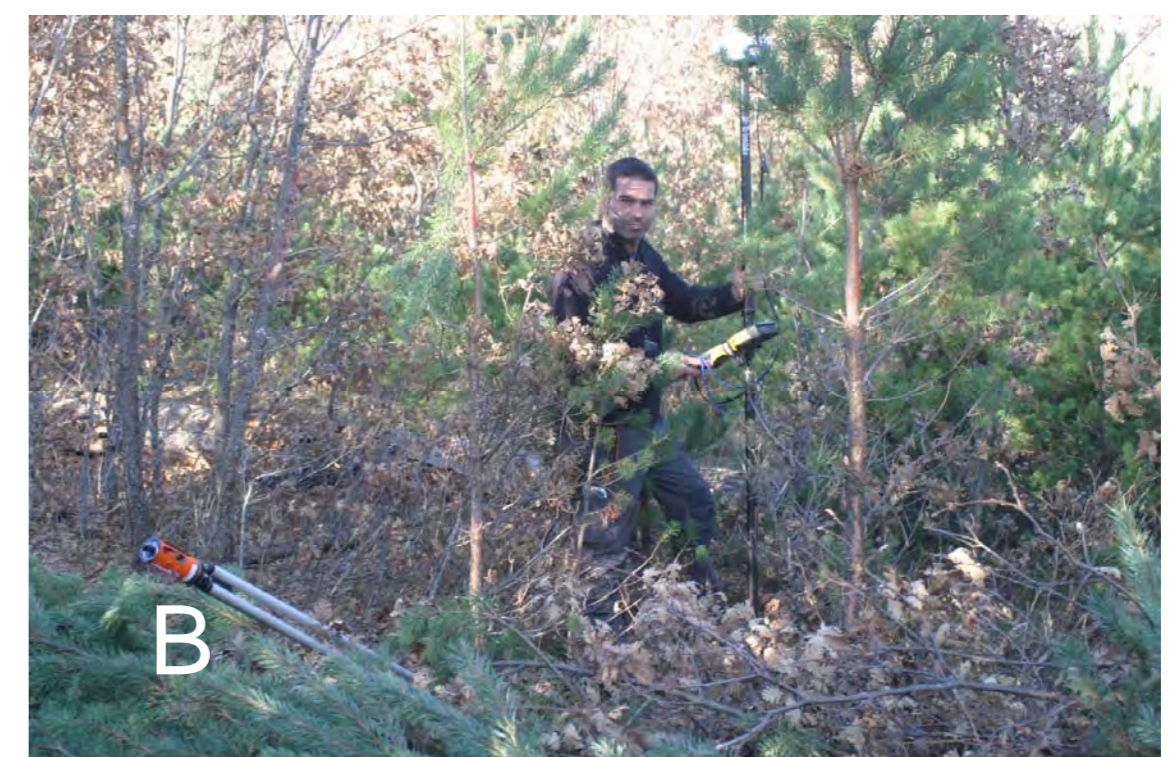
Increase know-how in young forest growing stock, growth and the response to different thinning intensities and logging operations including impact on NWFP (mushrooms).

Analyze the influence in production of developing mixed forests instead of traditional monospecific pine forests.

Expected results

- Enhance wood mobilisation in young pine forests by trying to convert non-commercial silvicultural operations into neutral or commercial thinnings.
- Develop a more cost-effective silviculture to increase wood mobilization.
- Improve knowledge of production in mixed forests.

http://sostenible.palencia.uva.es/
http://www.agresta.org

Model region of Castile and Leon, Influence of Forest Management in Mushrooms production

Beatriz de la Parra 1, Celia Herrero 1, Jaime Olaizola 1, Javier Cuesta 1, Valentín Pando 2, Pablo Martín-Pinto 2, Juan Andrés Oria de Rueda 2, Felipe Bravo 2

GAP addressed in the pilot project

Impact of thinning intensity in tree growth and mushroom production in mixed forest in Castile and Leon (Spain).

Objective of this study

To develop a total fungal productivity model for Maritime pine ecosystems in northern Spain.

SimWood activities

- Mushrooms inventories
- Analysis of temporal data of mushroom inventories
- Determination of the average fungal productivity
- Correlation with stand, climate and soil characteristics.
- Fitting a mixed model to evaluate the impact of the climate, soil and stand variables in Mushroom production

A Mushroom inventory B *Lactarius deliciosus* C *Boletus edulis* D *Cantharellus cybarius* E *Hydnum repandum*
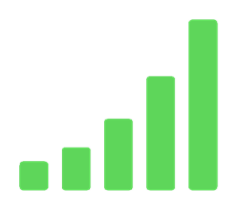
Figures of fresh mushroom production
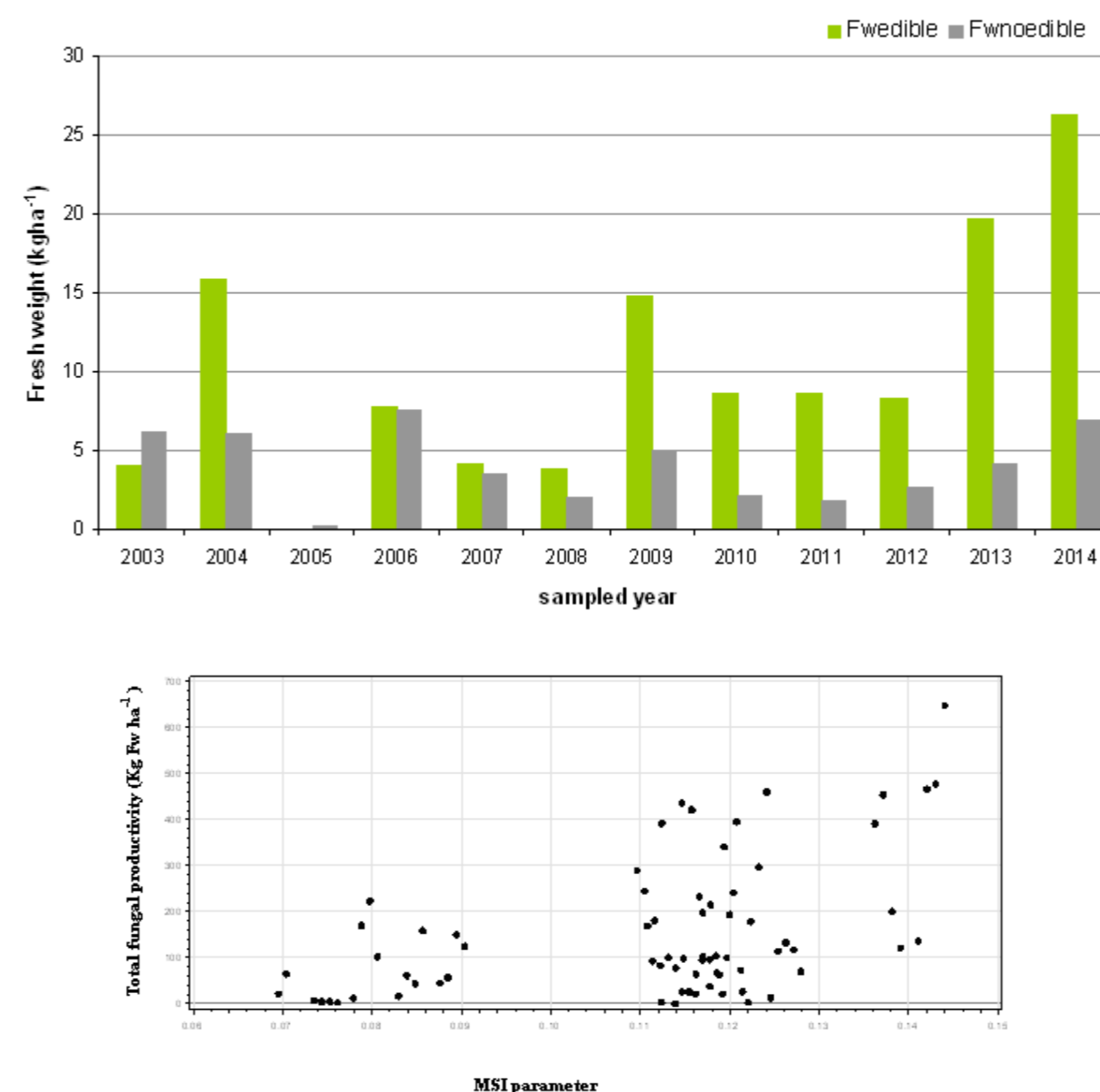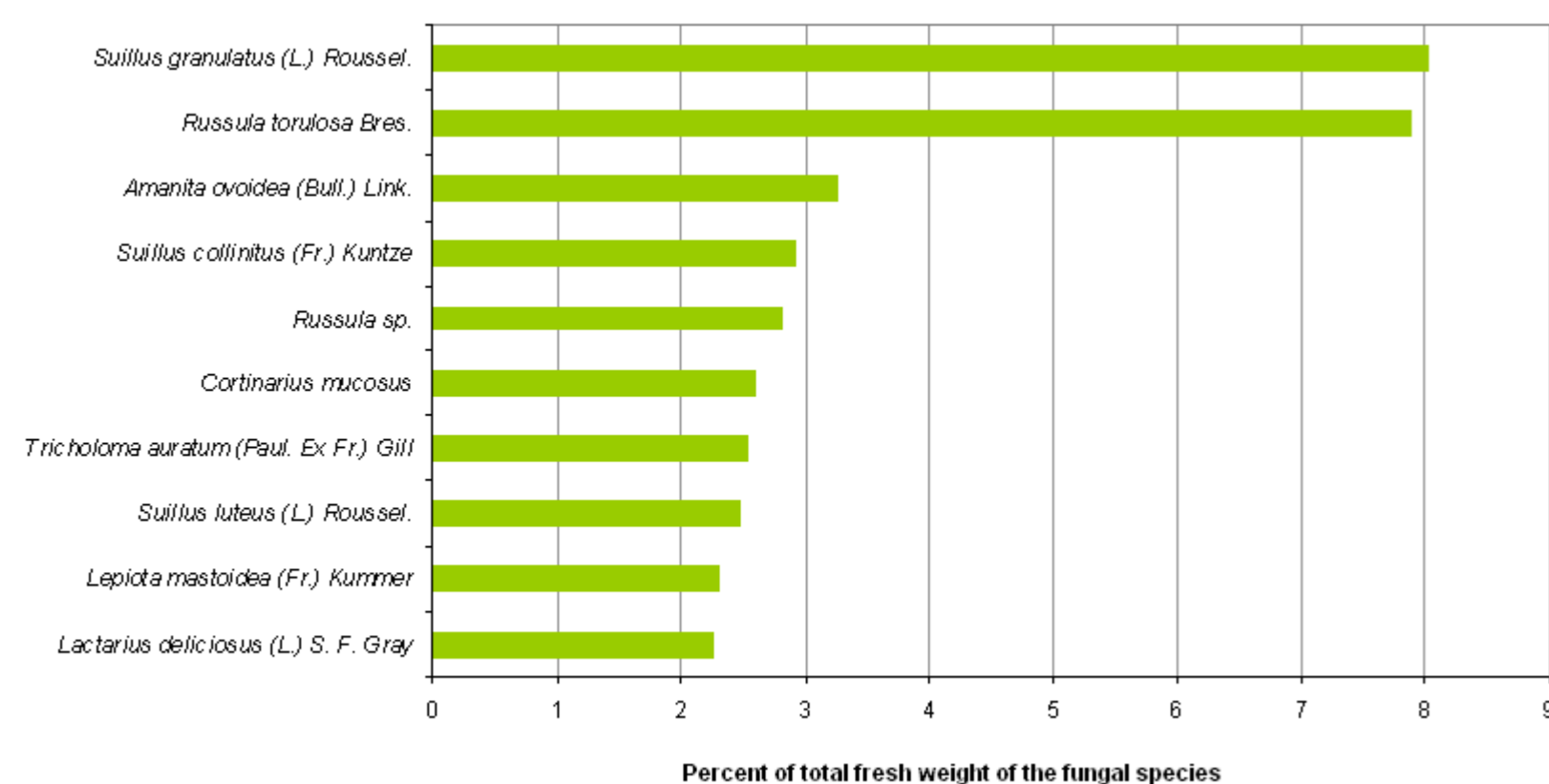
Mushroom productivity was related to stand characteristics in *Pinus pinaster* forest stands. Additional studies would be necessary to estimate the production for the most important species, at economic and ecological level. However, our findings are an important information to be used as guidelines for forest managers who wish to consider silvicultural operations in management practices to increase the total fungal productivity in this type of forests.

Highlights

Fungal productivity model would enable predictions of mushroom yield under different forest management plans and climatic scenarios. In the current context of new paradigm of silviculture and global change, it is necessary to analyse the Forest Management activities as an union between trees and mushrooms, where both of them are a strategic component in the conservation and management of Mediterranean forest systems.

www.ecmingenieriaambiental.com
http://research4forestry.es/

@ECMfungi

SIMWOOD
Sustainable Innovative Mobilisation of Wood

Instituto Universitario de Investigación
iFOR GESTIÓN FORESTAL SOSTENIBLE

Universidad de Valladolid

fbravo@pvs.uva.es

SiManFor, a tool for wood mobilization.
Seven years of successful experience.

Felipe Bravo Oviedo, Cristóbal Ordóñez Alonso.

GAP adressed

Usability of growth and yield models by operational foresters and decision-makers

Objective

To promote and facilitate: Forest management planning, Forest education and dissemination, stakeholder participation

SimWood

⊙ Evaluation of silvicultural alternatives
⊙ Evaluation of growth and yield

Simanfor

Model growth simulator will be used assessing the impact of thinning in the products.
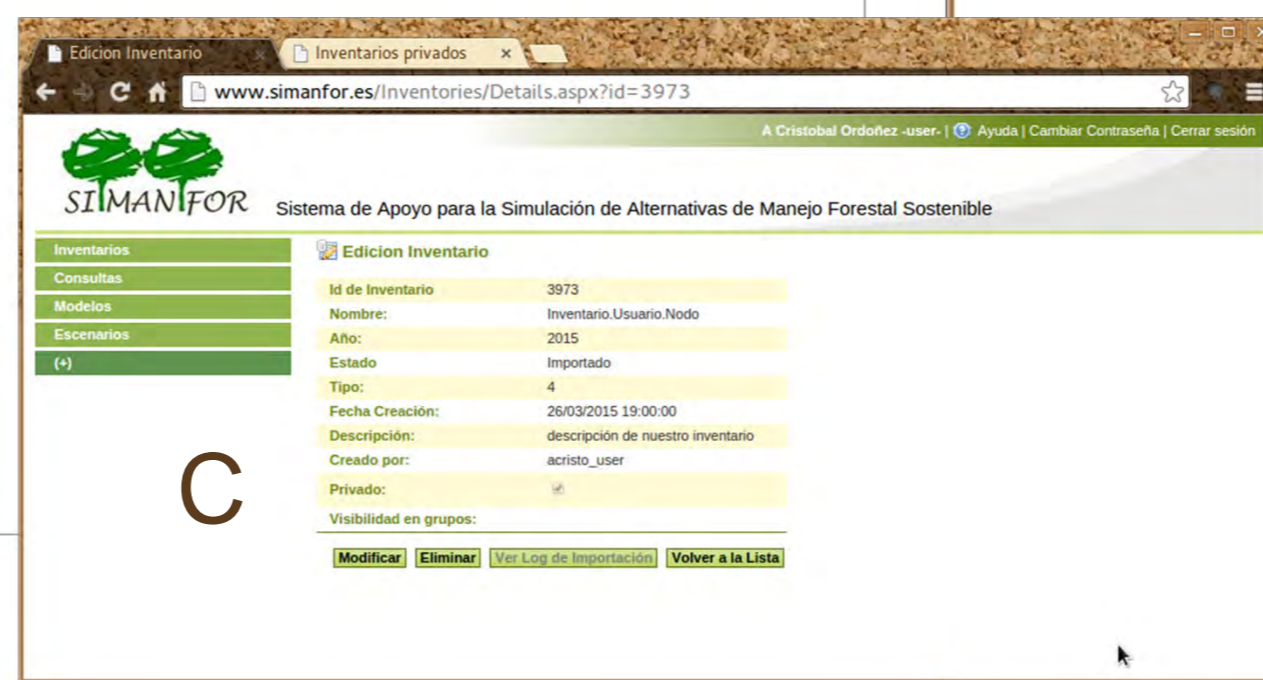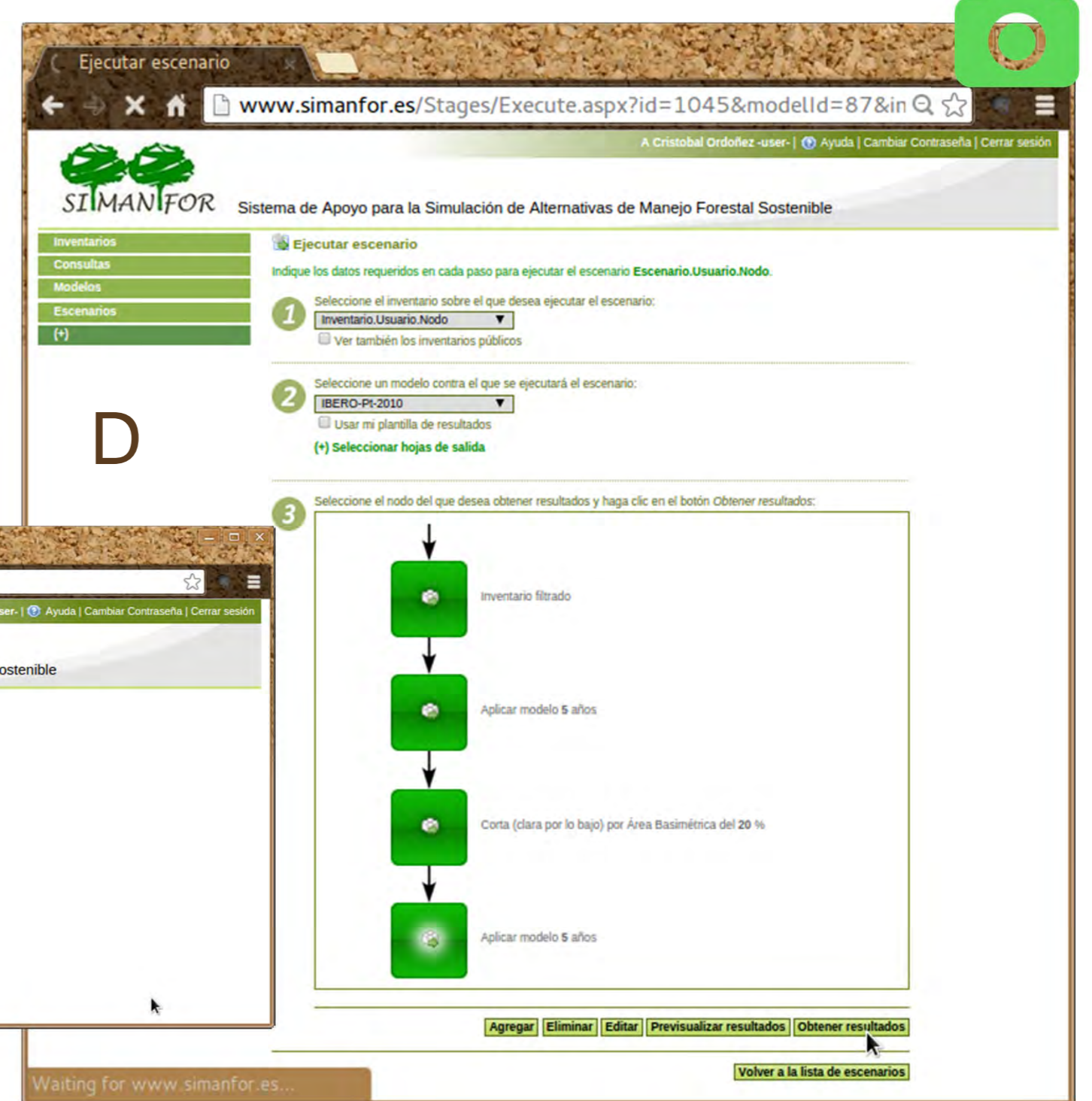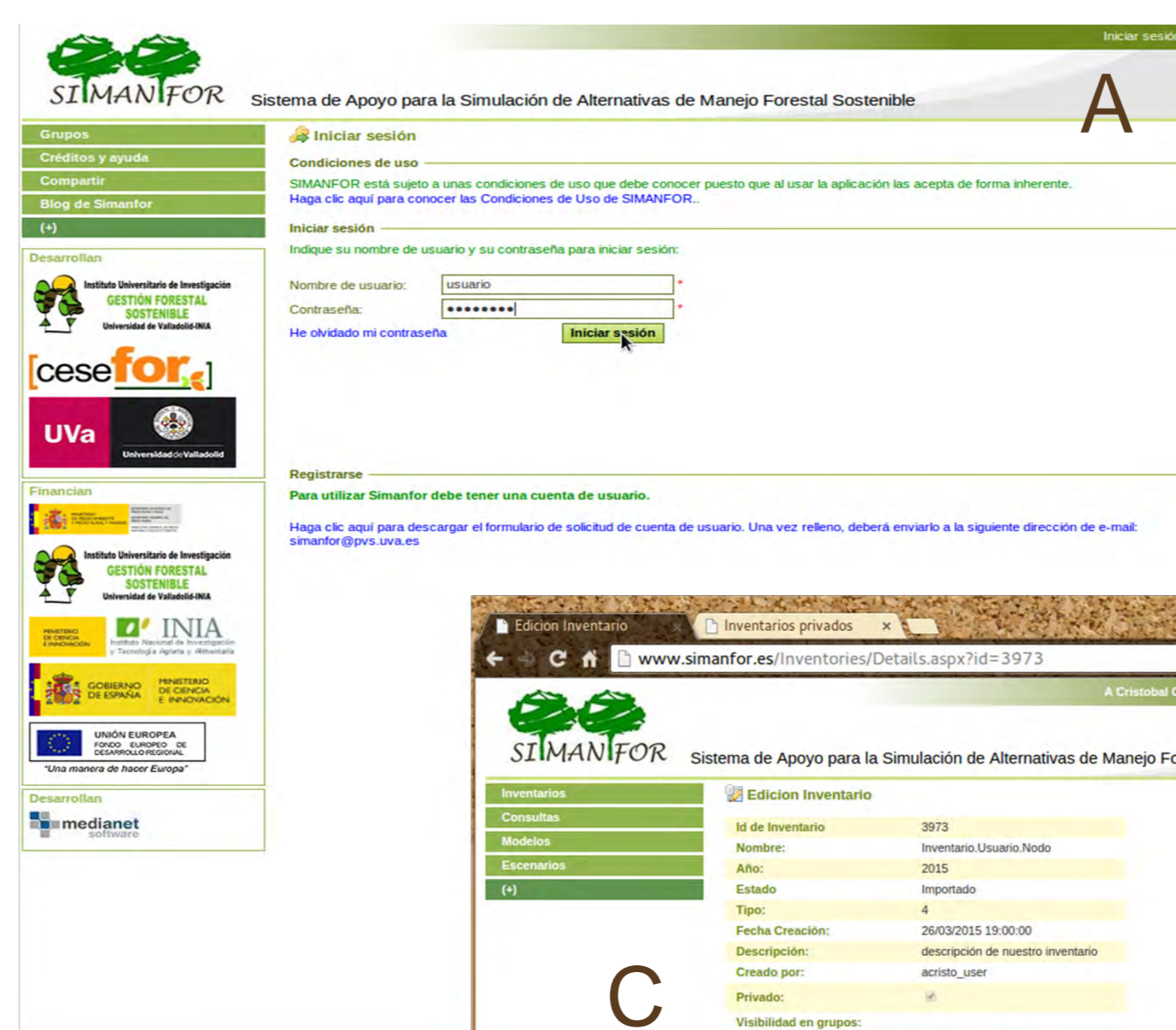
A   SiManFor is free use, with login system

B   Data for simulation can be uploaded with spread sheets and collected with smartphone app «tree collect»

C   Modelers can upload their own models.

D   Simulation of scenarios allows user to predict productivity and choose silvicultural options.

D   Output from SiManFor. Output a stand, diameter classes and tree level are available depending upon model features

Expected results

Simanfor will help to disseminate forestry practices and educate new generation of foresters about wood mobilization impact on forest stand dynamic and products generation.
New Simanfor release will be available by the end of 2015, which will provide multi language module. An smartphone app to facilitate data collection is also forthcoming.

http://www.simanfor.eu

@simanfor

Initiative Palencia Model Forest: a pathway to sustainable rural development and wood mobilisation….

Felipe Bravo 1, Carlos del Peso 1, Pilar Valbuena 1, Fátima Cruz 1, Cristobal Ordoñez 1, Celia Herrero 2, Jaime Olaizola 2, Beatriz de la Parra 2, Asier Saiz Rojo 2, Alberto Martínez Peña 3, Alejandro Martinez 4.

Addressed GAP

Lack of interest in forest management in the local community that had been identified through Regional Learning Labs meetings.

Objective

To generate a social framework th facilitate stakeholder interaction promote rural development based internal resources (as forest resource and to integrate the territory in worldwi initiatives

SimWood activities

- Promote stakeholder engagement
- Advocate and support the initiative

A EcoAdapt meeting at Palencia (2015)

B Disseminating activities Palencia Model Forest

C Tree Collect android app

D Adaptive Management network (Thinning demostration site)

B O S Q U E
M O D E L
PALENCIA

Model Forest

A Model Forest is a voluntary association of people that live in a particular territory, and are interested in discovering, defining, enhancing and guarantying its sustainability; and in sharing their experiences and their knowledge to contribute to global environmental goals.

In order to fill the gaps in the territory, this governance process has been selected to create dynamics of collaboration on this "neo-forest" landscape.

Axes

- Dissemination and promotion
- Generation of a strategic plan to support candidature
- Adaptive Management on site with demonstration activities
- Sustainable development of the landscape
- Population sustainability

#ThinkLandscape

Expected results

A vibrant integration of rural population in an innovative framework to spin the development of the territory and facilitate the mobilisation of forest resources in a sustainable way

www.bosquemodelopalencia.es

@BMPalencia

fbravo@pvs.uva.es

Mobilising the primary forest biomass and promoting the local consumption of woodchip from the planned forest management which contribute to decrease the risk of fire
"Forests of Vallés- Catalonia"

Jordi Vayreda i Xavier Carbonell - CREAF   CONSELL COMARCAL DEL VALLÈS OCCIDENTAL

- 23 municipalities (58,037 ha) and 34.325 ha of forest land (59%).
- Wood land forest area (slope < 70%): 22.020 ha (38%).
- *Pinus halepensis* represents 82% of the total accessible forest area (15,652 ha).
- Forest biomass: from $15,200 t_{30}$ / year (considering only small trees) till $44,600$ t_{30}/year (considering all wood available).
- Annual forest growth of *Pinus halepensis* area in this region has an annual potential of 42 millions of KWh/year.
- It is essentially an urban region (1,398 inh./km²), partially included in Action Plan for improving Air Quality recently approved in Catalonia (2015-2020).

Main barriers for wood mobilization in this pilot project (RLL1)

- **Poor accessibility** to forest.
- Finding mechanisms to **ensure benefits for the entire forest chain** and **price stability**.
- **Ensuring the emission limits**, providing in the technical requirements for boilers, filters for pollutants.
- **Low demand for biomass** in relation to the potential production of the region.
- **High proportion of small private owners**.
- Insufficient **forest pedagogy** (communication and awareness actions).
- Anticipate security problems in the forest due to the **high attendance of visitors.**
- Excessive **administrative bureaucracy.**
- Strengthening the **system of guarantees of supplying** and ensuring **quality of biomass.**
- Risk of disengagement of the local forest sector because **new demands of biomass in other neighbouring regions**.

Key factors of this initiative

- **Traceability** of forest products.
- **Proximity woodchip** consumption: $\downarrow CO_2$
- Maintaining **air quality** with latest generation filters.
- **Increasing forest owners associations** and the **forest area planned**.
- **Sharing of benefits** all along the production chain.
- **Promoting inclusive labor**.
- **Strengthening collaboration between administrations.**

Implementation plan

STAGE 1	1st RLL meeting	
Introduction to Simwood. Identify barriers and opportunities for wood mobilization at local level.	**RLL 1.** Mobilizing primary forest biomass	June 2015
STAGE 2	Seminar	
Debate with the help of other experiences related with biomass, about how to identify the best practices to implement the pilot project	**SEMINAR** Best practices to improve the pilot project	Autumn 2015
STAGE 3	2nd RLL meetings	
Analyzing the viability of the three main actions involved in this pilot project to be implemented during 2016	**RLL 2.1.** ⟷ **RLL 2.2.**	November 2015

Progress

- 80 **stakeholders involved** in the RLL.
- 15 **SME** participating.
- Approved the construction of the **Logistic Center** ($3000 t_{30}$ - G30).
- Approved two project of **big boilers** (planned consumption $9·10^6$KWh/year, 21% of the annual forest growth of *Pinus halepensis*).

RLL 2.1   RLL 2.2

OWNERS	SUPPLIERS	TRANSFORMATION	MARKET
Private owners	Purchasing bidders		Equipment installers
Owner Associations	Forestry services companies	Woodchip producers	Electric service providers

The logistic center map

- How to involve the **small private owners**?
- Which could be the best **scale of forest planning?**
- How to encourage getting **wood from hardly accessible areas**?
- How to ensure **traceability**?

- Is it feasible to produce **woodchip at 30 % humidity**? **G30 and G50**?
- How to **certify the woodchip**?
- Should the logistic center have its own **machinery**?
- How to set **commercialisation mechanisms** that benefit the entire forest chain ?

SIMWOOD
Sustainable Innovative Mobilisation of Wood

Establishing a protocol for collaborative, mutually agreed management in particularly sensitive forest that reconciles their high natural value with the mobilisation of wood:
"Singular Forest - Catalonia"

Jordi Vayreda i Xavier Carbonell - CREAF
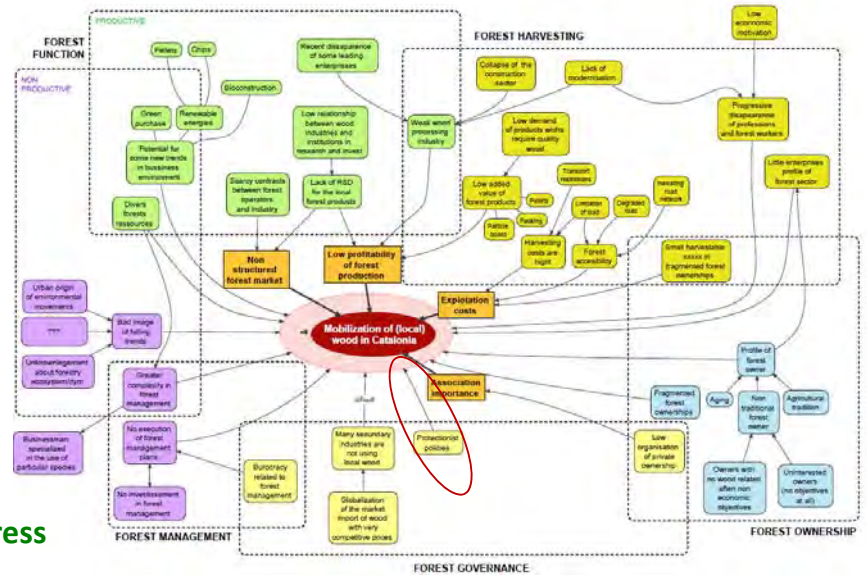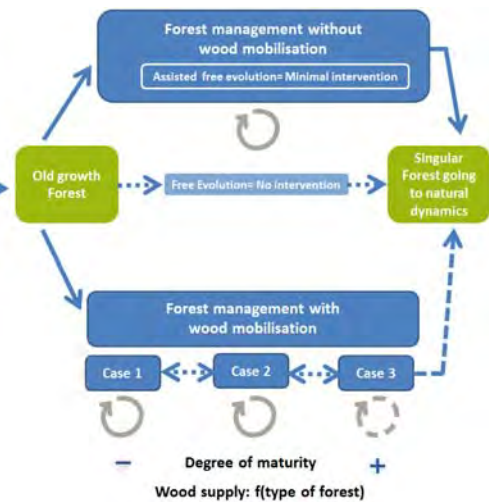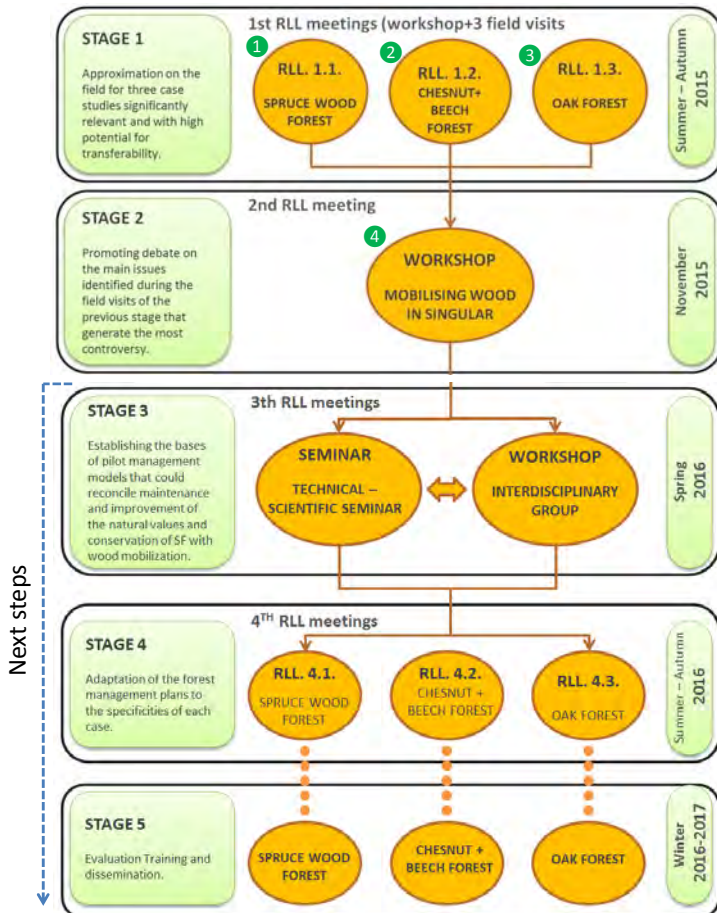
Determinants for Harvest Decision Making Amongst NIPF-owners in Gelderland and Overijssel, the Netherlands

Wouter van Os[1], Silke Gabbert[1], Gert-Jan Nabuurs[2], Patrick Reumerman[3]

1 Survey Rationale

Fig. 1 Gelderland and Overijssel, SIMWOOD model region in The Netherlands

The combined provinces of Gelderland and Overijssel are one of the SIMWOOD model regions.

Characteristics are:
- Forest area: 139,500 ha
- Private ownership: 52,000 ha

In order to understand more about the harvesting decisions of private forest owners, and to determine how they could participate in the pilot project, a survey was conducted in 2015.

346 surveys were sent out, 73 received back (response 21%).

2 Ownership Characterization

Of the owners that did respond to the survey, the following general observations can be made:
- Average age 58 ("young elderly people")
- Average forest area: 130 ha (min. 0.3 ha, max. 1200 ha)
- Education level: high; almost 50% had a university degree, and only a little over 10% listed secondary school as highest form of education.
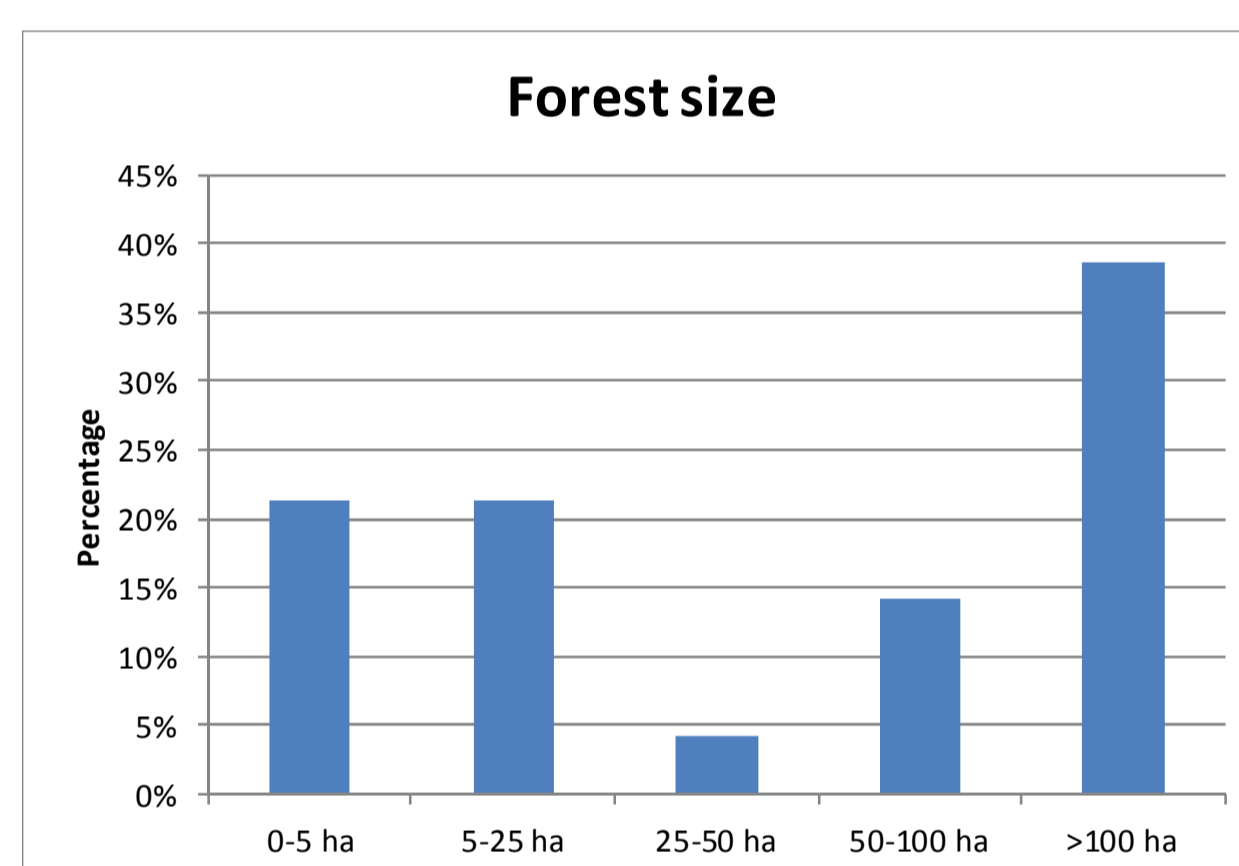
Fig. 2 Forest size as reported by the respondents

3 Income from the Forest

Income from timber harvesting amounted to 53% of all income from the forest (timber price average 34.4 Euro/m^3).

Other important income sources were subsidies. These amounted to 38% of total income, with an average subsidy of 62 Euro/ha.

Other main income sources were real estate, hunting and recreation. For smaller holdings the "other income" was more important than for larger holdings.
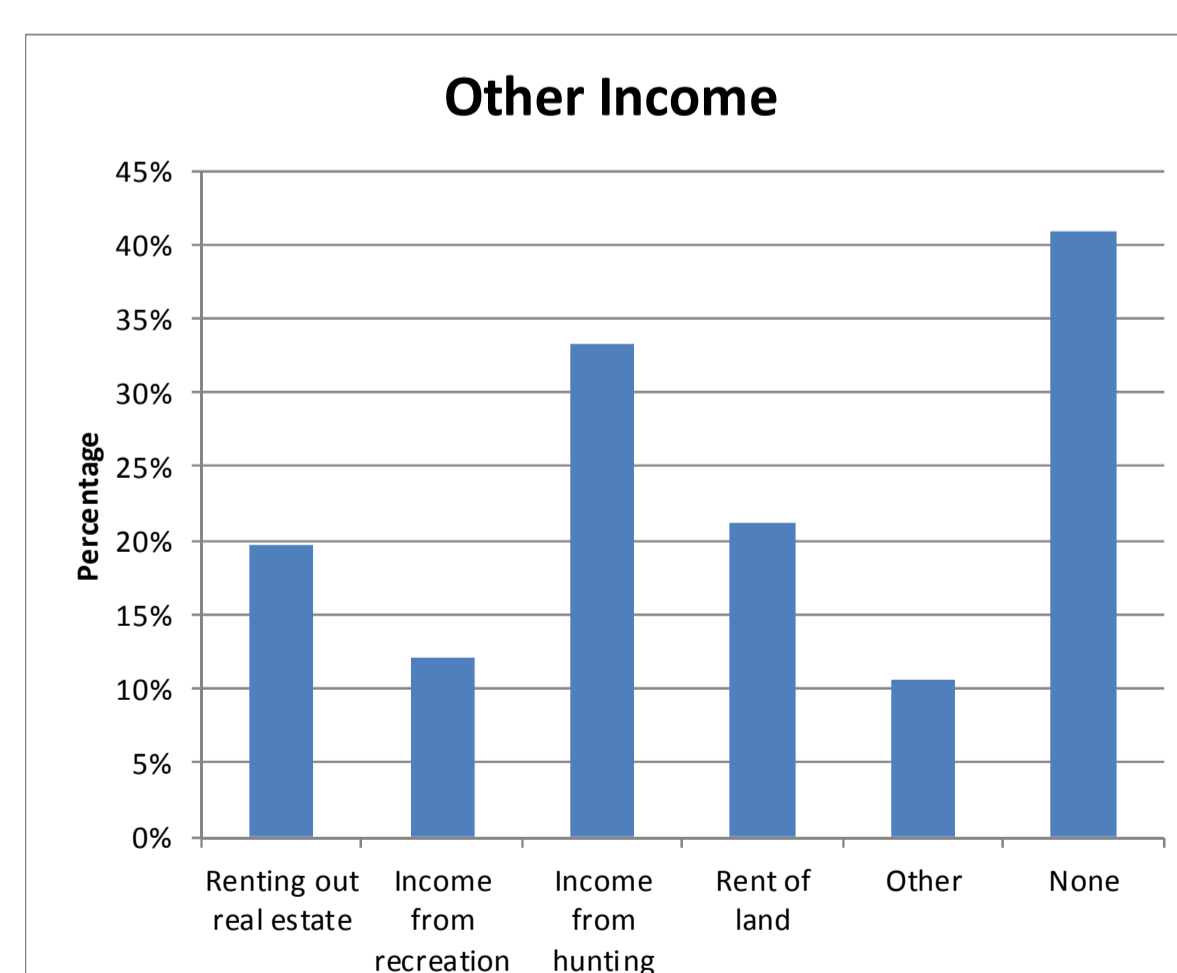
Fig. 3 Other income from the forest than timber harvesting and subsidies (more answers were possible)

4 Forest Management Objectives

Forest Management objectives were mainly related to the natural and cultural values of the forest. For many owners, income from harvesting is seen as a means to achieve these objectives.

Therefore, reasons for harvesting were given as a combination of ecological and economic reasons.

Fig. 4 Management objectives (max. 3 answers were possible)

5 Branch- and Topwood

The survey also showed there is at the moment not much collection of branch- and topwood.

Fig. 5 Current collection branch- and topwood

Fig. 6 Willingness to collect branch- and topwood

Many forest owners are however open to taking up collection of branch- and topwood if the financial gain would be sufficient.

6 Link with the Pilot Project

In the Biomass module pilot project an IT system is developed that facilitates coordination in harvesting and logistics. The Biomass module is intended for use by the three large nature management organisations in the Netherlands, but private forest owners are also targeted.
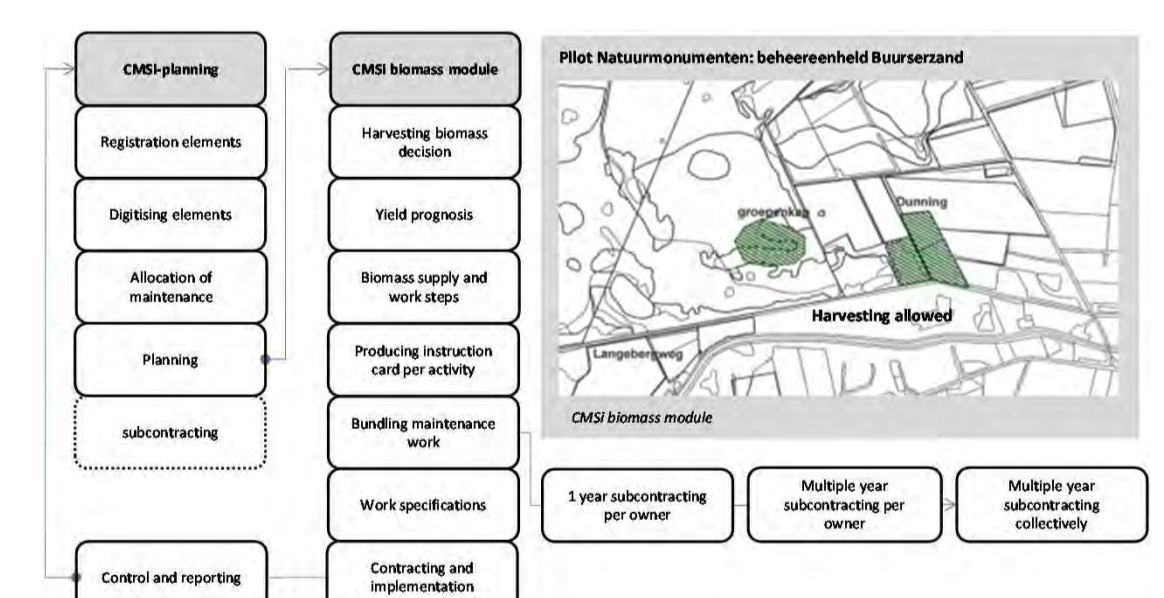
Fig. 7 Biomass module pilot project element

The survey results showed that there was an interest in the collection of branch- and topwood, and that owners considered the extra financial gain as a means towards maintaining natural and cultural values of their forests. This information is helpful in the design and implementation of the Biomass module.

Improving wood harvesting logistics using a dedicated GIS-based biomass module - SIMWOOD pilot project

Rik te Raa[1], Patrick Reumerman[1]

1 SIMWOOD Regions Gelderland and Overijssel

Fig. 1 Gelderland and Overijssel, SIMWOOD model region in The Netherlands

The combined provinces of Gelderland and Overijssel (the Netherlands) are one of the SIMWOOD model regions.

The pilot project is aimed at the Twente region. Characteristics are:
- 18,600 ha forest;
- Private ownership: about 10,000 ha;
- About 3,000 private owners
- Ca. 2,800 small owners (<5 ha), together they own 4,030 ha.

2 The GIS-based Biomass Module Pilot Project

Three large (national) nature organisations are currently implementing a common tool (CMS*i*) to manage their terrains.

In this pilot project a dedicated biomass IT module will be developed together with one of the three organisations; Natuurmonumenten.

This IT module is meant to increase wood mobilisation through improved planning management.

In the Twente region Natuurmonumenten manages a combined area of approx. 1280 ha.
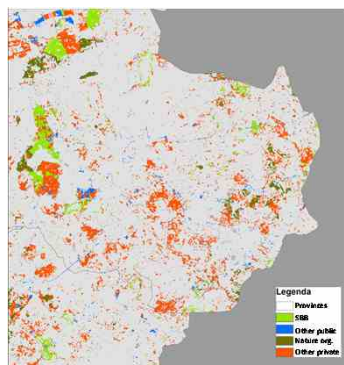
Fig. 2 Forests ownership in the Twente region

3 Natuurmonumenten Planning Requirements

The current planning cycle and operations of Natuurmonumenten were identified. Requirements of terrain managers were determined.

This survey showed that it is not practical to couple CMS*i* and the biomass module directly, because each terrain organisation uses CMS*i* differently, and most private owners would be excluded.

Fig. 3 The planning cycle of Natuurmonumenten

4 Designing the Biomass Module

At the first stage, the biomass module will be focusing on branch- and topwood. Required data protocols are being drafted.

In the RLL meeting feedback was gathered, with two main issues standing out:
- Include local circumstances in the data protocol;
- Investigate the possibility of intermediate storage.

Fig. 4 Biomass module logistical concept

5 Pilot Project in the Twente Region

Besides Natuurmonumenten, other (large) private forest owners have been invited to participate.

In the smaller area of Buurserzand the approach will be tested. Data gathered will include plot location data, type of measure, harvest period, expected biomass yield, whether chipping has taken place, etc.

The methodology will be tested based on this specific data.

Fig. 5 Biomass module work flow

6 Further Work

Based on the results of the test at Buurserzand, the design of the Biomass module will be further elaborated.

In parallel, the current survey of small forest owners in the Twente area will be finalised and interpreted

Fig. 6 Harvesting in the Twente region

Results of the pilot project will be discussed in future RLL meetings, to gather feedback and improve project outcomes.

FCBA
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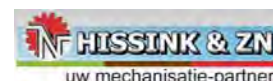
Pilot Project GRAND EST 1
Challenges and alternatives in management and harvest of "poor" forest stands

Jan & Feb-2015

Step 1- Definition of the priority target: forests on poor soils in sub-region Champagne-Ardenne

Limestone and chalky soils, only 20 to 35 cm for root exploration, mainly dry soils, 275 000 ha (private and public forests)

- Low value of natural poor forests and coniferous plantations
- Owned by farmers and land owners with low interest for harvesting

⇒ *No (or low) intervention in these stands*

RLL group
- **FB&E – FCBA**
- **Private forest administration**
- **Farming institutions**
- **Hunting association**
- **Forest entrepreneurs**
- **PEFC**
  2 or 3 meetings/year

Step 2 - Experimentation of promising measure to overcome identified barriers

2015 - 2016 - 2017

2.1 Identification of the different types of stands and silvicultural schemes
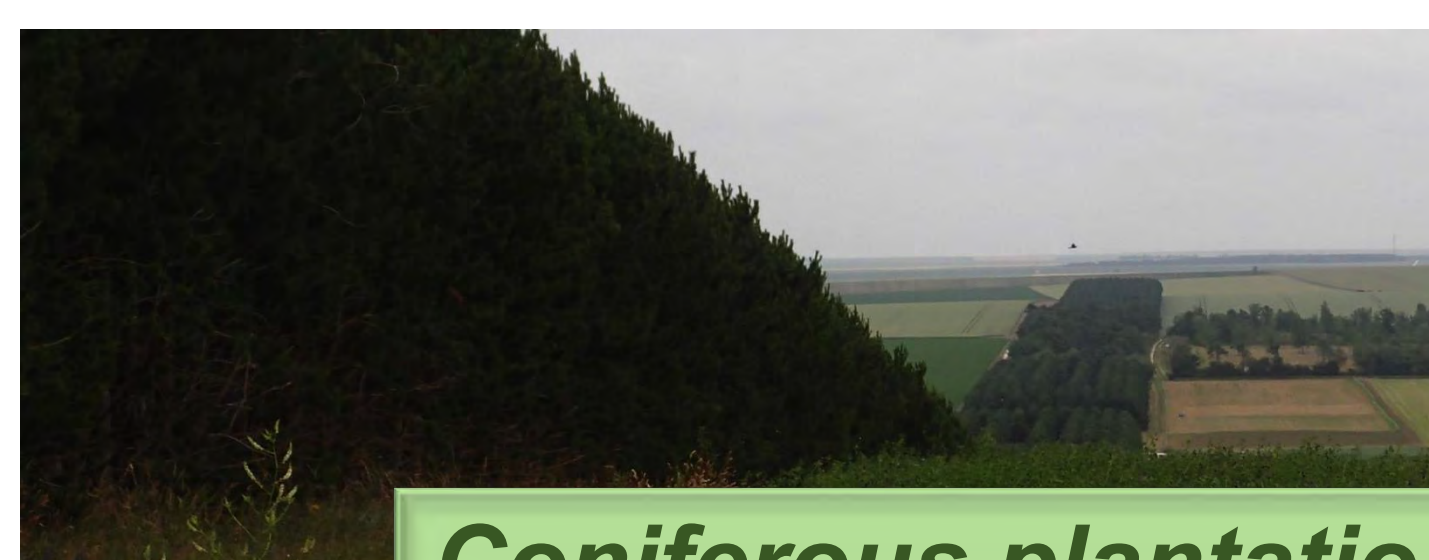
Coniferous plantation on agriculture land => thinnings

2.2 Experimental actions in the field
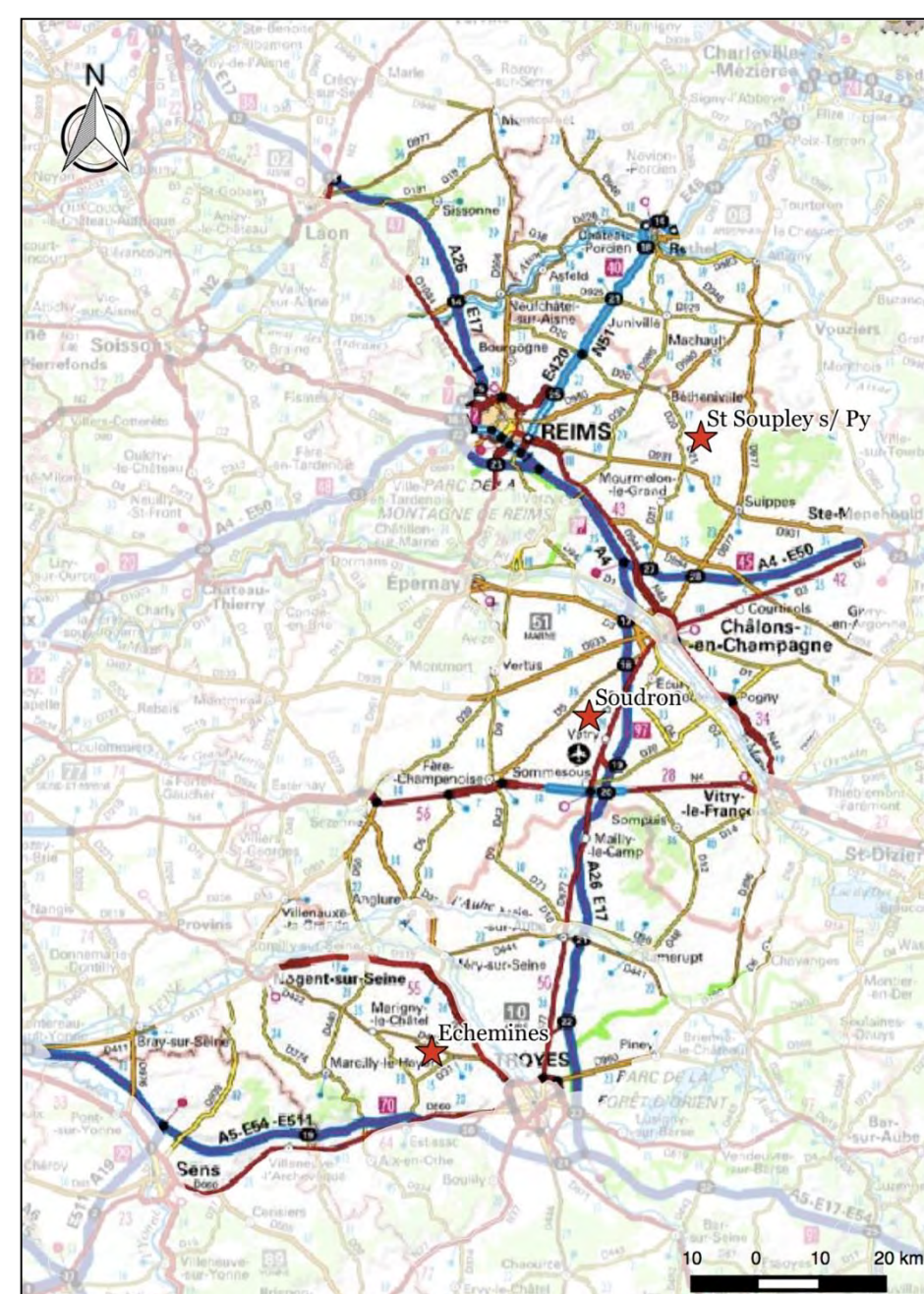
Low value coppice with few standards => forest corridors, thinnings or enrichment planting

Feedback
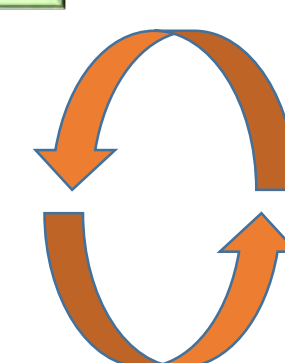
Step 3 - Transfer/Evaluation

2017

- **Demonstration days for two key populations**: private forest owners and forest managers + leaflets
- **Feedback on forest owners' capacity to adopt these technics** according to their background and motivations
- **Transfer to other sub-regions of Grand Est** and Regions
  ⇒ Surface (ha) with enhanced silvicultural schemes

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philippe.ruch@fcba.fr
Kilkenny, December 2015

www.simwood-project.eu

SIMWOOD
Sustainable Innovative Mobilisation of Wood

Pilot Project GRAND EST 2
Enhanced environmental friendly logging systems on sensitive soils

FCBA INSTITUT TECHNOLOGIQUE

Forêts & Bois de l'Est

Jan 2015

Step 1 - Definition of the priority target: harvesting techniques on sensitive soil to compaction in the sub-region Franche-Comté

- 235 000 ha (private and public forests)
- 25% of the area in Grand Est and often higher (long rainy periods & too few below-freezing-degree days due to climate change)

⇒ **Impacts on soils**
NO ACCEPTABLE BY FOREST OWNERS
for growth of trees and regeneration,
negative image of logging operations

RLL group
- **FB&E – FCBA**
- **Public forest ONF R&D mechanization**
- **Forest entrepreneurs & representatives**
- **PEFC**
  2 or 3 meetings/year

Step 2 - Experimentation of promising measure to overcome identified barriers

2015 - 2016

2.1 Identification of relevant technical equipment

Synthetic tracks/large tracks?

2.2 Experimental actions in the field

Adapted skid trails for low traffic?

Other solutions?

Nombre cumulé de passage d'engin
· 1
· 10
● 1 000
— Cloiso simple
— Collecteur
— Sommière

1:4 000

Best practise guideline

Step 3 -Transfer of success stories & Evaluation

2017

- o **Demonstration days for 3 key populations**: loggers, forest managers and forest owners + leaflets
- o **Transfer to other sub-regions of Grand Est** and Regions
- ⇨ Nb of specific equipment/machines in activity
- ⇨ Volume of wood harvested using these equipments for FB&E
- ⇨ Forest owner survey (feedback using HEQ tool)

Contact:
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philippe.ruch@fcba.fr
Kilkenny, December 2015

www.simwood-project.eu

SIMWOOD
Sustainable Innovative Mobilisation of Wood

THE HIGH ENVIRONMENTAL QUALITY LOGGING DIALOGUE TOOL

Common qualitative understanding on environmental expectations towards logging operations: easy dialogue supported by an adaptive tool

www.simwood-project.eu

Tool available on project place:
Documents/11_Domain Harvesting

Contact : Philippe RUCH
philippe.ruch@fcba.fr
November 2015

Focus study – RLL Lower Saxony

Small Woodlands – What to do?
Sustainable management of small forest areas

Nadine Karl, Hans-Ulrich Dietz, Ute Seeling

www.kwf-online.de

Background

In close collaboration with its partners, KWF has established a RLL in Verden county / Lower Saxony. Main focus is the initiation of forest owners to manage small, fragmented forest areas as well as support their advisors and professional consultants in technical aspects of timber harvesting. An expert workshop with 100 stakeholders in January introduced to SIMWOOD project and defined main topics for the 3rd KWF focus days which were planed for dissemination and providing basic knowledge and skills of sustainable forest management. The Focus Days were held in Groß Heins/ Verden county on 16th/17th of october 2015. About 5.000 visitors attended the event at the two days.

Objectives and Target Groups

The Focus Days adressed owners of small woodlands as well as their advisors and professional consultants and moreover firewood advertisers. The aim is to strengthen the interest of forest owners in sustainable forest management and to provide knowledge in practical forest work. The knowledge and proper handling of forest equipment as well as familiarity with the general framework conditions is essential. The number of accidents in the region within the group of occasional users shall be reduced significantly.

Finally comensurable increase of wood mobilisation shall be achieved within the involved professional forest owner associations.

Three Steps of Implementation

1. Preparation by a stakeholder workshop (introduction to topic and objectives). Organisation of Focus Days by KWF and joint regional partners, for the dissemination of basic knowledge and procedures to small forest owners.
2. This event included
   a) professional seminars / workshops with open and panel discussion;
   b) practical field demonstrations to familiarize the target groups with advanced equipment and technology and its proper handling as well as the economic and biophysical conditions;
   c) Additional special shows and thematic exhibitions.
3. Evaluation of success by visitors inquiries (during the Focus Days) and numerable wood mobilising results in the region.

The Result - RLL Lower Saxony

In close collaboration with its partners KWF has established a RLL Lower Saxony. Key stakeholder is the Forest Association „Hohe Heide", an assembly of 5 FBG's which aims to strengthen the regional impact of the forestry sector. The aligned timber marketing organization represents more than 4.000 members and a managed forest area of nearly 57.000 hectares.

The focus of the pilot project was already decided at the start of SIMWOOD to be the management of small, fragmented forest areas. The objectives are to provide advice to private woodland owners on suitable technology and working methods, including occupational health and safety, especially in forest properties where forestry is currently difficult or uneconomic.

SIMWOOD
Sustainable Innovative Mobilisation of Wood

Model region no. 2
North Rhine-Westphalia (NRW), Germany

FP7 no. 613762, 2013-2017
www.simwood-project.eu

Nov 30, 2015

Foundation of the FCS Müsener Hauberg

Community Forests and Forest Land Consolidation
An old solution for today's fragmentation problem of private forest owners

Forest cooperative society (FCS)
in German: 'Waldgenossenschaft'

- A century-old, traditional form of community forests, developed for multipurpose coppice forests → one of the earliest forms of SFM.

- Forest owners do not own a forest land parcel, but hold an **ideal share of the whole forest property**, similar to a stock market share.

- NRW Community Forest Act of 1975: definition of FCS as a regular ownership → law permits merging of FCS referring to land consolidation.

- Southern Westphalia (NRW): circa 270 FCS with 42,000 ha and 17,500 forest owners.

- *Realignment of land parcels:* tool to 'dissolve' land fragmentation in small private forests.

- *Transfer of parcels into a FCS :* increases the positive merger effect → higher viability of management units
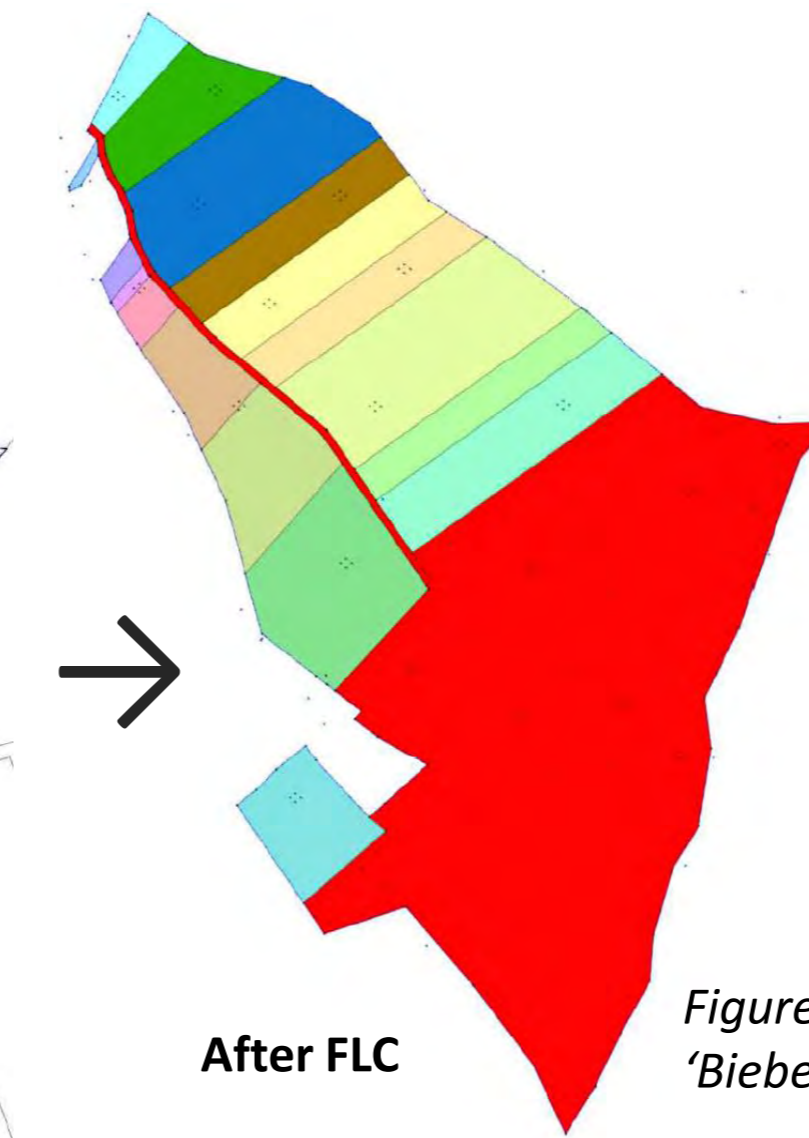
Forest land consolidation (FLC)
in German: 'Waldflurbereinigung'

- Land development instrument to improve property structure for forestry: regulated procedure of a planning administration together with forestry actors.

- Key elements are a precise **land value assessment** leading to an **optimized consolidation** with legal character → changes of the land register.

- FLC require several years for completion and are co-funded by 79-80% from public funds (Land, national, EU).

- Cost-benefit studies show profitability balance of FLC of 10,000 up to 45,000 €/ha. FLC induce a multiplied added value, support rural development and increase wood mobilisation.

- *FCS in conjunction with FLC* are a relevant solution to overcome structural deficiencies in management and marketing of timber from fragmented small-scale forest property.

Before FLC → **After FLC**

Figure 1: Structural improvements in the land consolidation 'Biebertal Krumbacher Hecken' in Hesse, Germany (size 20 ha)

Main pilot project objective

Evaluate and promote suitable cooperative solutions of FCS and FLC for small-scale PFO in view of their benefits for wood mobilisation.

Results and Lessons learnt from best practices are enhanced for broad dissemination (Mobiliser).

Step 1. Survey / Analysis

- Evaluation concept, definition of criteria
- Data collection based on FCS & FLC documentation and interviews
- Comparison prior to and after the FLC, comprehensive analysis of criteria

Step 2. Participatory evaluation

Learning Labs with FCS members and professionals to conclude:

- Preferences and motivations of owners
- Pros and cons of cooperative forest use, appraisal of benefits from FCS
- Recommendations and suitable measures for professionalization of FCS

Step 3. Dissemination

- Exchange with other FCS in Germany and EU
- Communication / PR concept for authorities

Selected best practice examples

- FLC Hilchenbach: Merger of 5 FCS into now the largest FCS (900 ha) with many additionally mobilised PFO (ca. 100)
- FLC Gilsbach: Merger of FCS with largely improved forest access (27 km new roads)
- FLC Müsen: Merger of FCS into a viable management unit (542 ha)
- FLC Wickersbach: New foundation of a FCS from fragmented PFO (57 owners, 8.5 ha)
- FLC Biebertal: Optimal realignment of an extremly fragmented private forest area (20 ha)
- FLC Niederndorf: new large merger in progress

Table 1. List of criteria for the evaluation of Forest Cooperative Societies in NRW in view of wood mobilisation

Phase / Domain	INPUTS — Effort and effectiveness of the measures	OUTPUTS — Significance of the implementation	OUTCOMES / IMPACTS — Broader regional, long-term effects
Ownership, Governance	• Public information, participative decision-making (assembly, elected board) • Mapping, land value assessment, forest stock valuation • **Exchange of private land titles for land shares in an FCS** • Merger / new foundation of FCS • Financial support for FLC (national, EU)	• Ensuring the land property, adjustment, legal clarification, new surveying • Enabled associability of PFO • Activation and engagement of previously inactive forest owners • Enlarged FCS / forest enterprise (members) • **FCS as enhanced association for effective collaborative management**	• Simplified administration • Simplified timber marketing • **Reduced risk of forest enterprise**, more balanced yearly revenues, **economic stability** • More competitive market position • Raised awareness of owners for sustainable forest management
Forest Management, Harvesting	• Consolidation plan: **reallocation / realignment of land parcels** • Planning and investments in forest road construction	• Enlarged management units (area, stands) • Increased, optimized access • **Cost reduction per hectare, viability** • Increased harvesting, improved transports	• Viable forest management • **Mobilisation of unused timber volumes** • Regional value added (harvesting contractors, wood industries, etc.)
Forest Functions, Ecosystem Services	• Water management (optional) • Landscape management (optional) • Recreation function (optional)	• **More stable, productive forest stands** • Enhanced, managed landscape functions • Reduced impacts, e.g. on soils	• **Improved climate protection** • Valorised landscape • Multifunctional forest use

SIMWOOD
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Irish Wood Producers

UCD DUBLIN

fel

Aim: to develop a sustainable producer group and to measure if membership facilitates the mobilisation of timber in South East Ireland

Implementation

Progress 2014 - 2015

Forest Owners

First generation forest owners, with no tradition of forest management

- 4 producer groups merged into 1
- From 55 to 648 members in 2014
- 177 actively managing forestry
- 285 participating in events
- How to engage non active?

Knowledge Transfer

Lack of knowledge, information & trust

- Newsletters, factsheets, templates
- 3 Accredited courses (5 at each)
- 5 Formal workshops (40 at each)
- 7 Trips to forest enterprises (20)
- 6 Open days (77 average)

Clustered Forest Activities

Need to cluster private plantations for economy of scale to secure forestry contractors

- 5 Harvesting clusters
- averaging 12,000 m^3 per annum
- economy of scale for tenders
- competitive contract rates
- small, inaccessible sites included
- 14 cluster visits to active sites

Development of Best Practice

Non sustainable management Poor plantations

- Sustainability Charter
- Chain of custody from farm gate
- Standard operating procedures
- Safety assessment & monitoring
- Harvesting & Sales contracts

Wood Mobilisation

Direct timber / biomass sales will encourage better crop management

- Sawlog, boxwood direct sales
- Depots established
- Biomass contracts for energy
- Firewood network being developed
  .. All dependent on clusters

www.irishwoodproducers.com / www.facebook.com/IrishWoodProducers/

FOCUS STUDY - SLOVENIA: Actors and their role in Slovenian forest owner associations' networks

Dr. Peter Aurenhammer, Bavarian State Institute of Forestry ; Dr. Nike Krajnc, Špela Ščap, Slovenian Forestry Institute; Andrej Breznikar, Slovenia Forest Service

OBJECTIVE OF THE FOCUS STUDY is a social network analysis of 25 forest owners associations in Slovenia (FOAs) with the aim to identify main actors and their roles in FOAs networks, investigate FOAs preferences in forest management / use and recognize potential facilitators, together with appropriate instruments for wood mobilization from private forests in Slovenia,

METHODS USED: Applying quantitative and qualitative network analyses, the decision networks of FOAs were analyzed. Results are based on 25 quantitative questionnaires (replies) from the analyses of FOAs' egocentric networks as well as on replies from 20 actors from the analyses of 4 FOAs' partial networks. Questionnaires have been filled out during expert interviews and qualitative analysis was also undertaken

29 forest owners associations in Slovenia

R E S U L T S

Actors and their roles for Slovenian FOAs

Actor groups (below) / variables (right):	N	overall influence	general information	forest information	trust	financial, material resources	human or time resources	(in-)formal competencies	problems
Slovenian Forest Service (SFS)	24	53	62	67	60	11	47	51	6
Forest Owner Ass. (National)	19	39	45	48	52	5	19	42	3
Communes	16	24	13	11	32	33	9	30	0
Agricultural & Forestry Chamber	15	22	23	21	33	5	20	12	0
Agricultural & Forestry Cooperatives	6	12	13	11	16	6	8	12	0
Machine rings	5	9	10	9	14	6	7	6	0
Harvesting and trading companies	7	9	7	10	17	9	8	0	3
Forest related schools	5	7	5	7	12	2	3	6	0
Wood processing companies	4	6	3	8	11	5	7	6	0
Slovenian Forestry Institute (SFI)	3	5	8	8	9	5	4	0	0
Tourism	1	3	3	3	3	3	3	3	0
Live stock production societies	2	3	2	2	5	1	3	0	0
Wood energy societies	1	3	3	3	3	0	1	0	0
Development Agencies	1	3	2	2	3	3	2	3	0
Foreign energy companies	1	2	1	1					
Agricultural Chamber (Foreign)	1	2	3						
Rural development societies	2	2	3						
Foreign wood processing industries	2	2	4						
European Landowner Organisations	1	2	3						
Ministry for Agriculture, Forestry and Food	1	2	2						
Machine producers/traders	1	1	2						
other Agriculture/Forestry research org.	2	1	4						
Forest authorities	1	0	2	2	0	0	0	0	0
other Forest Owner Associations	1	1	2	1	3	0	2	0	0

Most important:
Slovenia Forest Servic
National Forest Owners Assoc.
Municipalities
Agricultural and Forestry Chamber

Legend: The table includes absolute values (points) for each variable, combining 25 egocentric network.

Facilitators and instruments for different forestry issues by FOAs

Facilitators of solutions to future forest problems and suitable instruments, as perceived by Slovenian Forest Owner Associations (N=25)	State (Ministry)	Market (private economy)	Society (unions, associations, citizens' initiatives)	Individual citizens / forest owners	leave it to the nature	laws (dictates, bans)	standards/norms	taxes / duties	positive financial incentives (subsidies, financing)	awareness raising, public relations	advice and training	exchange offers, contracts by private law	liberal formation of prices (supply, demand)
Implementation of the care and protection of forests.	42	0	0	54	4	17	4	12	43	4	17	1	1
The construction of forest roads.	46	0	0	54	0	23	4	11	38	4	17	0	2
The role of hunting in forest management.	50	8	0	42	0	60	5	6	6	9	6	1	7
Roundwood production from private forests.	0	17	4	79	3	11	14	16	4	4	18	2	31
Provision of ecosystem services (water, air, carbon) of forests.	67	0	13	8	13	41	5	10	15	20	9	0	0
Adaption of forests to climate change.	25	4	8	8	54	33	12	4	13	17	19	3	0
Nature conservation.	54	0	29	13	4	41	8	8	10	25	9	0	0
Use of forests for tourism and recreation.	21	13	25	42	0	32	7	7	22	16	7	0	9
Roundwood commercialisation from private forests.	4	29	8	58	0	4	9	9	13	3	15	5	42
Preserving the countryside.	46	0	17	33	4	25	2	14	35	6	4	2	3
The use of wood for energy purposes.	21	38	13	29	0	15	13	13	19	7	12	3	17
(New) areas of application for wood.	21	58	8	13	0	16	5	12	18	14	14	4	16
Marketing of non-timber forest products.	33	0	13	54	0	46	10	14	6	14	7	0	0
Consultation and implementation of sanitation.	63	0	0	38	0	24	4	8	30	7	22	3	3
overall perceptions	35	12	10	38	6	27	7	10	21	10	13	2	10

Most important goals/activities of Slovenian FOAs

Preferences of Forest Owner Societies in Slovenia [in %, N=25]
(Ščap, Š., Aurenhammer, P., 2015)
— preferences of FOS in % (N=25)

1. Education and awareness raising (89p)
2. Advocating the interests of members (68p)
3. Joint appearance on the markets (32p)
4. Informal socializing (31p)

Level of implementation of goals in Slovenian FOAs

1. Education and awareness raising (83%)
2. Informal socializing (81%)
3. Joint appearance on the markets (75%)
4. Advocacy (69%)

Main facilitators of present wood mobilization processes in Slovenia

Mr. Ice Break 2014

Mr. Bark Beetle 2015

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IMPROVEMENT OF FOREST OWNERS ASSOCIATIONS CAPACITIES FOR MOBILIZATION OF WOOD FROM PRIVATE-OWNED FORESTS

Phase 1. Definition of a priority target

Regional profile

Analysis of past actions

Understanding the current state

Searching for existing knowledge

Phase 2. Working with stakeholders

ACTION

Focus study

Regional learning lab (RLL)

One-to-one meetings
Public events
Active participation

Informacijski portal za lastnike gozdov v Sloveniji

OUTPUT 1

OUTPUT 2

Handbook for organization structuring and functioning of FOAs

Communication platform with access to all available information sources

Cost calculation - WoodChainManager

Forest data viewer

GO!

GOZDARSKI INŠTITUT SLOVENIJE
SLOVENIAN FORESTRY INSTITUTE

ZAVOD za GOZDOVE SLOVENIJE
Slovenia Forest Service

Nike Krajnc and Matevž Triplat (Slovenian Forestry Institute)
&
Andrej Breznikar (Slovenia Forest Service)

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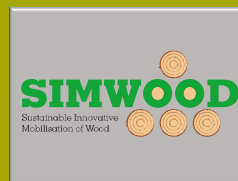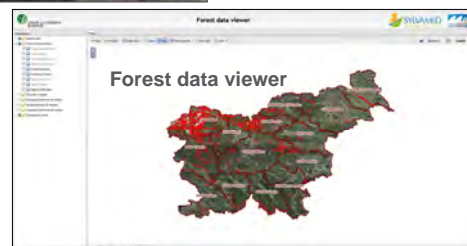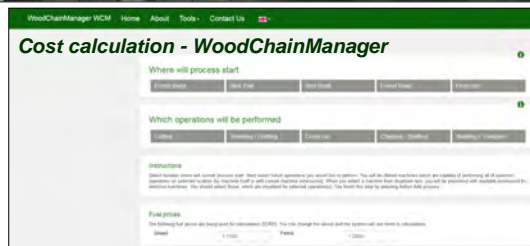
Focus Study

MODEL REGION
Småland, Sweden

Municipality of Uppvidinge
9.300 inhabitants
1.200 km²
7,9 inhabitants/km²

Purpose

- Investigation of the use of energy in Kronoberg, especially forest fuels, and to some extent also historically.
- Compilation of a list of forest fuels boilers for heating in each of the municipalities in the three counties in Småland and a presentation of new biomass boilers that are planned to be built.
- Investigation of major industries use of forest fuels.
- Investigation of how big the potential is for different types of forest fuels.

Some results

The total energy consumption in the County of Kronoberg in 2011 was 6.6 TWh. The long term trend is increasing. In general, the use of non-renewable fuels is decreasing, while renewable fuels has increased.

The share of renewables in energy use has increased by around ten percentage points since 1990. The use of biofuels in the county is 2.2 TWh.

The use of bioenergy in Kronoberg (part of Småland) in different sectors

- Black liquor (pulp industry) 5%
- Biofuel for transports 6%
- Biopower from CHPs 12%
- District heating 37%
- Direct use in industry (not black liquid) 20%
- Direct use in households 20%
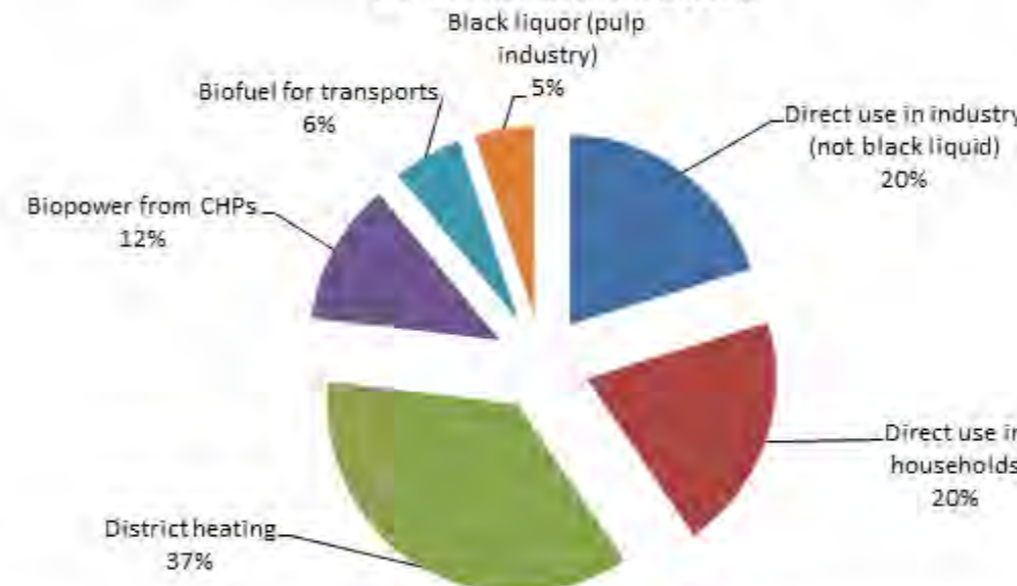
The figure below indicates the energy sources for production of district heating and biopower in Kronoberg.

Parts of different fuels in the production of district heating and biopower in Kronoberg

- Waste heat 4%
- Peat 4%
- Oil and other fossil fuels 5%
- Refined fuels (pellets, briquets) 6 %
- Waste 7%
- Unrefined fuels (e.g. shavings, chips and bark) 74%
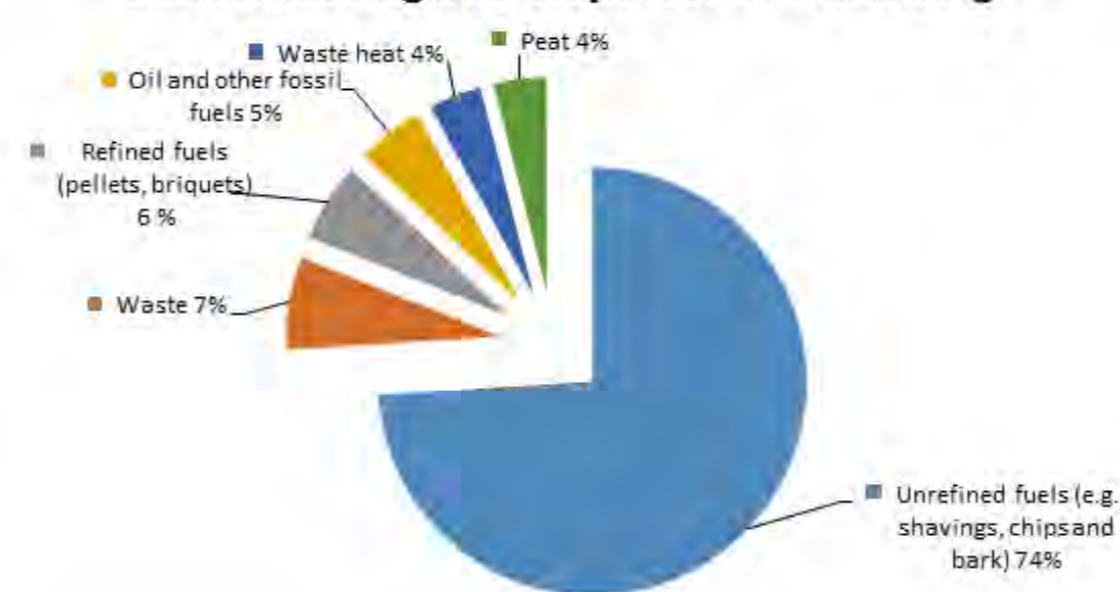
The table below indicates the number of forest fuels boilers for heating, installed power, produced energy and rate of utilization of various sizes of the boilers in Småland.

Size of boilers	Number of boilers	Installed power (MW)	Produced energy (GWh)	Average rate of utilization (%)
Bioboilers with power ≥ 3 MW in the grid	73	810	3000	43
Bioboilers with power < 3 MW and ≥ 0.3 MW in the grid	83	90	250	31
Totally	156	900	3250	41

Link to the regions pilot project

We need to know the various flows of bioenergy in Småland in order to maximize the extraction of forest fuels in the region. We can find the most propriate ways to use the potential of forest fuels from the region by the help of this investigation.

Göran Gustavsson, project manager
acting as an SME
Energy Agency of southeast Sweden

Thomas Thörnqvist, professor
Department of Forestry and Wood Technology
The Linnaeus University

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energikontor sydost

Linnéuniversitetet

Energimyndigheten

Pilot Study

MODEL REGION
Småland, Sweden
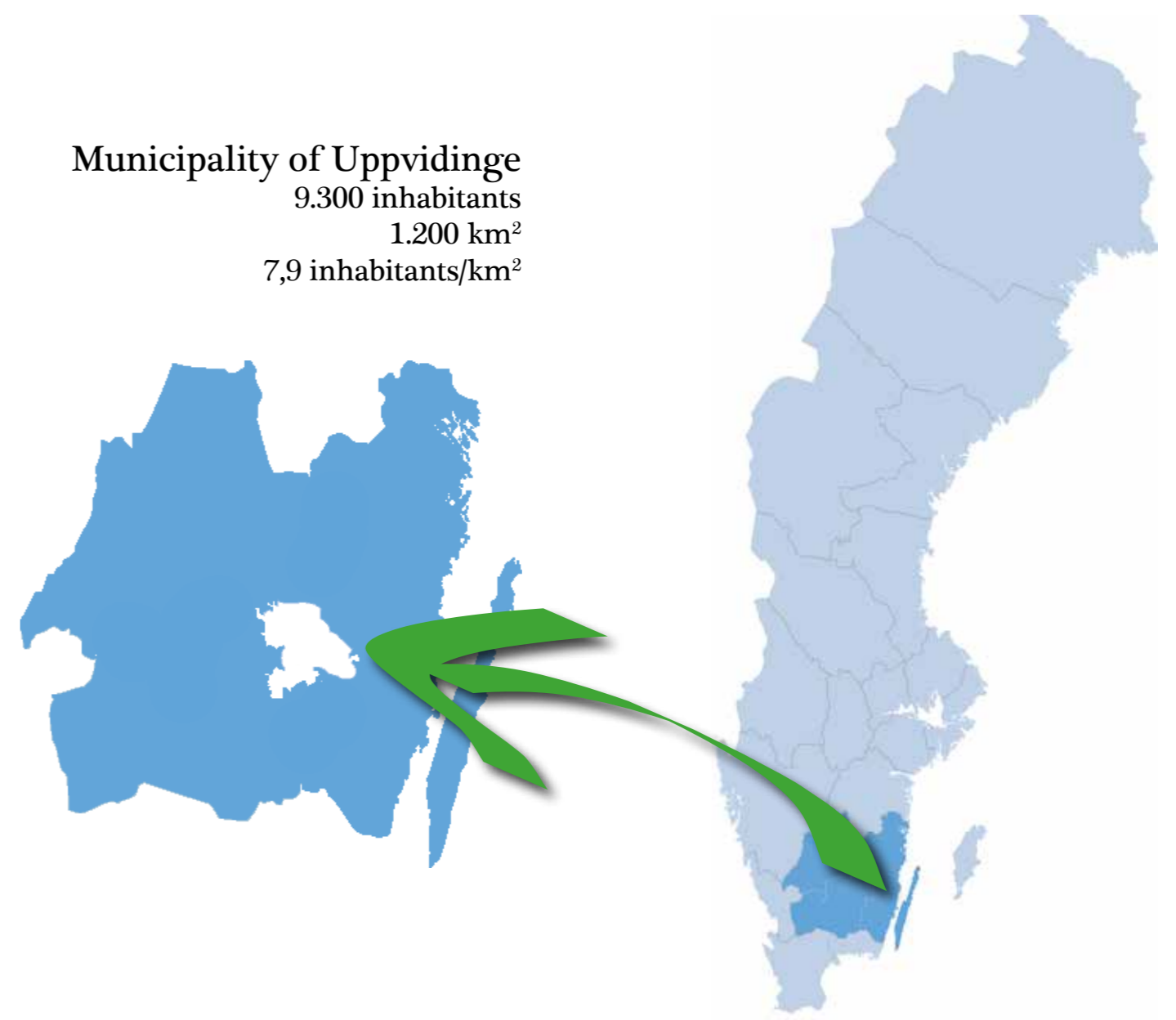
Effective extraction of forest residues

Good branches and tops adaptation

Not so good branches and tops adaptation

Good sized heaps of branches and tops

Too small heaps of branches and tops

Harvester in action

Branches and tops hauling

Summary

» Harvester operators work technique is crucial
» Deforestation time decreases with 10-15 % with branches and tops adaptation
» Forwarder operators want big heaps of branches and tops
» Branches and tops adaptation result in faster round wood hauling

Thomas Thörnqvist, professor
Department of Forestry and Wood Technology
The Linnaeus University

Göran Gustavsson, project manager
acting as an SME
Energy Agency of southeast Sweden

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energikontor
sydost

Linnéuniversitetet

Energimyndigheten

Yorkshire and North East England Focus Study: 'Forestry Skills Assessment'

Objective of the focus study:

- Understanding of the present skills and knowledge levels of woodland owners and forest managers/contractors.
- Identify any gaps in the knowledge and skills levels and suggest solutions.
- Evaluate existing training provision.
- Investigate opportunities for recruitment into the sector, especially of new entrants and young people.

Relevance to the SIMWOOD project:

The rational for the focus study came out of the first Regional Learning Lab, which highlighted a concern across the sector regarding the skills and knowledge shortage amongst contractors to undertake management of small complex undermanaged woodlands.

By increasing the level of understanding about woodland management amongst owners and contractors, they are more likely to consider managing these undermanaged woodland sites and provide a significant opportunity for the sector to increase wood mobilisation.

Regional Learning Lab also identified an ageing contracting workforce and the weak recruitment of young people as a barrier to wood mobilisation.

Methods used:

Woodland owners and forest managers/contractors were asked to complete a structured online survey.

Survey promoted through SME's database plus other public, private and charity partnership organisations as well as through small woodland owners groups.

Results of the study:

Total of 105 respondents made up of 55% woodland owners and 45% woodland managers/contractors.
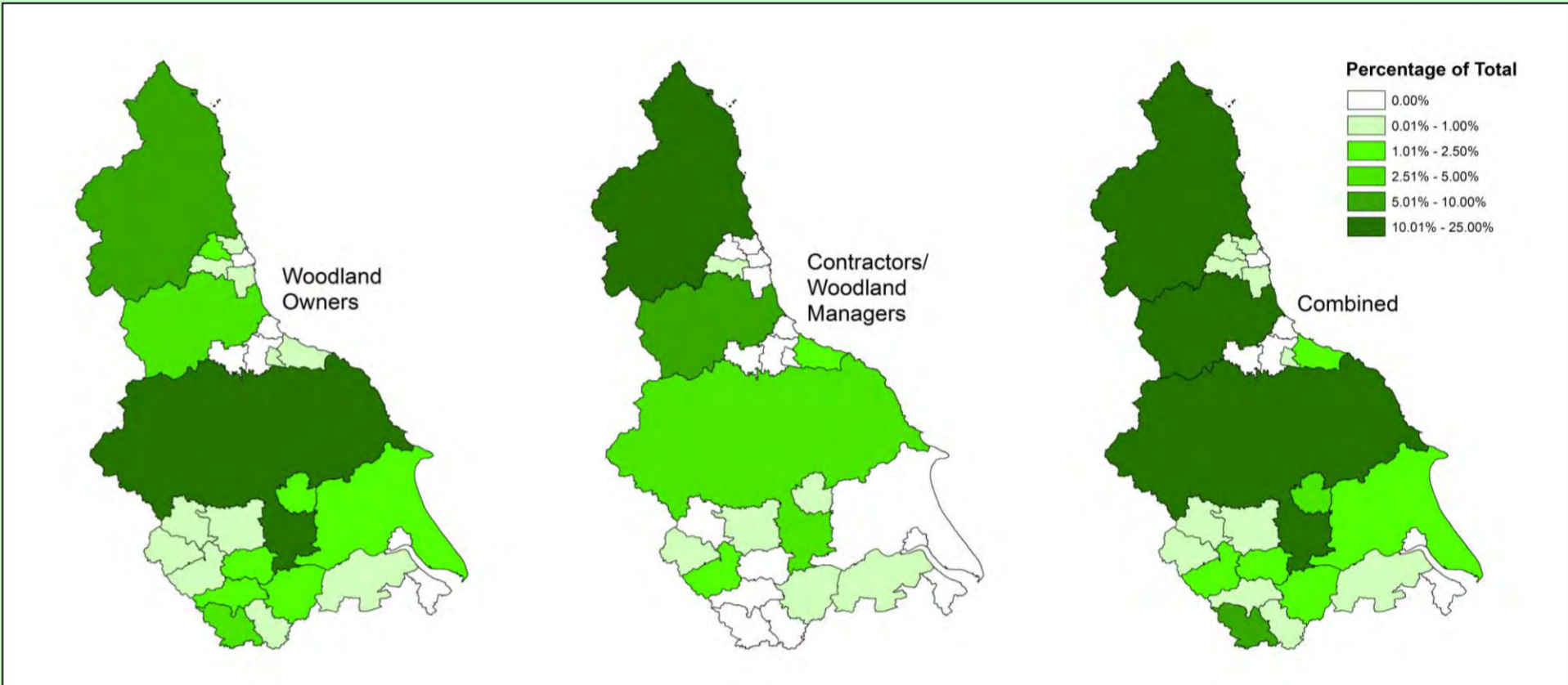
Responses from across the model region with the majority coming from the three areas where 75% of the regions woodland cover is present.

Results- Woodland Owners

- 45% of woodland owners have not undertaken any type of forestry related training in the last 5 years.
- Training more associated with Health and Safety activity rather than management.
- Any training undertaken was at a basic level.
- Desire to do more training in future with main focus on forest management and best practice, however 30% are not looking to take forward any training in the future.
- Main barrier to taking forward training is time and availability; with many preferring to undertake training at weekends.

Results-Woodland Managers/Contractors

- Health and Safety related training identified as the main type of training undertaken over the last 5 years.
- Training only undertaken if deemed essential.
- Majority of training has been at a basic or intermediate level.
- Increased interest in forest management type courses to be undertaken in the next 5 years.
- Main barrier to taking forward training is time and cost.
- Would consider taking on an apprentice in the future however time and cost were also highlighted as a barrier to doing this.

Links to the pilot projects:

The area of unmanaged/under managed woodland across the model region represents an untapped resource and offer the greatest opportunity for wood mobilisation.

Data from the focus study enabled the SME to gain a better understanding of the skills and knowledge levels of both woodland owners and forest manager/contractors; and provide information to develop targeted training opportunities and provision to aid the development of bringing small under managed and unmanaged woodlands into active management.

Pilot project adaption:

The study has enabled the SME to adapt and amend the pilot projects to focus on a skill and knowledge level which more suits the audience we looking to engage with. Results show that we need to amend the focus of our pilot projects to better engage with those more open to increased mobilisation, rather than concentrating on areas of the sector which are disengaged.

northwoods
The North East's Woodland Initiative

rural development initiatives

SIMWOOD
Sustainable Innovative Mobilisation of Wood

Yorkshire and North East England Pilot Project: 'Bringing under managed small privately owned woodlands into productive and sustainable management by adopting a market brand'

Objective:

The objective of the pilot project is to support the mobilisation of timber from small and undermanaged woodlands by creating a regional timber marketing group for woodland owners, woodfuel producers/traders and small scale saw millers with the adoption of a brand for their products.

Contribution from focus study:

Data provided by the online survey, which formed part of the region's focus study, enabled the SME to look at the skill and knowledge levels of woodland owners as well as their motivations to managing their woodlands.

Findings from the survey, as well as information provided by other recent studies helped to better understand the audience the SME should be targeting.

Results show that we need to amend the focus of our pilot projects to better engage with those more open to increased mobilisation, rather than concentrating on areas of the sector which are disengaged.

Adjustment made to Pilot Project:

Following the initial development of the pilot projects the focus of the objectives has been amended to better meet the demand of the sector. Currently there is a lack of enthusiasm for forest certification in the UK which has raised concerns across the sector about the availability of certified timber from non-state sector forests.

Amending the objectives of the pilot projects by creating a marketing group will provide the best support to mobilise the untapped resource of small and under managed woodlands.

The marketing group will provide users of woodlands and timber products an assurance brand that the timber has been grown in the UK in accordance with the UK Government Timber Procurement Policy.

This brand will compliment and integrate with other well proven forest certification schemes such as the Forest Stewardship Council (FSC) and the Programme of Endorsement of Forest Certification (PEFC).

Focus study: Defined audience and provided information on skills & knowledge levels as well as their motivations to woodland management

Contractor Base Analysis

Technology for harvesting

Small scale timber harvesting demo

Forest Stewardship Council/ Programme of Endorsement of Forest Certification

Grown in Britain

WOOD MOBILISATION
Small and undermanaged woodlands

Pilot Project: Regional timber marketing group; creating market pull

Regulation

Support in getting timber harvested and too the market (working with 3rd party contractors)

Support for woodland owners in producing a UK Forestry Standard woodland management plan
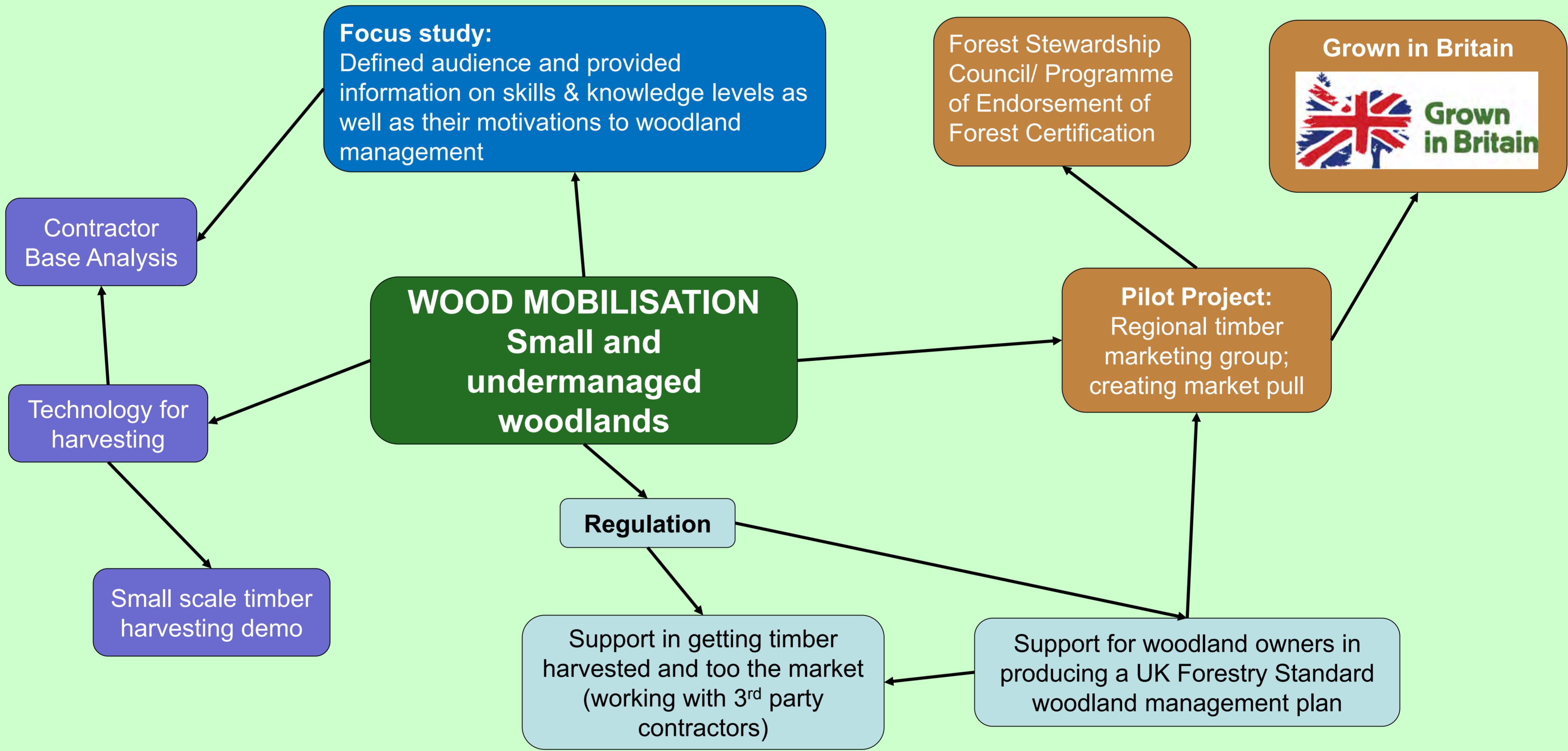
Progress with the implementation plan and intermediate results:

Discussion with organisations within the sector has shown there is an enthusiasm for this type of UK brand awareness. Outlines of the scheme have been developed with submission for a Group Licensing Scheme for Grown in Britain for the model region to increase visibility of home grown timber.

The SME has also indentified and discussed possible synergies of activity by other organisations within the model region.

Regional businesses have already shown interest in membership of the Group Scheme; with 1 woodfuel supplier and 1 woodland owner ready to join following approval of the group license.

SIMWOOD
Sustainable Innovative
Mobilisation of Wood

Newsletter | December 2015 | Issue 3

Contents

Overview

In November 2013, 28 organisations from 11 countries (Belgium, Finland, France, Germany, Ireland, Netherlands, Portugal, Slovenia, Spain, Sweden and United Kingdom) began the European collaboration FP7 project **SIMWOOD (Sustainable Innovative Mobilisation of Wood)**.

This four-year project seeks to provide solutions on how to mobilise forest owners, promote collaborative forest management and ensure sustainable forest functions in order to mobilise the present unlocked wood resources in Europe.

We work in **16 regions across Europe**, selected for their high relevance to Europe's wood mobilisation challenge. In each of our model regions, we've made a detailed analysis of the present situation, and the barriers and challenges for wood mobilisation which currently exist. Now we are working on identifying objectives, developing possible tailor-made solutions, and selecting some to be tested in a series of pilot projects.

In each region, we have a Regional Learning Laboratory (RLL) as an integral part of the research process. This is linked to existing initiatives in the region, and is collaborative: teaming up with regional stakeholders to obtain fresh findings on the region's specific status quo, chances and proposed solutions.

In this issue, we are focusing on our work in two regions:

- **Yorkshire and North England**
- **South Eastern Ireland**
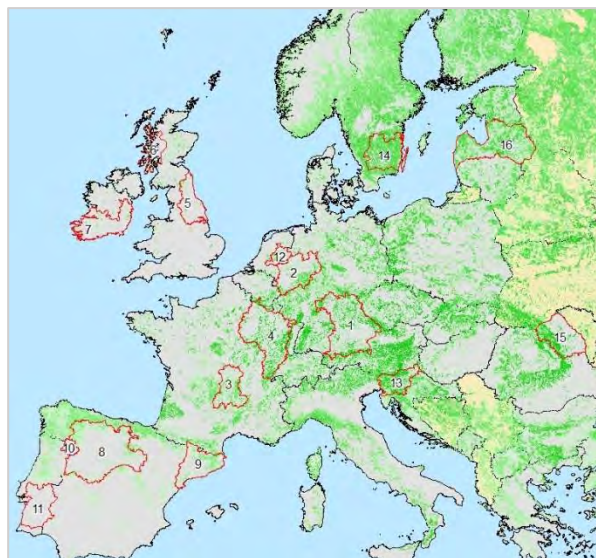
1. Bavaria, GER **2**. North-Rhine Westphalia, GER **3**. Auvergne, FRA **4**. Grand-Est, FRA **5**. Yorkshire & North East England, UK **6**. Lochaber, UK **7**. South Eastern Ireland, IRE **8**. Castile and León, ESP **9**. Catalonia, ESP **10**. Nordeste, PRT **11**. Alentejo, PRT **12**. Overijssel & Gelderland, NLD, **13**.Slovenia, SVN **14**. Småland, SWE **15**. North-East Romania, RO **16**. Latvia, LV

This issue has been produced to be distributed at the SIMWOOD Mid-term Conference taking place in Kilkenny and Wexford in Ireland from 30th November to 2nd December 2015.

Over 70 participants are expected at this event, which comprises an open session giving an overview and summary of the SIMWOOD project, its regional profiles and focus studies, as well as demonstrating a mobilisation support tool (the mobiliser) for the first time to the public.

Participants will also learn about different types of forest management at two different sites during a field trip.

The open session will be followed by an internal session for SIMWOOD partners only.

Focus on South Eastern Ireland

Background

The Southern and Eastern region of Ireland spans across 13 counties from County Kerry in the south west to County Meath in the east and comprises 36,414 km^2 or 53% of Ireland's total area. Just over 73% of Ireland's population lives in the Region.

The total forest area in the Region is 348,233 ha, which represents 9% of the area of the Region and 53% of total forest cover in the country.
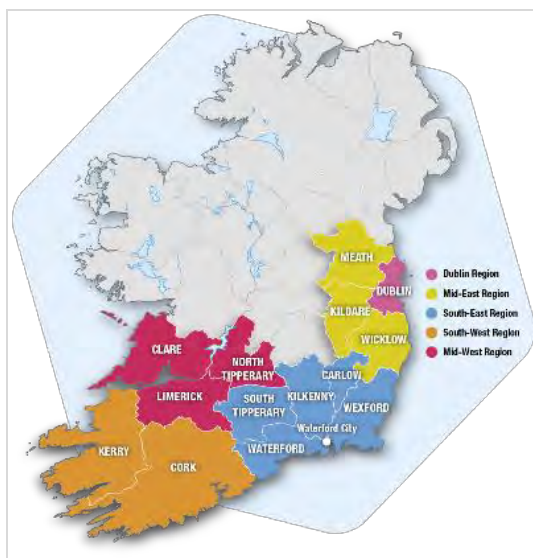
Climate, soil and biophysical conditions in the Region are quite variable. In the south west the landscape is characterised by mountain ranges and poor soils, while in the east better quality soils are found. The main forest species are Sitka spruce and/or a mixture of Sitka spruce and Japanese larch.

Private forests account for 47% of the forest area in the Region. Most of this area was planted after 1990 by farmers in response to generous incentives and subsidies co-funded by the EU and the Irish government. Hence most of the forests have not gone through an entire rotation yet. Current harvested material in private forests is from early thinnings rather than from clearfell.

SIMWOOD's work in the region

As the private forests established in the past two decades in the Region mature, it is expected that timber production from such forests will account for an increasing proportion of the total annual roundwood production in the Region.

The mobilisation of this increased roundwood production will be challenging. The owners of these "new" forests are "new" owners who have limited experience or knowledge of forest management. Their forests are small, and often inaccessible, which makes economic mobilisation challenging.

The work in SIMWOOD will focus on new owners and on identifying means of making mobilisation more financially attractive by supporting them during harvesting and/or demonstrating methods of increasing harvesting output.

Regional Learning Labs

The first RLL took place in October 2014.

Representatives of various interest groups were invited to voice what they considered to be the main barriers to wood mobilisation in the Region. In addition, all were invited to identify existing and possible future solutions to address the barriers and facilitate wood mobilisation.

It was through this meeting that pilot projects evolved with the purpose of building initiatives to raise knowledge of alternative thinning methods (Pilot Project 1) and to support forest owners in the harvesting process through forest owner groups (Pilot Project 2).

Pilot Projects

Pilot Project 1

The first pilot project concerns mobilising additional wood fuel from conifer first thinning and consequently additional revenue.

In many cases, first thinning is considered a loss making operation, especially in conjunction with road building. Therefore many forest owners cannot afford to thin their plantations.

In forests located on well-drained sites that are typically found in the Region, there is the potential for more biomass to be removed during the thinning

operations, which would lead to greater wood mobilisation and greater income for those forest owners.

The greater incomes achieved should in turn make thinning more financially attractive to those owners who have yet to decide to thin their stands. The lack of knowledge about thinning and the often unattractive returns associated with first thinning have prevented many of them from mobilising their wood to date.

Photo: Daragh Little

There is evidence that once a forest owner has carried out a first thinning, there is much greater likelihood that they will continue to harvest.

The pilot project involves demonstrating to owners the thinning approaches that can result in greater volumes of biomass being removed.

Work has been carried out on one site in the model region to test 3 methods of harvesting, cut to length, integrated and whole tree harvesting.

Analysis has been carried out on the relative outputs of each and associated costs. Lessons learned from this study will be integrated into future sites to make the system more efficient.

A field day was undertaken in April 2015 in conjunction with Teagasc, Worrell Harvesting and Waterford Institute of Technology to show forest owners these methods.

Some additional investigation into methods of harvesting and selling the timber is envisaged.

Photo: Daragh Little

Work to date has focused on thinning and getting the output to roadside; the most efficient means of getting the felled material to the end user will be included as part of the project.

Work will also be carried out on site selection (soil types, time of year for harvesting, etc.) to come up with a solution that generates more volume while not damaging the site or local environment. It is also important to increase knowledge amongst forest owners and practitioners of methods of sale and construct appropriate contracts.

Creating a system of sale that is simple and easy to understand is an objective of the pilot project where both parties are clear on the expectations and outputs.

The production of a decision support tool is also envisaged to help forest owners/foresters chose the most appropriate method of harvesting for their forest.

Pilot Project 2

In this pilot project, the aim is to develop a sustainable producer group to engage private forest owners towards the mobilisation of timber in the Region.

The Irish SMEs will implement a series of measures to engage forest owners, promote best practice, cluster forest activities and mobilise timber into a range of markets.

Photos: Alex Kelly

A number of activities will form the basis to this project including:

- engaging with private forest owners in collaborative initiatives;

- knowledge transfer through workshops, leaflets and training courses;

- clustering forest activities for economy of scale, facilitating processing and delivery directly from site to increase forest owner profits;

- standardising forest activities, timber processing and sales to provide transparency and promotion of established best practice using the ecosystem services framework;

- developing market supports such as depots to collect timber from clusters of smaller sites to increase critical mass for processing, delivery and contracts.

Note:

One of the Irish SME's started in the project as the Wexford Wood Producers, but has since merged with three other producer groups to form the Irish Wood Producers, which was launched in June 2014.

The IWP is also part of Danone's global Ecosysteme project, which supports sustainable supply chains. Danone installed a large biomass boiler in the region and the project aims to source biomass from local forest owners.

Photo: Alex Kelly

Who to contact in the region

The SIMWOOD local team includes staff from University College Dublin; Alex Kelly at The Irish Wood Producers and Daragh Little at Forest Enterprises Ltd.
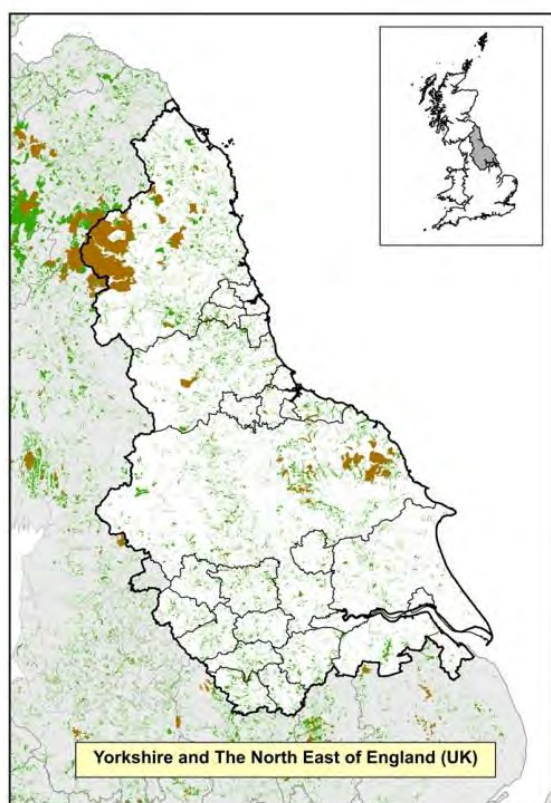
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Focus on Yorkshire and North East England

Background

The Yorkshire and North East model region covers 23,981km2 and comprises 4 National Parks and 4 Areas of Outstanding Natural Beauty and a population of nearly 8 million inhabitants.

Source: Rural Development Initiatives Ltd

The woodland cover is around 238,250 ha, about 10% of the land covering (National Forest Inventory, 2012).

37% of the woodland cover is owned by the state (Forestry Commission), 41% of woodland is privately owned; with the rest being made up of local government, industrial private owners and non-industrial private multiple owners.

Mainly privately owned woodlands are small and fragmented, with an average woodland size of 13ha. The ownership of many of these woodlands is unknown; however it is likely that a large percentage of these private woodland holdings will be less than 5 ha.

45% of the regions forest cover is conifer with the main species being *Picea sitchensis* and 34% of the forest cover is broadleaved with the main species being *Quercus petraea, Acer pseudoplatanus* and *Betula spp*.

Photo: Andrew Kitching

Many private forests are primarily used to provide wood production (woodfuel) and recreational activities in terms of game management as well as biodiversity.

SIMWOOD's work in the region

Project activities within the region are being conducted within the wider context of Roots to Prosperity, a strategy produced in 2013 and led by the forest industries across the entire forestry and wood processing sector and provides very good linkages with the SIMWOOD project.

The SIMWOOD project will be focussing on the barriers and opportunities for wood mobilisation amongst these small undermanaged private woodland holdings as this represents an untapped resource in terms of timber volume.

Regional Learning Lab

The first Regional Learning Lab comprised of 30 participants and was made up of woodland owners, forest managers, policy advisors, processors, contractors and biomass users.

The regional learning lab enabled the SME to identify the barriers to wood mobilisation of small private woodlands and to help support the development of the focus study, as well as the pilot projects.

Photo: Chloe Bellamy

Focus study: Forestry Skills Assessment
Pilot Project 1: Investigating alternative harvesting methods to maximising woody biomass product breakout from harvesting sites
Pilot Project 2: Bringing undermanaged small farm/estate woodlands into productive and sustainable management.

Focus Study

The aim of the focus study was to better understand the skills and knowledge levels of the woodland owners and manager/contractors as there is concern from across the sector with regards a shortage of suitable contractors and woodland owners when looking a the management of small and complex sites.

Information gathered during the focus study enabled the SME to adapt and amend the pilot project to better understand the audience it will need to target to provide the greatest opportunity for wood mobilisation.

Pilot Projects

Results from the focus study showed that the proposed pilot projects needed to be adjusted to concentrate on areas of the sector which are not disengaged; whilst better meeting the demand of the sector, providing greater engagement and a legacy to the SIMWOOD project.

The pilot project which the SME will concentrate on 'bringing under managed small privately owned woodlands into productive and sustainable management by adopting a market brand'

The revised objective of the pilot project is to support the mobilisation of timber from small and undermanaged woodlands by creating a regional timber marketing group for woodland owners,

woodfuel producers/traders and small scale saw millers with the adoption of a brand for their products.

Photo: Andrew Kitching

The marketing group will provide users of woodlands and timber products as assurance brand that the timber has been grown in the UK in accordance with the UK Government Timber Procurement Policy.

This brand will compliment and integrate with other well proven forest certification schemes such as the Forest Stewardship Council (FSC) and the Programme of Endorsement of Forest Certification (PEFC).

Discussions with organisation within the sector have shown there is an enthusiasm for this type of UK brand awareness.

Photo: Andrew Kitching

Who to contact in the region

The SIMWOOD local team includes staff from Forest Commission Research Agency.

To get involved in SIMWOOD's activities, please contact:

Andrew Kitching (Rural Development Initiatives Ltd) (andrew.kitching@ruraldevelopment.org.uk)

Regional news

Seminar for presentation of results from the pilot project in Småland_SE

The Linnaeus University and Energikontor Sydost organized a seminar on the 20th November in Växjö, Småland. It has been held once a year since 1999 and is traditionally called "The bioenergy day of Växjö".

One purpose of this year's meeting was to promote the SIMWOOD-project and another to report of the results from the regional pilot project.

The meeting was attended by 75 people, covering various parts of the value chain for bioenergy, e.g., forest owners, practitioners in the forests, forest fuel sellers and purchasers, district heating companies, officials and regional decision makers.

Professor Thomas Thörnqvist gave a lecture about the results from the pilot project concerning techniques for increased and more efficient extraction of forest residues from clear cutting areas.

PhD-students gave presentations about other close related subjects, e.g., factors of the fuel which affect the combustion process.

The event also included a panel discussion, with participants from various parts of the bioenergy chain, and led by the Linnaeus University.

The bioenergy day of Växjö was appreciated by the different categories attending the meeting. It has contributed to strengthening the cooperation between the University, related companies and the official actors in the region – a good example of Triple Helix cooperation in an important context.

The event was financed by the SIMWOOD project and provided important input for the ongoing work in the project, which will from now on focus on disseminating the results of the focus studies and pilot project.

Göran Gustavsson and Thomas Thörnqvist
Photos: Ulrika Lindh

Workshop on forest operations

FCBA hosted a one day workshop on forest operations in mountain and steep terrain areas on November 19 in Grenoble.

More than 90 local and national stakeholders participated and contributed to the success of the meeting.

Morning presentations on logging technics, mountain-specific logistics and collaborative innovation contributed to disseminating state of the art knowledge to forest practitioners.

Photos: Thomas Carrette

Experiences from diverse contexts (e.g., the French Alps, Italy, and Massif Central where SIMWOOD's pilot project is being implemented in Auvergne) and different stakeholder perspectives were shared and discussed during the afternoon roundtable.

Workshop on FlorNExT

FlorNExT was launched in a workshop organized by the IPB SIMWOOD team on November 12, 2015, at the School of Agriculture of the Polytechnic Institute of Bragança, in Bragança, Portugal.

The workshop started with a short welcome message and introduction to SIMWOOD by João Azevedo, followed by an introduction to forest modeling by Luis Nunes.

Next, Fernando Pérez-Rodrigues presented **FlorNExT** in detail describing the overall functioning of the tool, structure and options of the interface help resources, models used to estimate growth and tree distribution and the input parameters and output variables.

Examples of applications in forest management with FlorNExT were also provided and followed by participants from their mobile devices.

Photo: João Azevedo

There were 25 participants in the workshop coming from the academic community, conservation and development associations, the Forest Service and forest consultants.

The event received media coverage which will further increase the impact of the workshop and of **FlorNExT**.

The workshop met most of its objectives, namely a strong participation from the stakeholders' side and a full understanding of the usefulness of **FlorNExT** for forest planning and management.

More about FlorNext

FlorNExT is an application for modeling growth and yield for maritime pine (Pinus pinaster) and Pyrenean oak (Quercus pyrenaica) stands in the Nordeste region of Portugal, as well as for defining thinning plans and their effects on stand growth and yield.

Users of the application can estimate stand growth and yield and tree size distribution over time in a very simple way based on variables easily measured in the field.

They can also plan thinning operations from intensity and other simples parameters obtaining estimates of the volume to extract and the distribution of trees per size class (to extract and to remain in the stand).

The application is now fully available online at http://flornext.esa.ipb.pt/ .

Workshop "Forest inventory with LiDAR"

The Nordeste Transmontano SIMWOOD team organised a knowledge and technology transfer workshop on the use of LiDAR for data collection and analysis in forest inventory on 14 and 15 October in Bragança, Portugal.

This event was also organised as a Regional Learning Lab involving local forest stakeholders such as consultants and practitioners, as well as representatives of forest associations and authorities.

A survey conducted during the event collected the perceptions of participants regarding the forest sector in the region and their expectations of forest mobilisation and the role of new technologies in this process.

On the first day, a series of lectures explored the origins, development and trends of technology in forest measurements and inventory and the foundations and applications of LiDAR technology.

Photo: João Azevedo

In addition, there was a computer laboratory session on data analysis and software tools and a demonstration of the use of drones for small-scale remote sensing applications.

Photo: João Azevedo

On the second day, participants took part in a practical field session on measurements with terrestrial LiDAR.

Photo: Fernando Pérez-Rodrigues

The workshop attracted over 40 participants from 11 companies and forest institutions, as well as students from the Forest Resources Management MSc program at IPB.

Although the lab and field sessions were limited to 23 places, there were a large number of participants who attended lectures only. The workshop was directed at local agents, but many participants came from other regions which made the event relevant on a national scale.

A blog (workshoplidar.blogspot.com) was developed during the preparation of the event for disseminating and transferring the results of the workshop and the interaction with stakeholders interested in the application of new technologies in forestry.

The registered participants will be a target group to work with in the dissemination and application of the remaining tools developed within the SIMWOOD project.

SIMWOOD promoted at Great Yorkshire Show

Every year RDI support the Yorkshire Agricultural Society to organise the Forestry Arena and the Forestry Information Centre of the Great Yorkshire Show, one of the UK's largest agricultural shows which attracts around 130,000 visitors across the 3 day event in July.

Over the 3 days members of the SIMWOOD team discussed barriers to wood mobilisation in the region

with a range of stakeholders; including woodland owners/manager, processors and suppliers as well as members of the general public.

Photo: Will Richardson

The show also provided a great opportunity to gather data on the knowledge and skills levels of the sector; which was later used as part of the planned focus study.

Whilst discussions with stakeholder were taking place an action packed arena comprising of demonstrations from chainsaw sculptures, local axemen, horse loggers, a mechanical harvester as well as the Great British Pole Climbing competition; kept people entertained.

Photos: Andrew Kitching

The aim of the Forestry Information Centre and the arena is to raise the profile of forestry amongst the general public and gives them the chance to know more about the sector, as well as an opportunity to

discuss barriers and solutions for wood mobilisation with those that are already involved within the sector.

Article on wood mobilization

An article written by BTG and Alterra appeared in the 'de Bosbouw' quarterly newspaper (edition 1, April 2015), which is exclusively aimed at forestry and harvesting of wood in the Netherlands.

The article notes that while the state of the forests in the Netherlands is improving, harvesting is still significantly below the annual increment, which leads to an aging forest.

It also mentions SIMWOOD's activities, and that the project seeks to increase mobilisation while taking other interests (nature, biodiversity) into account.

>>Download the article (in Dutch) 'Meer houtoogst in Europa en Nederland', De Bosbouw: http://www.simwood.efi.int/uploads/Publications/De%20Bosbouw%20editie%201%202015.pdf

Who to contact for more information

If you would like to become involved in our Regional Learning Labs, please contact the coordinator for your region. You can find them on the SIMWOOD website: www.simwood-project.eu/contacts.html

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