

COST Action FP1203: European non-wood forest products (NWFPs) network

Task Force 3: Optimising co-production of NWFPs

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Introduction

- integrate the work from WGs: Identify management models for optimizing NWFP production under different forest management conditions
- Subtask 3.1: Reviewing current NWFPs management (M0-M21)
 - What expertise or models are being used?
 - Which are important NWFPs without proper management?
- Subtask 3.2: Towards a multifunctional management: managing NWFPs with other products (M6-M33)
 - How can the production of NWFPs be combined with wood production and/or other productions?
 - What are the trade-offs for a combined production?
 - How do environmental conditions (including climate change, biotic and abiotic threats) effect the management?
 - What are successful combinations of NWFPs ecosystem services within a particular socio-economic situation?



Introduction

- Subtask 3.3: Guidelines for NWFPs management (M18-M48)
 - compile and develop standardized silvicultural and management instructions enhancing NWFP productions as well complementary yield of wood and non-wood forest products – How?
 - Screening of existing management concepts (e.g. single tree oriented planting systems, age class systems, close to nature management systems) for their applicability for a combined production of NWFP and wood – Which?
 - focus only for a limited number of European NWFPs – Which?



Expected Outputs

- a review of European NWFP management (book chapter and publications in peer-reviewed scientific journals)
 - discussion about existing examples for co-production of NWFPs
 - Demonstration of general opportunities for co-production
 - Identify differences for particular socio-economic and climatic conditions
- Contribute to online database of European NWFPs
- Contribute to the proceedings of the final international conference with presentations of TF3 members
- Contribute to the book “Sustainable management of European non-wood forest products” with a chapter



Case study: Tree species richness and ecosystem services (i)

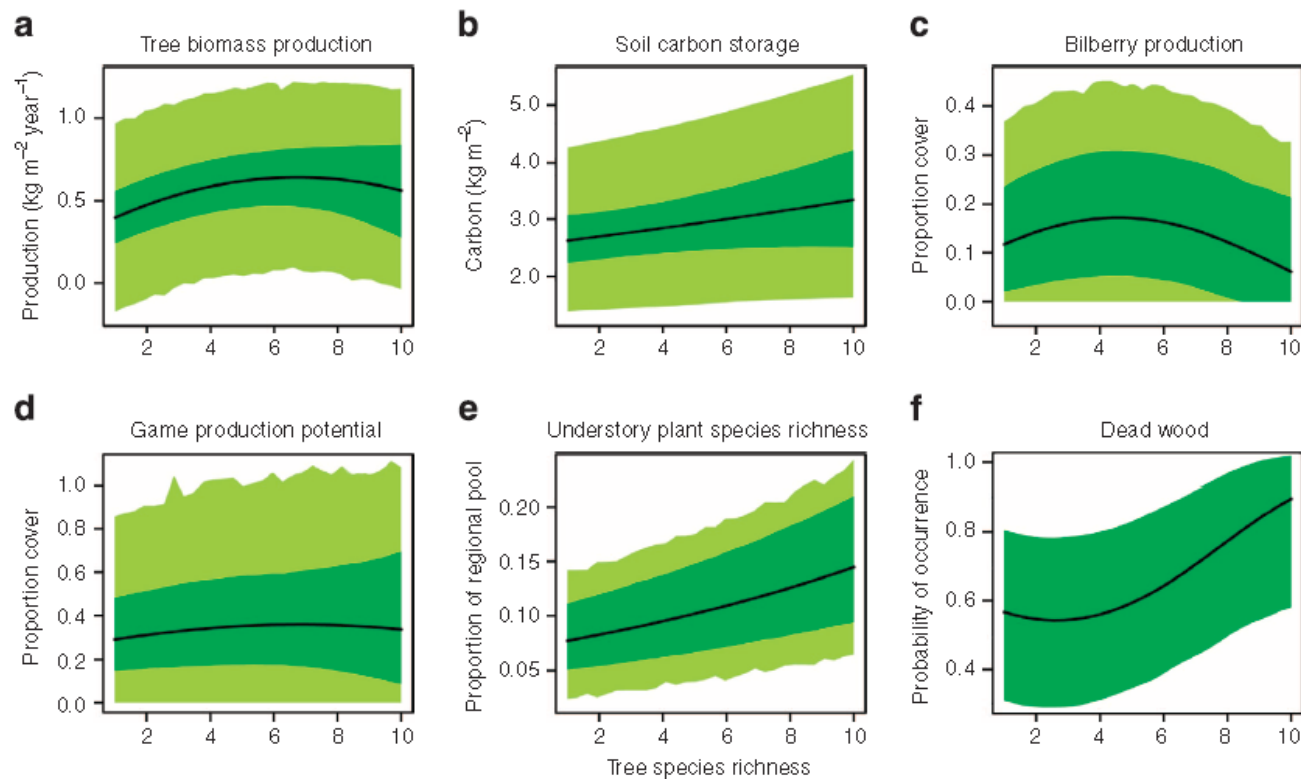


Figure 1 | Relationships between tree species richness and ecosystem services. (a) Tree biomass production; (b) soil carbon storage; (c) bilberry production; (d) game production potential; (e) understory plant species richness; (f) occurrence of dead wood. We show mean relationships (black) and 95% Bayesian confidence intervals for the relationships excluding (dark green) and including the residual variation (light green). Other model explanatory variables were kept at mean levels.

Case study: Tree species richness and ecosystem services (ii)

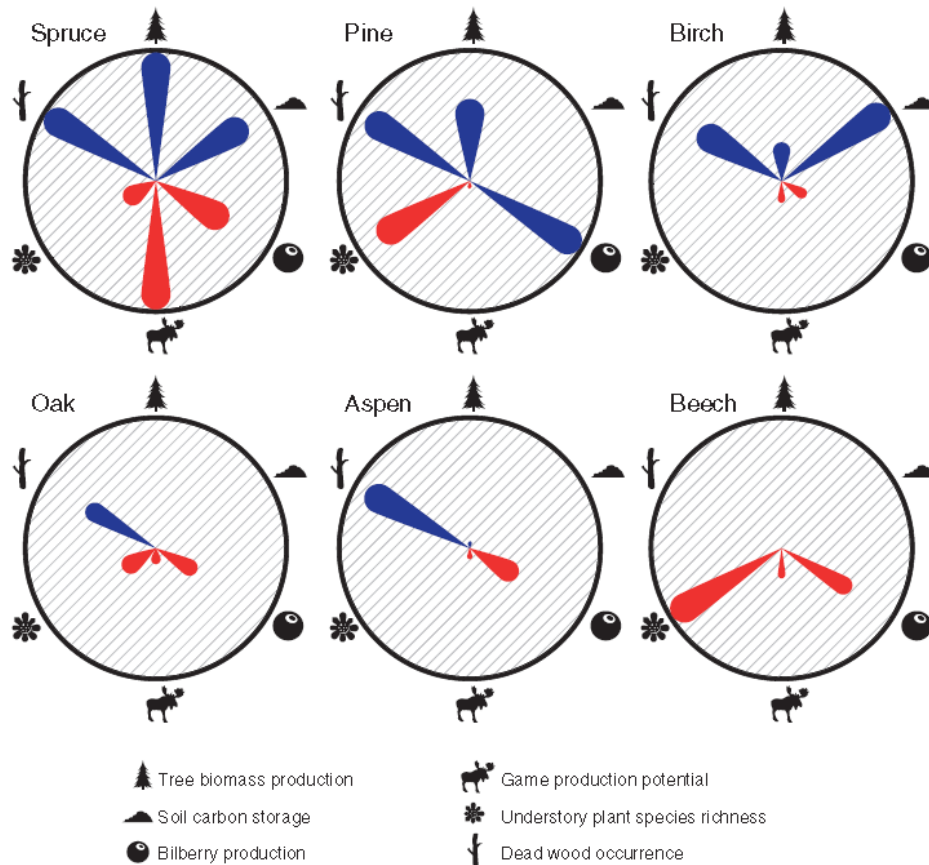


Figure 2 | Strength of the relationships between tree biomasses and ecosystem services. The lengths of the 'petals' in these flower diagrams (one diagram for each tree species) reflect transformed effect sizes for the relationships in the main models. Specifically, the effect sizes (β_n in equation (1)) have been transformed to range between 0 and 1, so that for each ecosystem service the effect size for the tree species with the greatest effect equals the absolute value of 1. Blue are positive relationships, red are negative relationships, and the outer circles represent the maximum value of |1|. The six ecosystem services are labelled by their respective symbols.

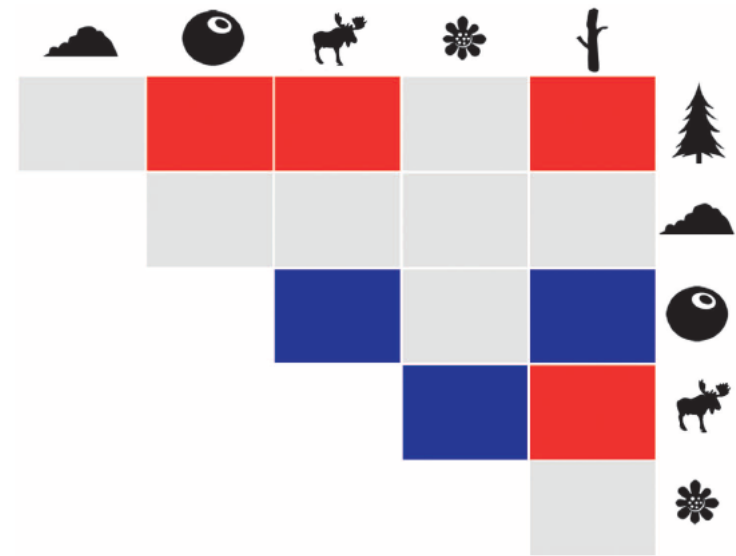


Figure 3 | Pairwise relationships between ecosystem services. Blue are positive and red are negative relationships. Grey reflects relationships with no established inter-relationship. The six ecosystem services are labelled by their respective symbols.

Gamfeldt et al. (2013)

Tentative activities of Workplan

- List of NWFPs per country that are considered as relevant (in terms of quantity, value, emerging interest,..) - VIPs
- List of criteria for describing NWFPs - proposal for updating the database in order to take additional variables into account for TF3
- List of models / tools used to estimate production of NWFP
- List combinations of NWFPs with other ecosystem services (e.g. provisioning, supporting, protecting, cultural services) – national /regional level
- Identifying magnitude of influence of the production of NWFPs on the provision of ecosystem services (FMU level)
- Identifying the impact of climate change, biotic and abiotic threats on the production of NWFPs
- Identifying successful combinations of NWFPs and ecosystem services within a particular socio-economic situation
- Propose STSM's to work on the issues listed above

Example: Influence – matrix for NTFPS

↓ →	A	B	C	D	E	Sum active
A		0	1	3	1	5
B	1		2	2	0	5
C	1	1		0	3	5
D	3	2	0		2	7
E	0	2	0	1		3
Sum passive	5	4	0	1	6	

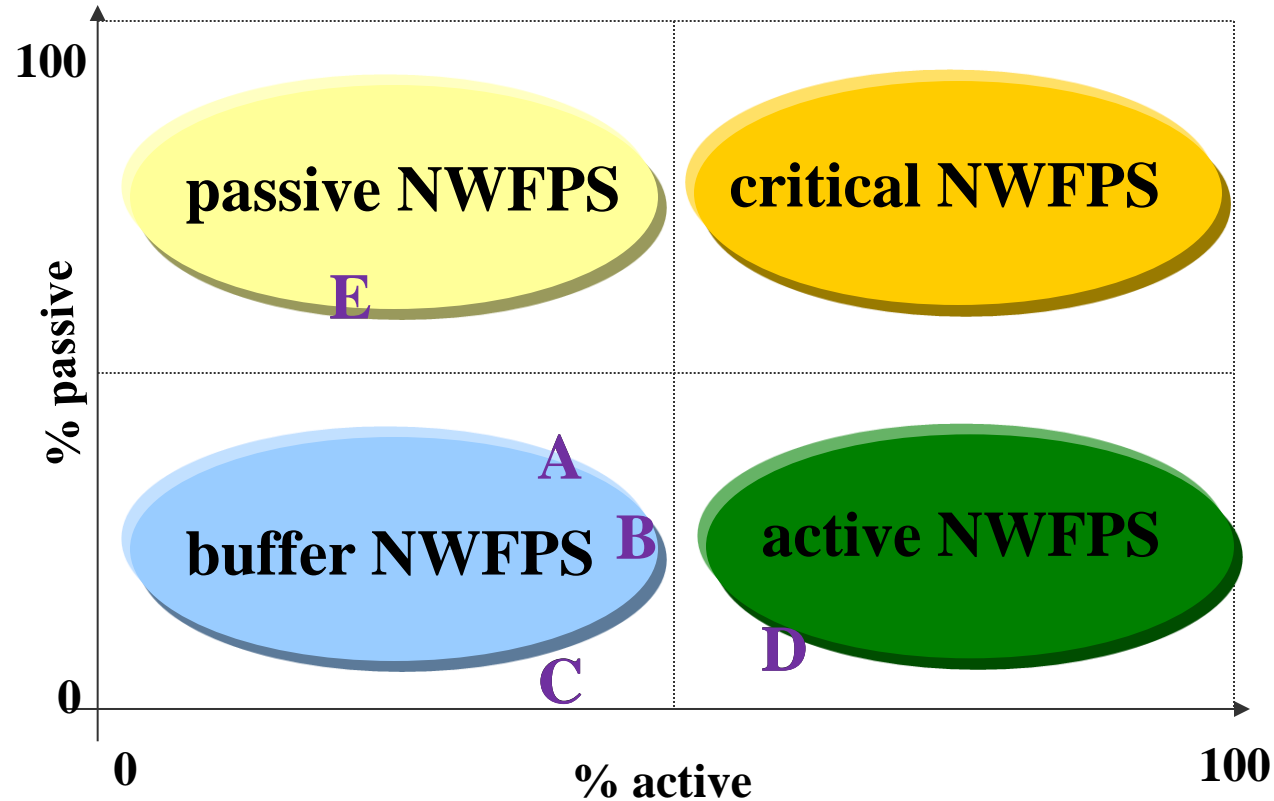
Does the production of NWFP „A“ have a direct influence on NWFP „B“?

If YES, how much?

1 = weak, 2 = moderate, 3 = strong



Classification of NWFPS for different socio-economic contexts



Things to be discussed...

- Co-Lead of TF3
- balancing representativeness of WG members 1, 2,3 and 4 in TF3
- Identifying a country representative to be contacted
- Starting to work on the list of additional criteria for describing NWFPs
- Identifying COST members who have interest to work on the tasks for working on a publication
 - 1) Identifying magnitude of influence of the production of NWFPs on the provision of ecosystem services (FMU level)
 - 2) Identifying the impact of climate change, biotic and abiotic threats on the production of NWFPs
 - 3) Identifying successful combinations of NWFPs and ecosystem services within a particular socio-economic situation





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NWFP Thank you!



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