

Integrated Forest Management? What? Why?



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Forests – facts and figures

All trees count

15 LIFE ON LAND

Forests cover **31%** of the Earth's land, an area of over **4 billion** hectares.

93% of world's forests are natural, and **7%** are planted.

Every year, we lose **10 million** hectares of the world's forests.

Forest ecosystems are the largest terrestrial carbon sink, absorbing roughly **2 billion** tonnes of CO₂ each year.

13 CLIMATE ACTION

Forests are vital to life

15 LIFE ON LAND

Globally, around **1 million** animal and plant species are under threat of extinction.

Forests are home to **80%** of all land-based species.

18% of forests are designated as protected areas.

75% of the world's accessible freshwater comes from forested watersheds.

6 CLEAN WATER AND SANITATION

Sustainably managed forests are resilient and renewable ecosystems

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

54% of the world's forests are managed through long-term plans.

About **1.15 billion** ha of the world's forests are managed primarily for the production of wood and non-wood forest products.

1/3 of the world's population, about **2.4 billion** people, use wood fuel for cooking, boiling water and heating.

40% of the world's renewable energy comes from forests - as much as solar, hydroelectric and wind power combined.

7 AFFORDABLE AND CLEAN ENERGY

Investing in forests plants the seeds for a greener future

17 PARTNERSHIPS FOR THE GOALS

US\$15 billion of private investment goes into the forest sector in developing countries and countries with transition economies.

ODA to forests (**US\$800 million**) is less than 1% of total ODA.

The value of ecosystem services that are lost due to illegal logging and forest degradation could be in the **trillions**.

Funding needs for global sustainable forest management range from **US\$70** and **US\$160** billion per year.

15 LIFE ON LAND

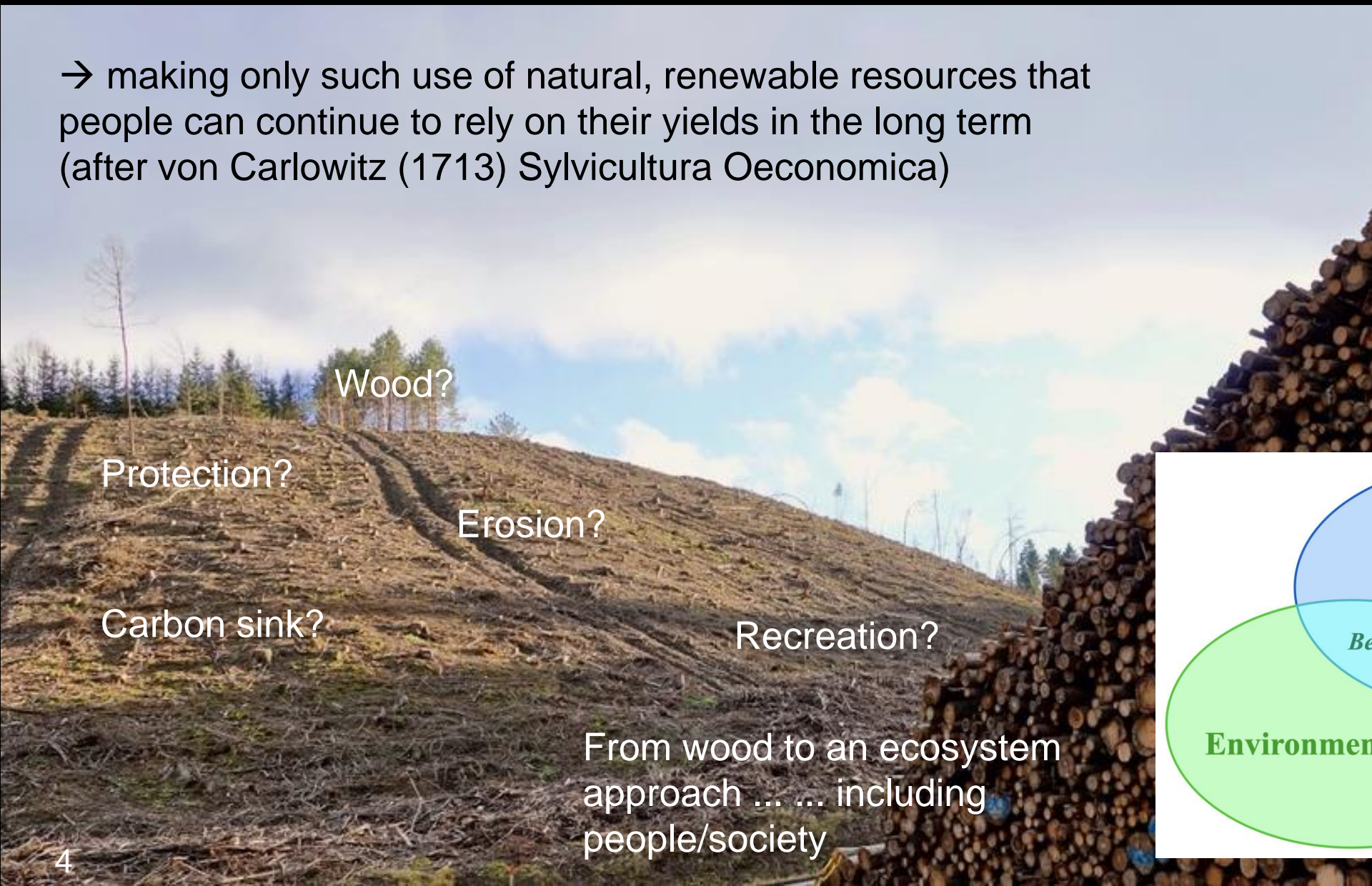


SUSTAINABLE DEVELOPMENT GOALS

1 NO POVERTY 	2 ZERO HUNGER 	3 GOOD HEALTH AND WELL-BEING 	4 QUALITY EDUCATION 	5 GENDER EQUALITY 	6 CLEAN WATER AND SANITATION
7 AFFORDABLE AND CLEAN ENERGY 	8 DECENT WORK AND ECONOMIC GROWTH 	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 	10 REDUCED INEQUALITIES 	11 SUSTAINABLE CITIES AND COMMUNITIES 	12 RESPONSIBLE CONSUMPTION AND PRODUCTION
13 CLIMATE ACTION 	14 LIFE BELOW WATER 	15 LIFE ON LAND 	16 PEACE, JUSTICE AND STRONG INSTITUTIONS 	17 PARTNERSHIPS FOR THE GOALS 	 SUSTAINABLE DEVELOPMENT GOALS

Sustainable production and consumption of natural resources → Focus forests

→ making only such use of natural, renewable resources that people can continue to rely on their yields in the long term (after von Carlowitz (1713) *Sylvicultura Oeconomica*)



Wood?

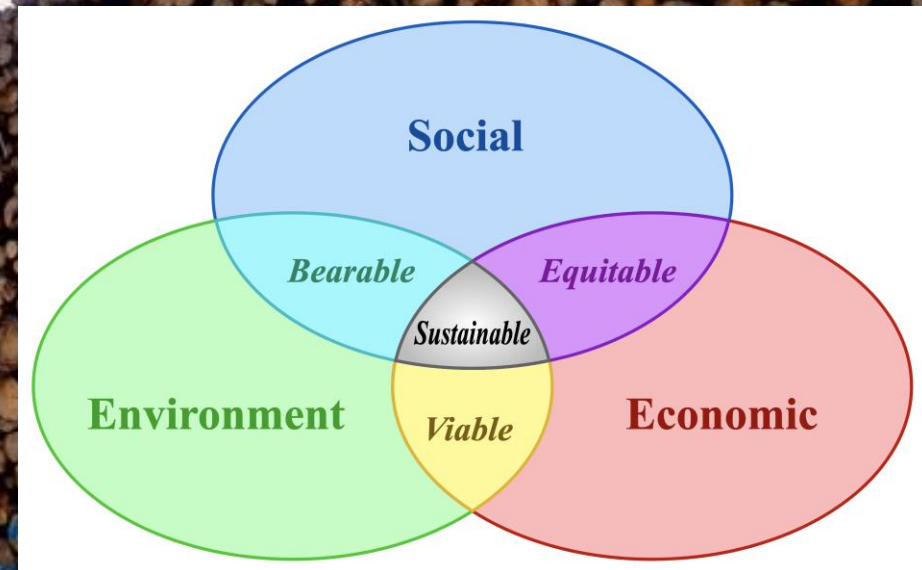
Protection?

Erosion?

Carbon sink?

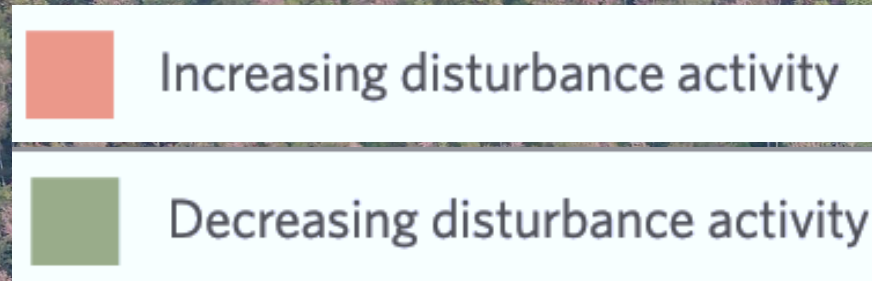
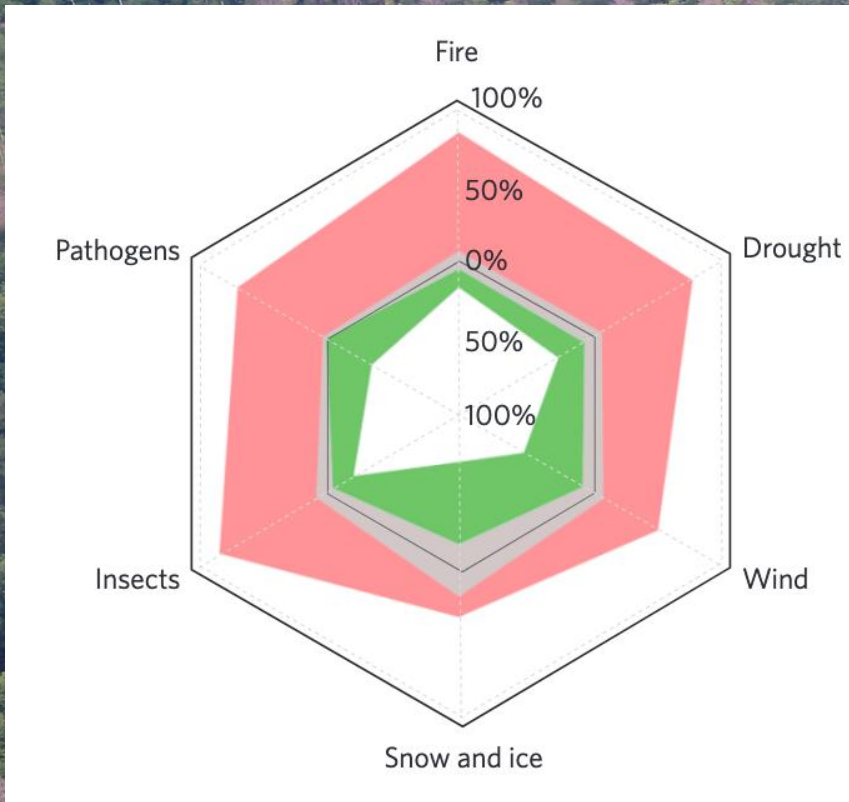
Recreation?

From wood to an ecosystem approach ... including people/society



Create resilient forests to combat and resist CC

(Seidl et al. 2017 Nature CC)



... and an increase of disturbances must be expected ...
... incl. fundamentally reshaping of our forests and their services ...

Protection, restoration and sustainable use, promotion of biodiversity



Other forest types?

Other measures?

Other biomes?

How many do we need?

Other forest services?

Effect?

... Combining the SDGs 12, 13, and 15 ...

Sustainable production and consumption of natural resources

Create resilient forests to combat and resist CC

Terrestrial ecosystems: Protection, restoration and sustainable use, promotion of biodiversity



- Tradeoffs and synergies?
- Concepts? Strategies?
- What does this mean in reality?

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Integrated Forest Management

How to balance forestry and biodiversity conservation

A view across Europe

- Conceptual embedding and scientific framing with 12 scientific articles
- 32 best practice examples showing successful approaches across Europe
- Toolbox and application of measures
- Synthesis and recommendations
- Policy brief

Preamble of this book

80 – 90 % of the European Forests are managed – hence concepts to improve biodiversity in managed forests are urgently needed - protection of forests is part of the concept.



(Photo: F. Krumm, WSL)



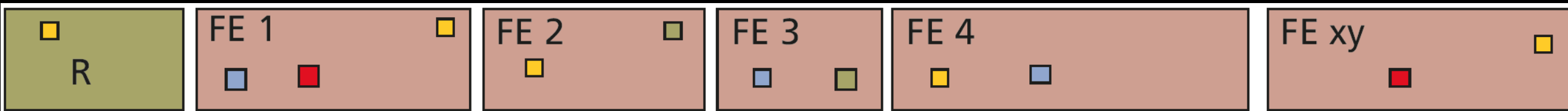
- Ethical obligation to **protect the biodiversity** of our planet → forests must make an important contribution
- Societal obligation to **cover our own wood** consumption in Europe in a sustainable way
- Reduction of the C-footprint by substitution of steel and concrete by **sustainably produced wood**
- **Climate Change**: increasing diversity in the forests is the order of the day
- The provisioning of multiple forest ES for the **well-being of societies** today and in the future

Seggregation versus integration ...

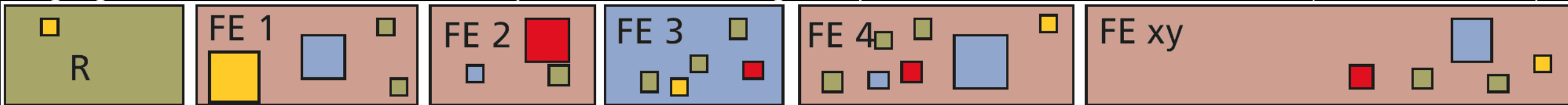
Full segregation forest reserves & wood production (plantation forestry)



Full segregation forest reserves & wood production with random delivery of additional services (wake water f.)





Segregation forest reserves & wood production with targeted promotion of additional services (multi-services f.)



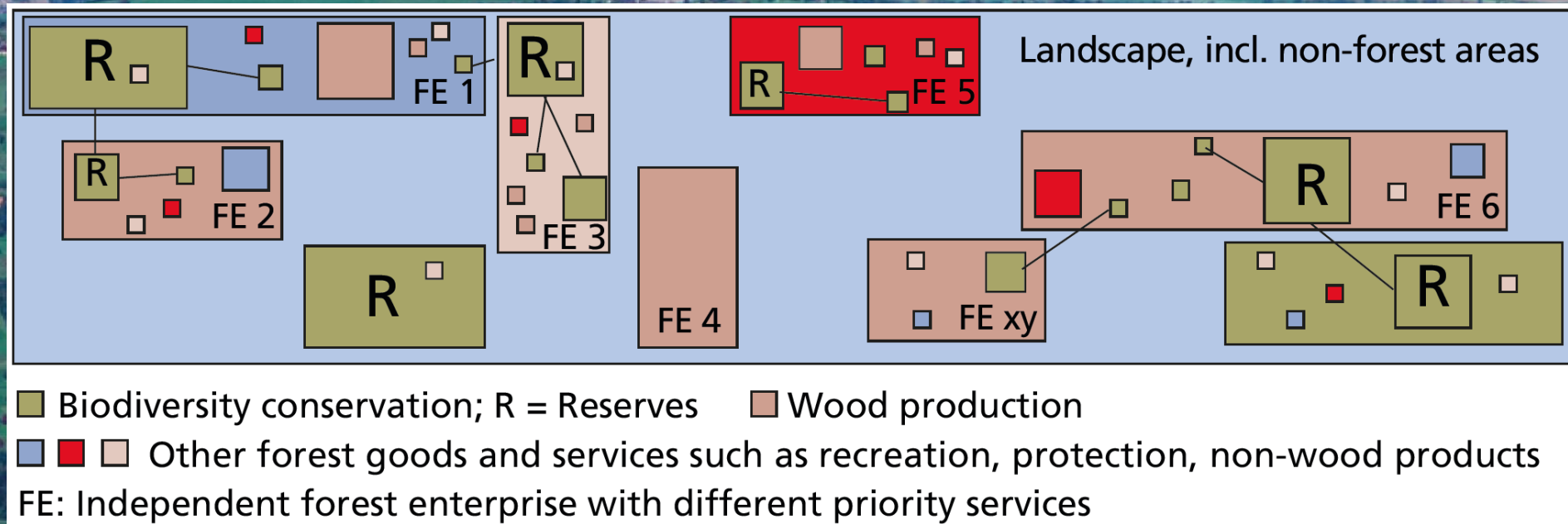
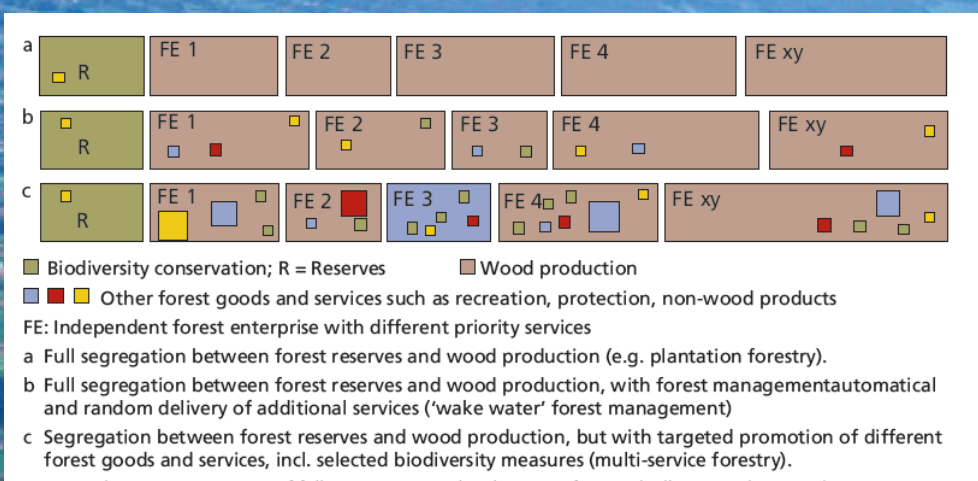
 Biodiversity conservation; R = Reserves

 Wood production

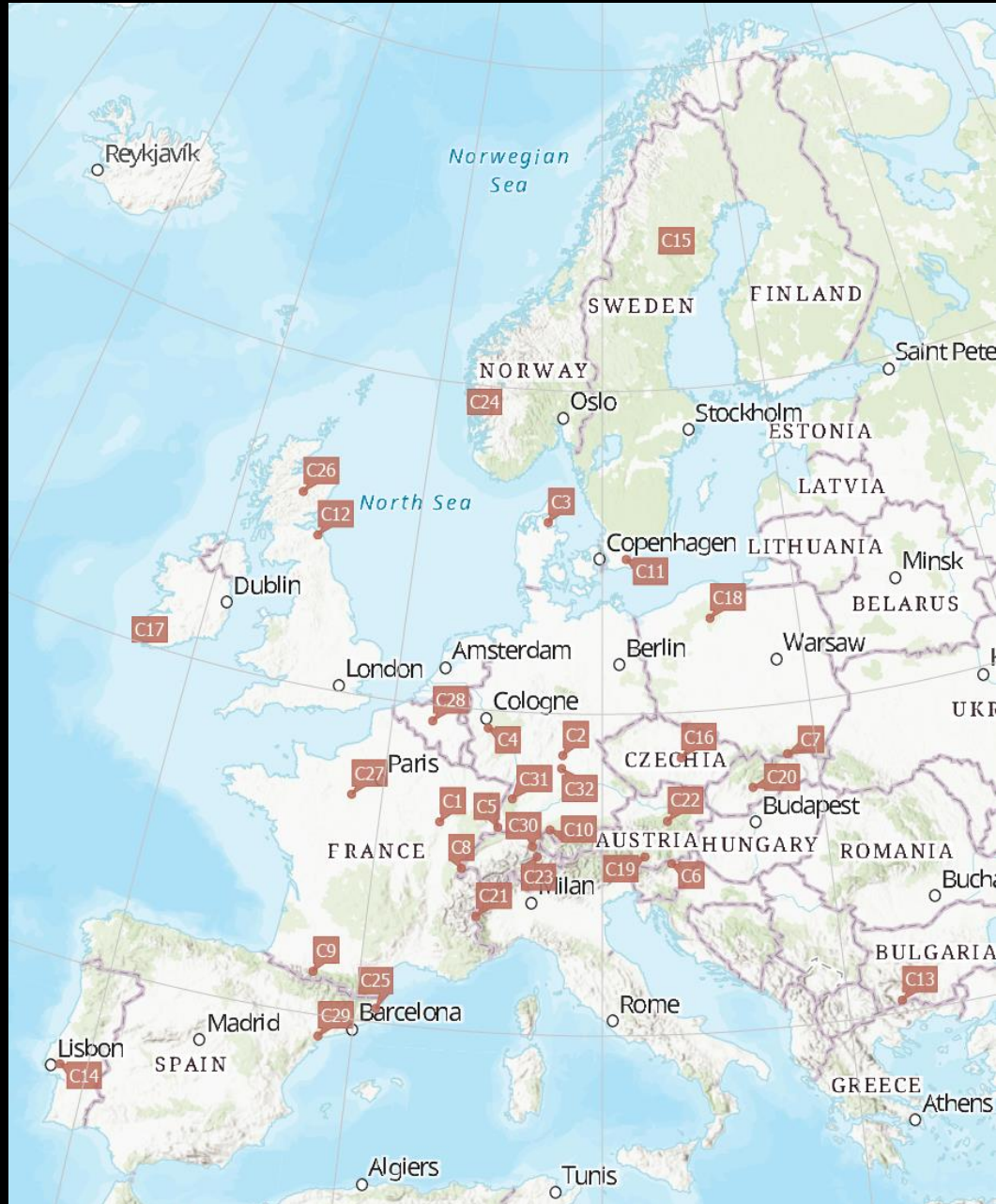
   Other forest goods and services such as recreation, protection, non-wood products

FE: Independent forest enterprise with different priority services

Integrated Forest Management



32 good practice examples



- Production forests in the **lowlands**: C1 – C5
- Production forests in **mountainous areas**: C6 – C10
- Production forests: intensive forest management / **plantation forestry**: C11 – C20
- Protection: Mountain forests with **protective functions** against gravitative hazards and accompanying ecosystem services: C21 – C24
- **Fire** protection – prevention: C25
- **Tourism and scenic beauty** and densely settled areas, cities and agglomerations and urban landscapes: C26 – C29
- Management for **species diversity**: C30 – C32

Ebrach – Learning from nature: Integrative forest management

C2

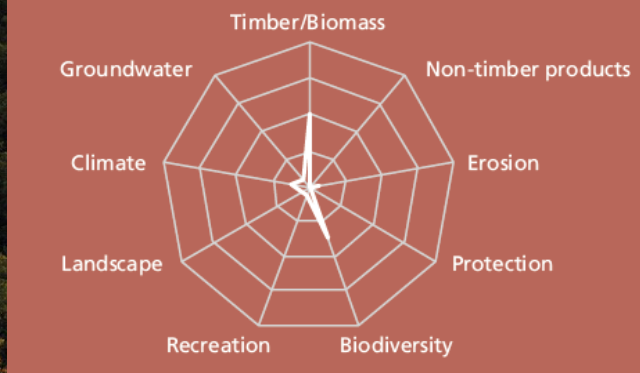
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² Chair of Silviculture, University of Freiburg, Germany



- What measures are you applying to promote biodiversity conservation?
- Investment of your resources?



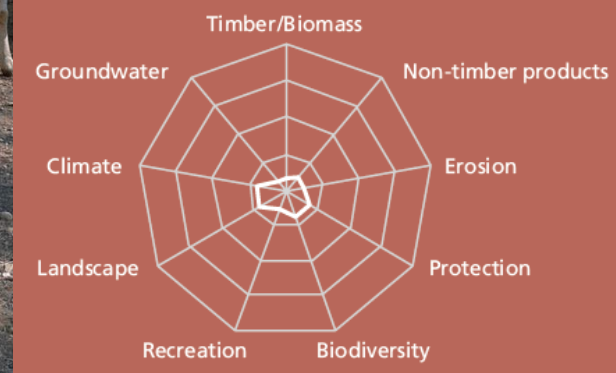
Girona – Fire Flocks, grazing systems to reduce wildfire severity

C25

R. Domènech¹, E. Soy²

¹ Forest Science and Technology Centre of Catalonia, Solsona, Spain

² Pau Costa Foundation, Taradell, Spain



Sonian Forest – A case from Brussels

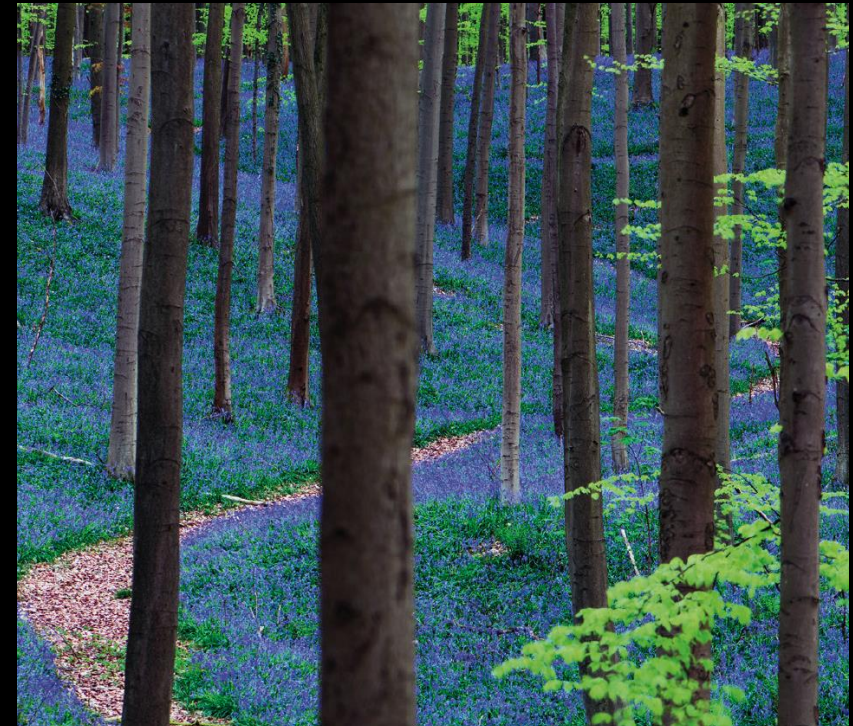
C28

J. Derks¹, P. Huvenne², K. Vandekerkhove³

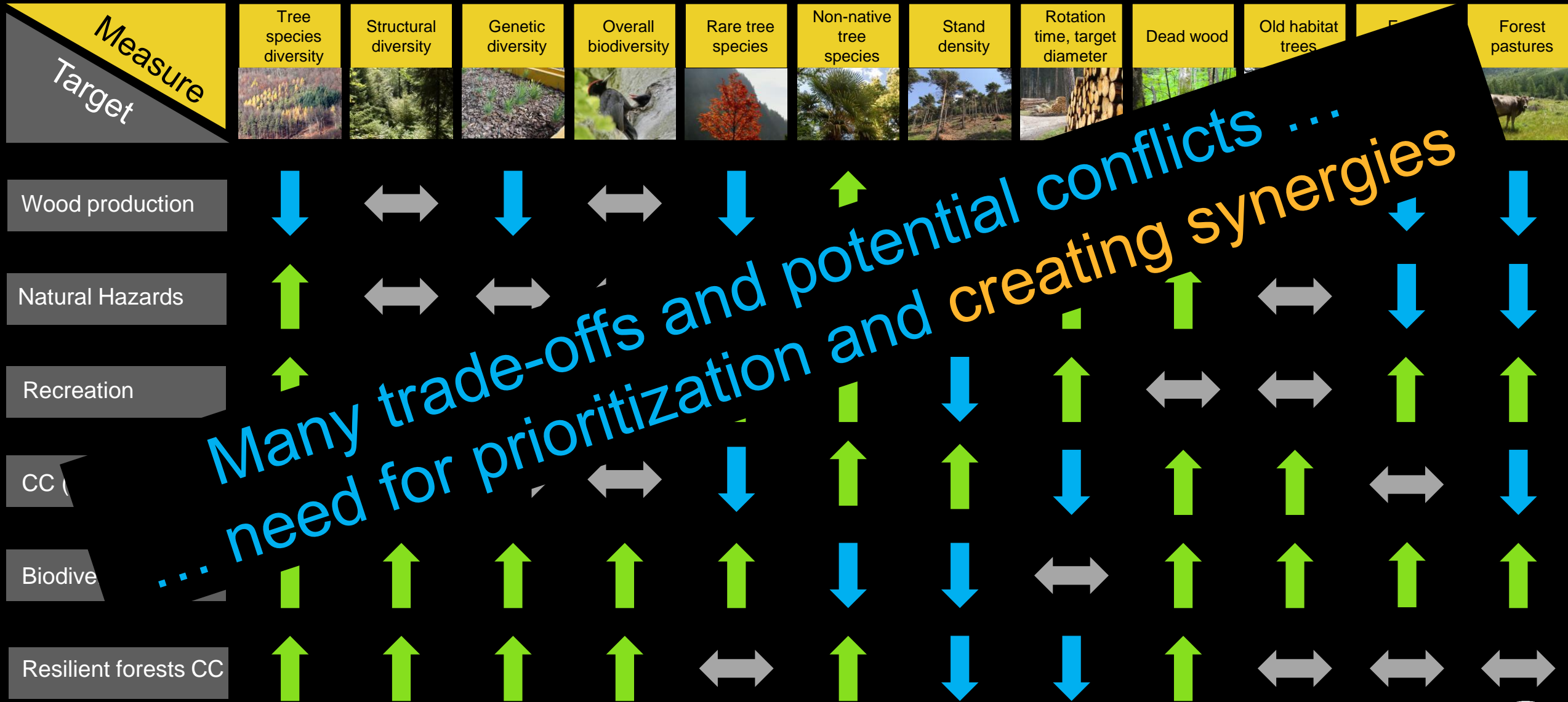
¹ European Forest Institute, Bonn, Germany

² Agency for Nature and Forests, Flanders, Belgium

³ Research Institute for Nature and Forest (INBO), Brussel, Belgium



Valuation of adaptation measures for different ES / targets



Many trade-offs and potential conflicts ...
 ... need for prioritization and creating synergies

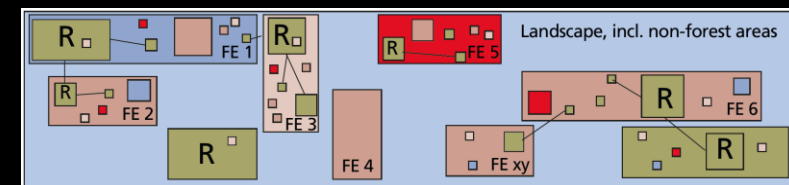
Summary

The Sustainable Development Goals as starting point:

- High potential for conflicts:
 - prioritization is difficult but necessary
 - creating synergies is central!
- Forests are of paramount importance for reaching Sustainable Development Goals:
 - sustainable management is urgent!



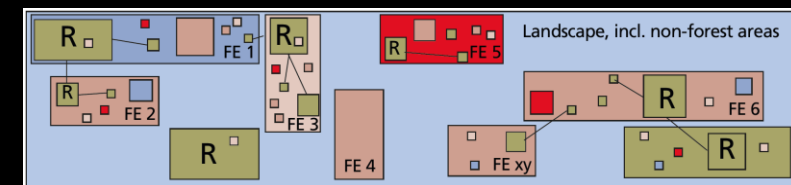
INTEGRATED FOREST MANAGEMENT



Summary



INTEGRATED FOREST MANAGEMENT



- How to integrate diverging expectations on & demands for European forests taking into account the pressing global ecological and societal challenges ?

1. Install overarching legal/societal framework on a European and national level
2. Elaborating schemes for synergies across targets
3. Apply pragmatic, courageous, and regionally-rooted management approaches
4. Invest in community building across sectors

→ Aim to develop and concretize *Integrated Management Approaches* to best serve nature and society

Thank you for your attention



Protection, restoration and sustainable use, promotion of biodiversity

15 LIFE ON LAND

