



GOBIERNO DE ESPAÑA

VICEPRESIDENCIA TERCERA DEL GOBIERNO

MINISTERIO PARA LA TRANSICIÓN ECOLÓGICA Y EL RETO DEMOGRÁFICO

8th Annual Meeting of the European Integrate Network

19th to 21st October 2022

Madrid-Valsain

Climate risks and bioeconomy: old drivers, new context for forest management in Catalonia - **Teresa Baiges Zapater and Teresa Cervera Zaragoza, Forest Ownership Centre of Catalonia**



Generalitat de Catalunya



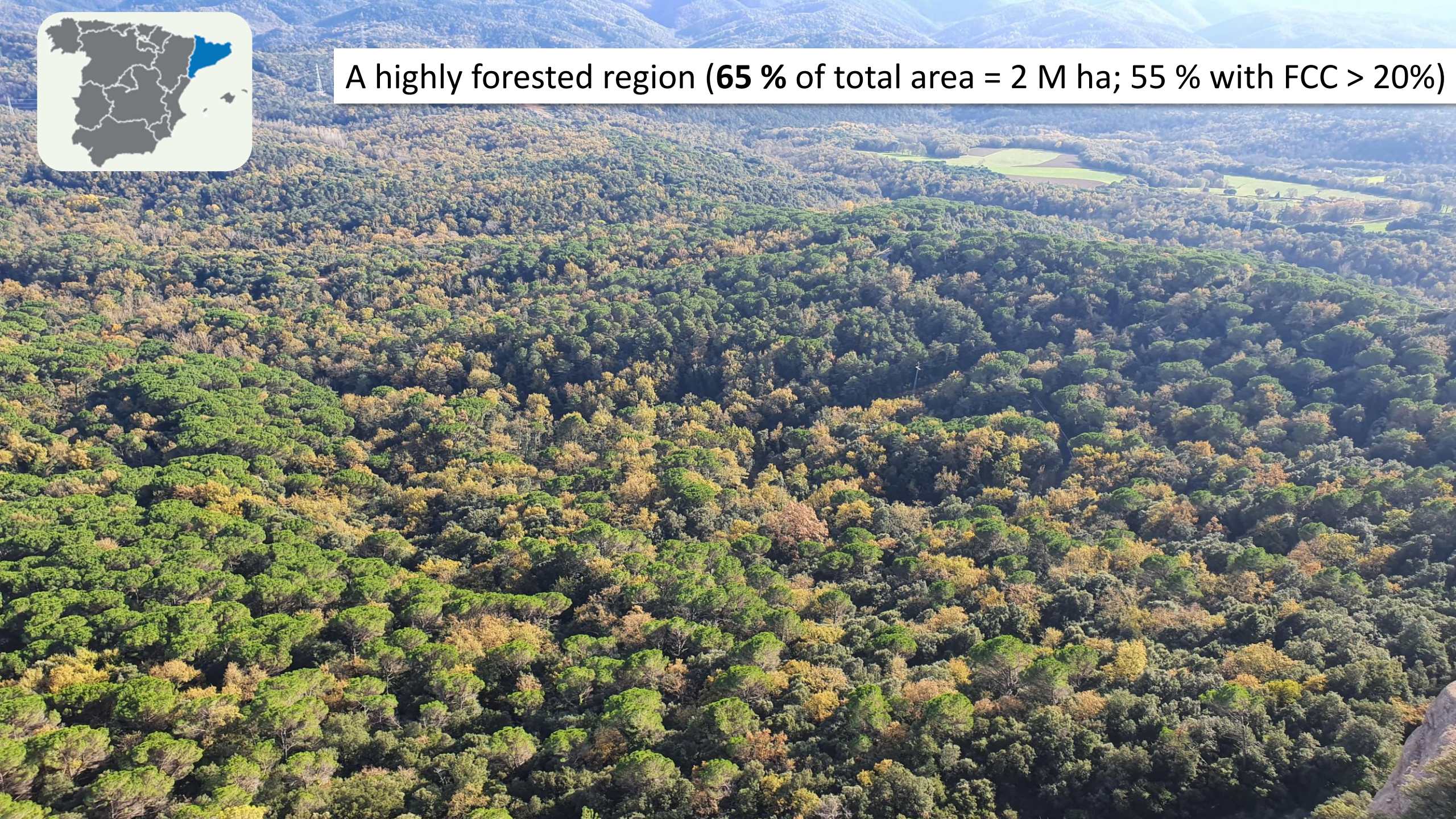
Centre de la Propietat Forestal

Pla d'Innovació i Transferència de Coneixement del CPF



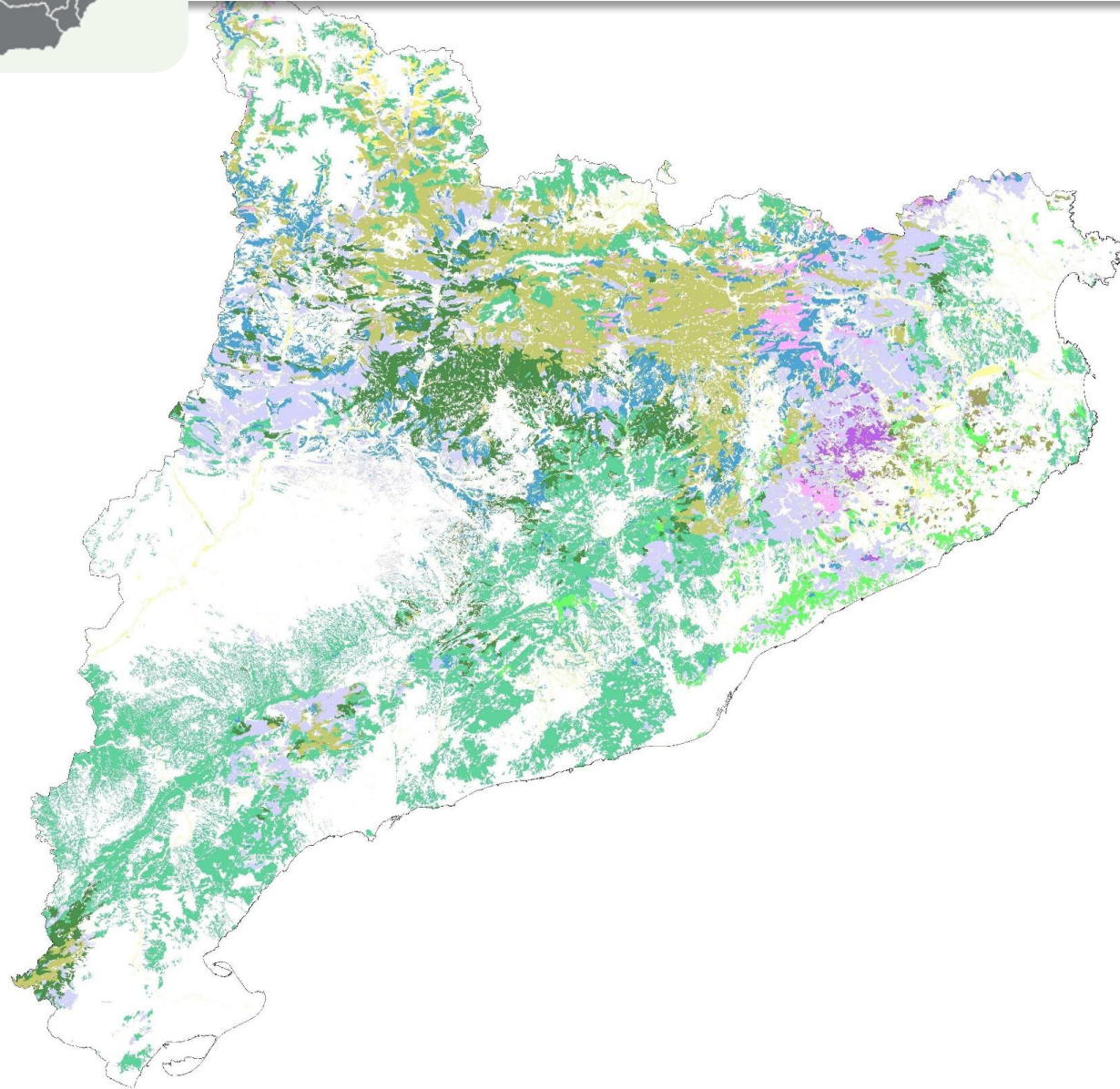


A highly forested region (**65 %** of total area = 2 M ha; 55 % with FCC > 20%)





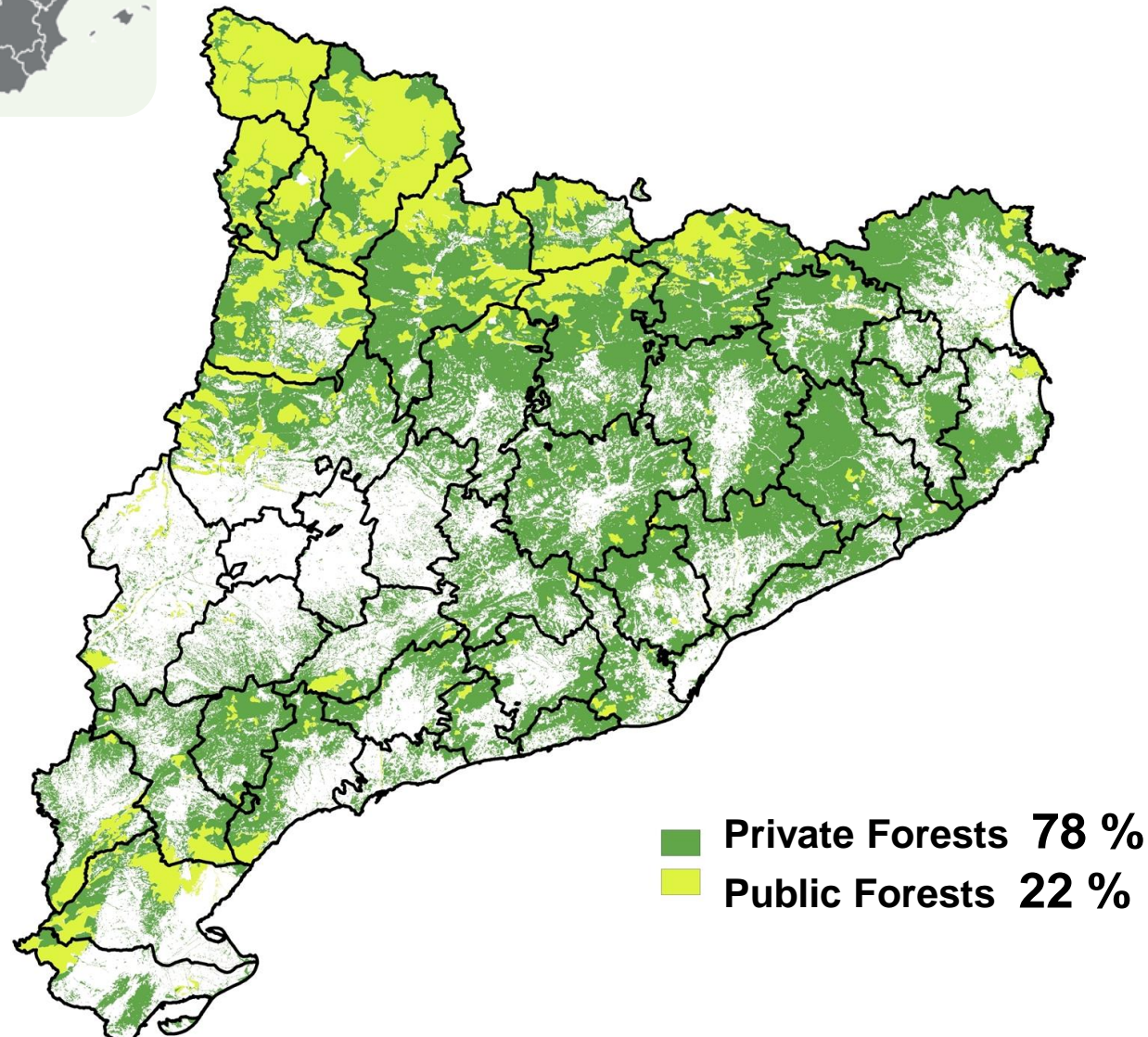
Very diverse (> 15 dominant tree species; > 50 % mixed)
Mediterranean and Micotopography is relevant



-  *Abies alba*
-  *Betula pendula*
-  *Castanea sativa*
-  *Fagus sylvatica*
-  Riparian forests
-  *Pinus halepensis*
-  *Pinus nigra*
-  *Pinus pinaster*
-  *Pinus pinea*
-  *Pinus sylvestris*
-  *Pinus uncinata*
-  Plantations
-  *Quercus*
-  *Quercus ilex*



Mostly owned by small private owners



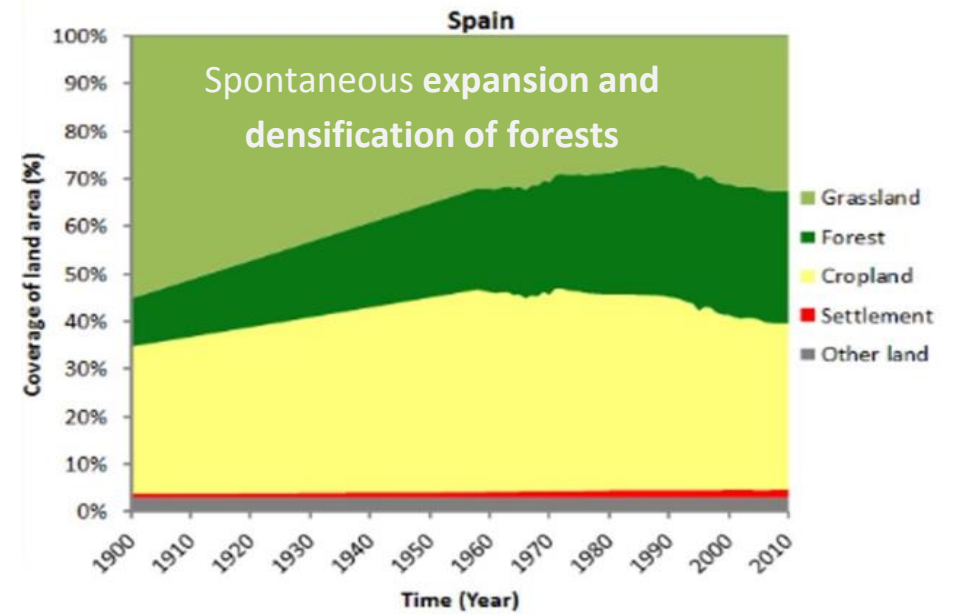
264.747 forest owners

Average forest size: **1,6 hectares**

- 95 % with forests < 25 ha
- 50% with forests < 1ha own 3 % of the land
- 5 % with forests > 25ha own 70 % of the land

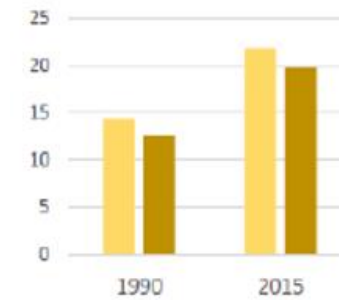
FAMILY SMALL-SCALE FORESTRY

Many new and young forests (40 % from natural afforestation in the last 70 years)



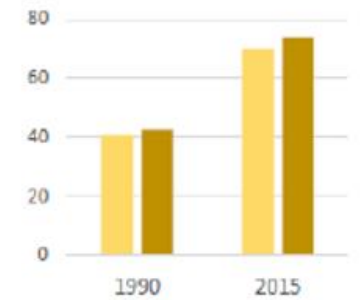
In the last 25 years in Catalonia

+ 57% Basal area



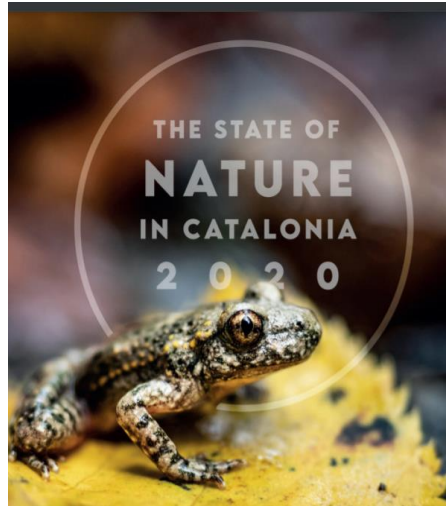
Coniferes Planifolis

+ 73 % Biomass



Coniferes Planifolis

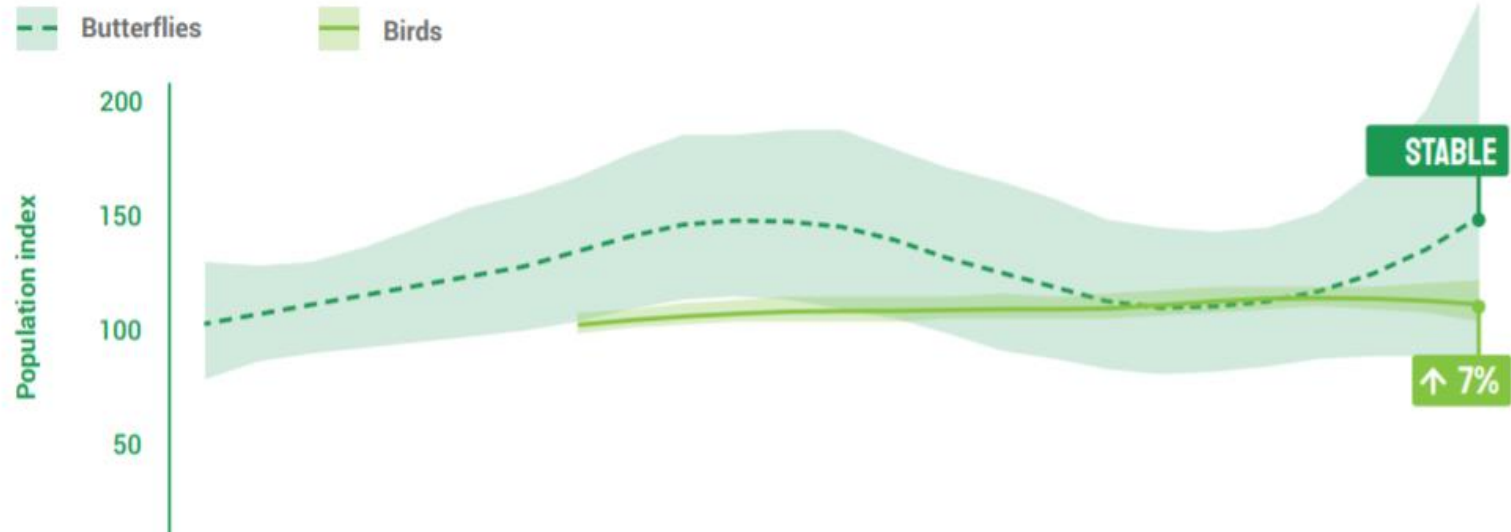
The State of Nature in Catalonia 2020 – Forests



Loss of biodiversity
linked to bushes
and open areas and
rare forest species

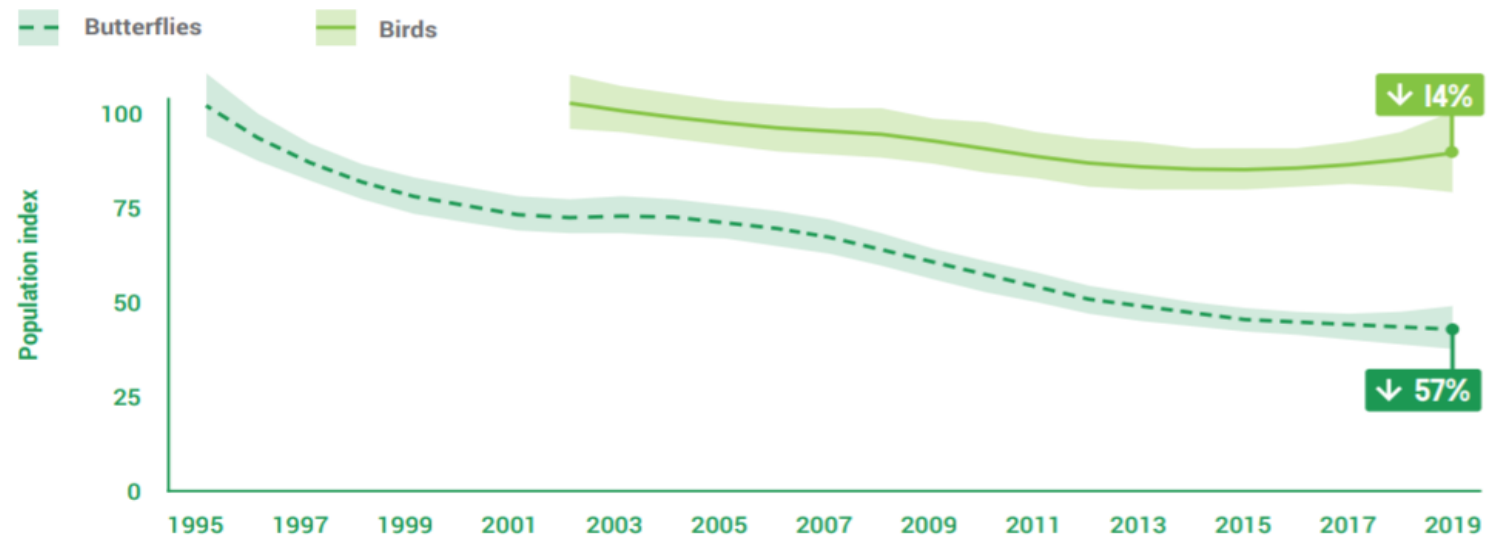
Population trends in woodland species

Woodland



Population trends in scrubland species

Scrubland



The State of Nature in Catalonia 2020 – Forests



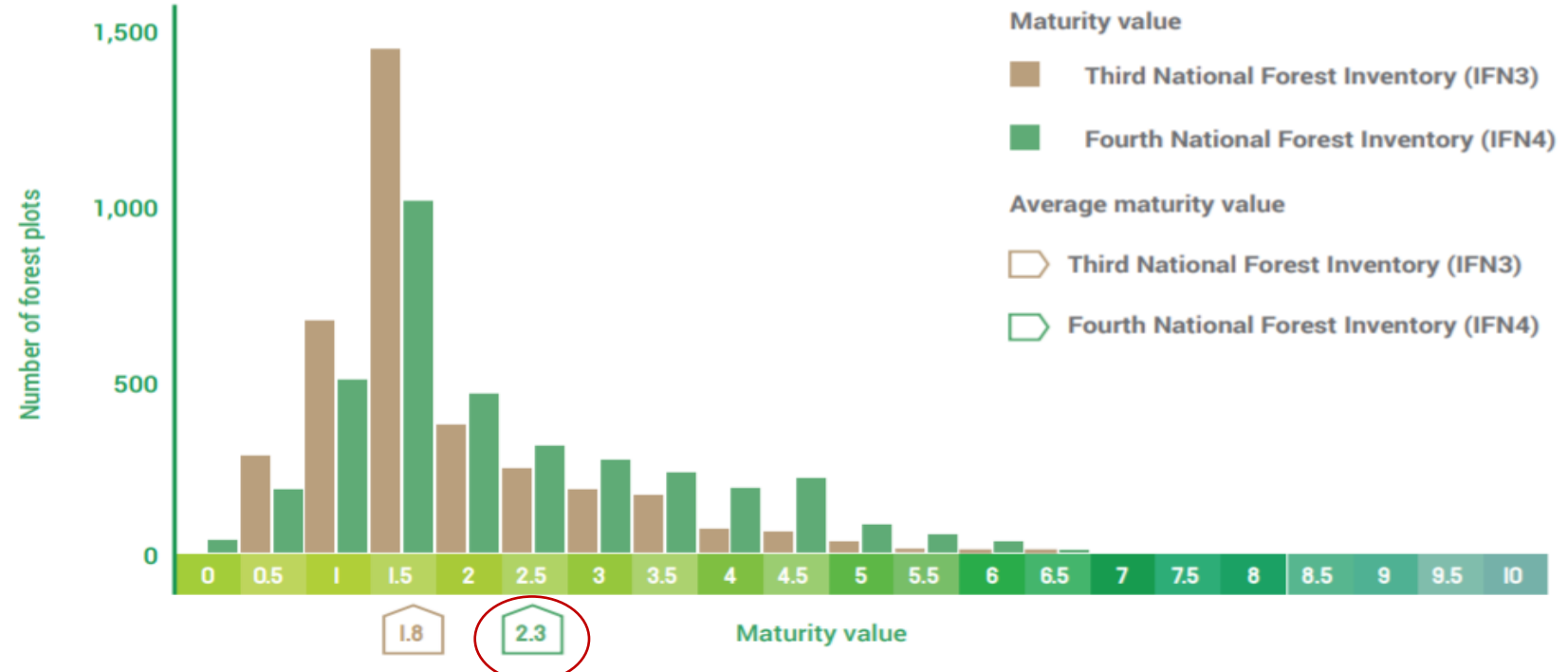
State of conservation of forest species and habitats in Catalonia (2013-2018)



Habitats



Forest maturity in Catalonia



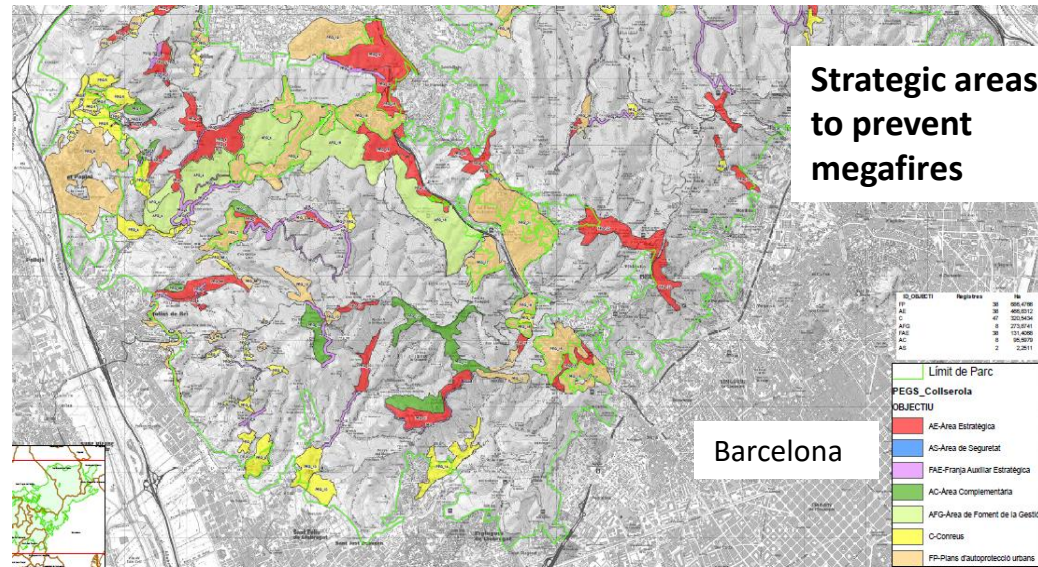
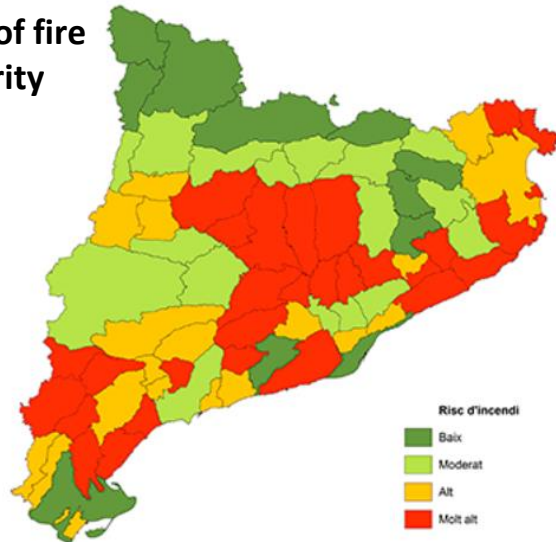
DRIVERS OF FOREST MANAGEMENT in private forests of CATALONIA

BIOECONOMY - MARKET OF WOOD PRODUCTS : Pallets and Pellets



RISK MANAGEMENT - FIRES

Risk of fire severity



Management of 30% of total private forest area

DRIVERS OF FOREST MANAGEMENT in private forests of CATALONIA > 2022

BIOECONOMY - MARKET OF PRODUCTS : Wood for construction (CLT) + Broadleaf quality softwood



RISK MANAGEMENT – FIRES/DROUGHT/PESTS + HABITAT QUALITY LOSS + WATER AVAILABILTY

Vulnerability maps + high impact areas

Remote
sensing and
modelling ?

Resilient landscape
participatory
approaches ?

Green Infrastructure +
ecosystem restoration
planning ?

2004: Silvicultural guidelines for the Catalan forests (29 tree species + comb.)

ORGEST (Orientaciones de Gestión Forestal Sostenible de Catalunya)

CTFC



Generalitat de Catalunya

Centre de la Propietat Forestal

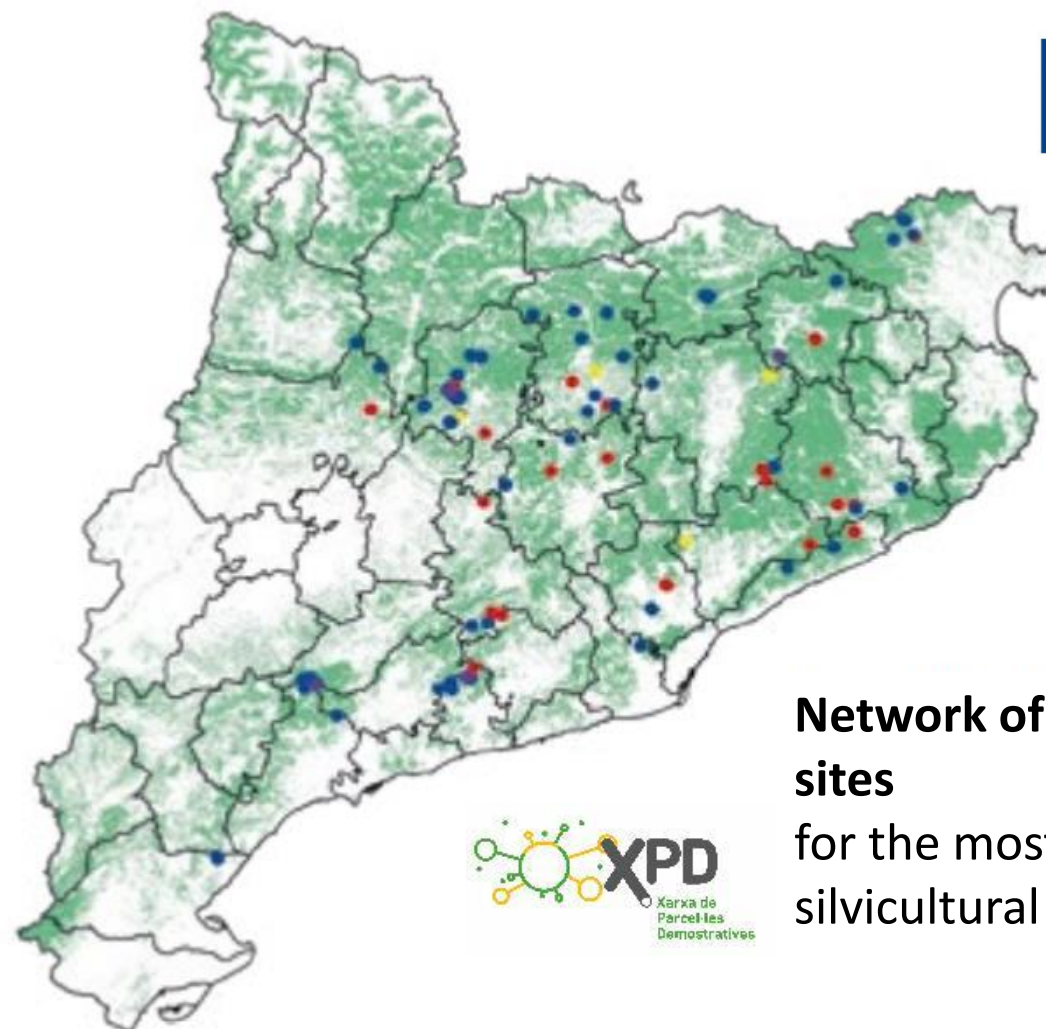
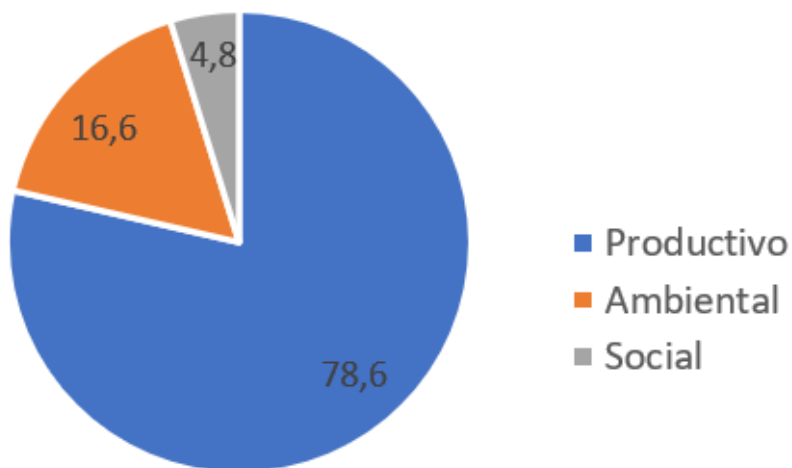


DEMORGEST
Gestió multifuncional del bosc

2012-2017

2 main management objectives:

- Production (Wood + NWFP)
- Production + fire prevention
- Fire prevention



Network of demonstrative sites

for the most innovative silvicultural models





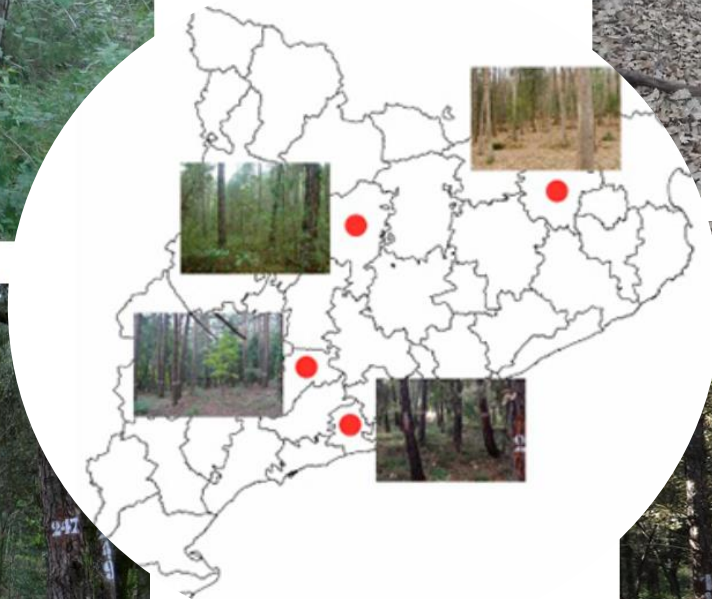
Pinus nigra
 Transition from even-aged to uneven-aged in patches



Quercus (hybrid *humilis-petraea*)
 Transition from firewood production to quality timber in best oak forests



Pinus sylvestris – Holm oak
 Selective thinning for quality timber + transition to holm oak



4 martelocopes
 2014

Forestry students

Public forest officers



Pinus halepensis
 Fire prevention



> 2021: Revised ORGEST Silvicultural guidelines



BIORGEST



INNOVATIVE FOREST MANAGEMENT STRATEGIES TO ENHANCE BIODIVERSITY
IN MEDITERRANEAN FORESTS. INCENTIVES AND MANAGEMENT TOOLS

2018-2023



MIX
for Change

Adaptation &
Bioeconomy in mixed
subhumid forests



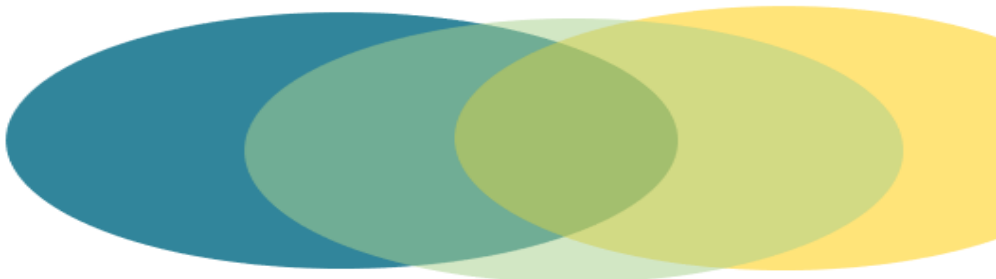
Life Climark
Beyond carbon

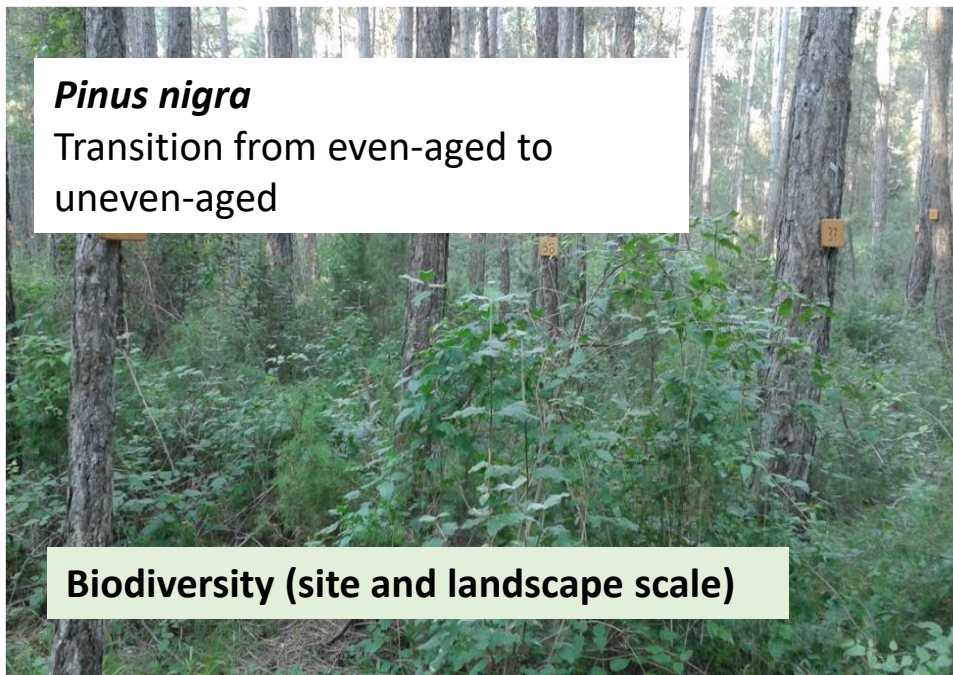
Resilient
landscapes –
Carbon, Water, Bio
Market of Climate
Credits

2017-2022

- Set objectives in a production-prevention-biodiversity gradient
- Revise existing silvicultural models under the “Close(r) to nature approach” and the adaptation idea. How far are we, how far should we go?
- Ecohydrological silviculture
- Post disturbance silviculture
- Introduce the landscape perspective

EU Forest Strategy 2030





Pinus nigra

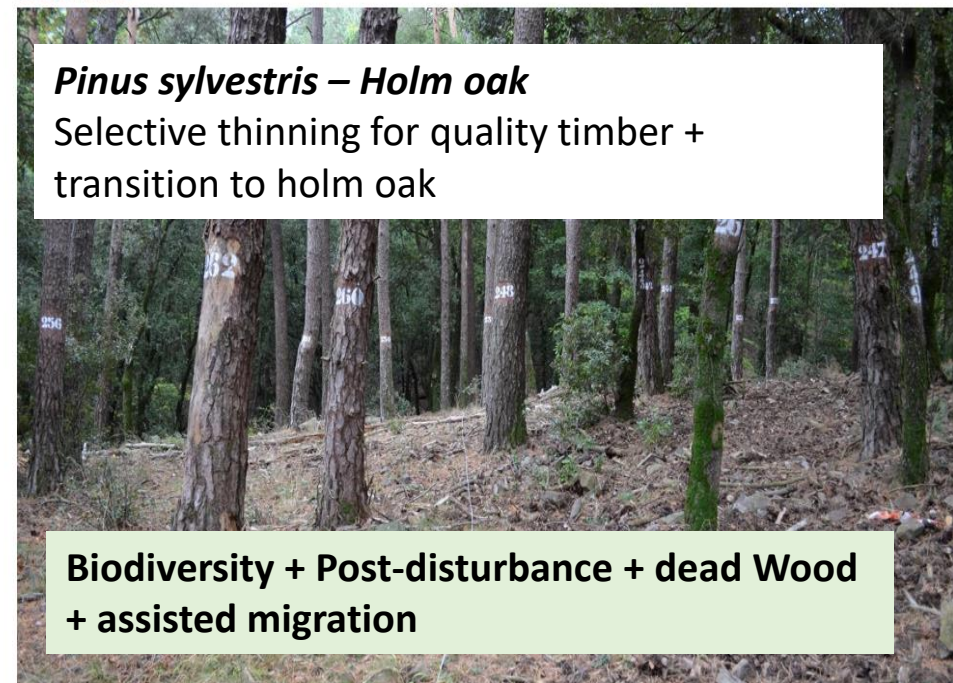
Transition from even-aged to uneven-aged

Biodiversity (site and landscape scale)

> 2022

Generate impact

- ✓ Forestry students
- ✓ Public officers
- ✓ Private forest contractors
- ✓ Managers of Natura2000
- ✓ Forest owners
- ✓ Researchers



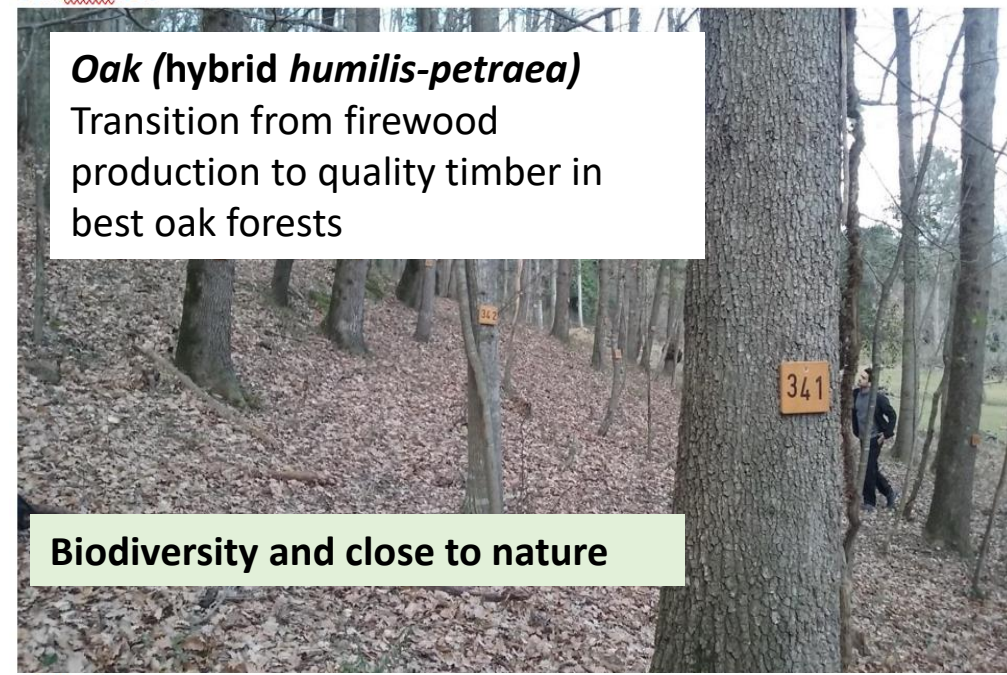
***Pinus sylvestris* – Holm oak**

Selective thinning for quality timber + transition to holm oak

Biodiversity + Post-disturbance + dead Wood + assisted migration

Social and environmental research

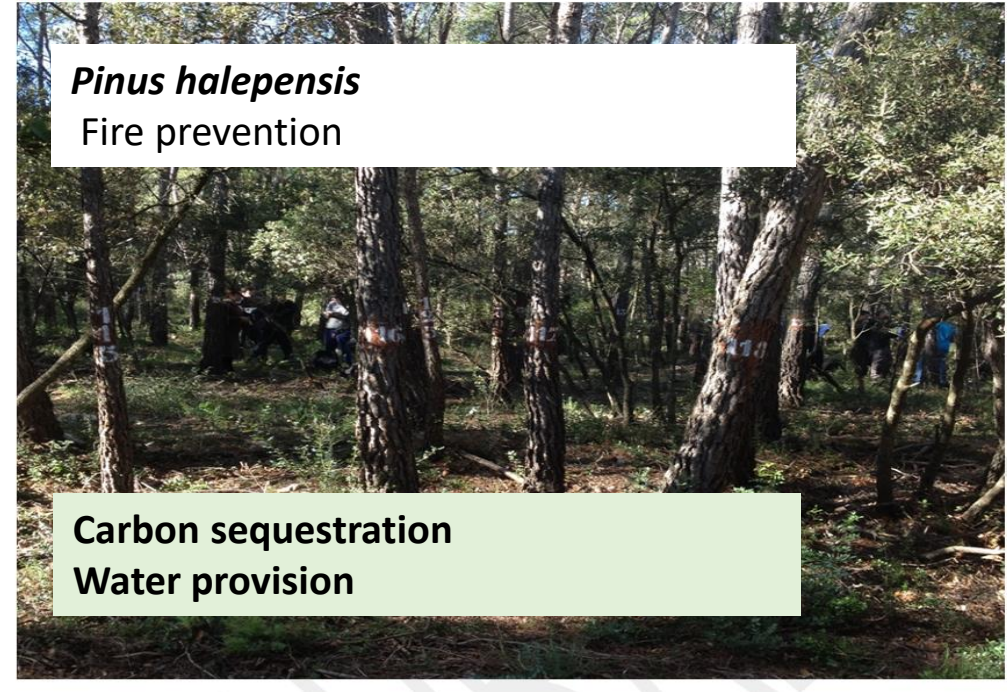
+ 15 new martelocopes in “school forests” in Natura 2000 sites (LIFE GOPROFOR-MED)



Oak (hybrid humilis-petraea)

Transition from firewood production to quality timber in best oak forests

Biodiversity and close to nature



Pinus halepensis

Fire prevention

**Carbon sequestration
Water provision**



Gràcies!

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