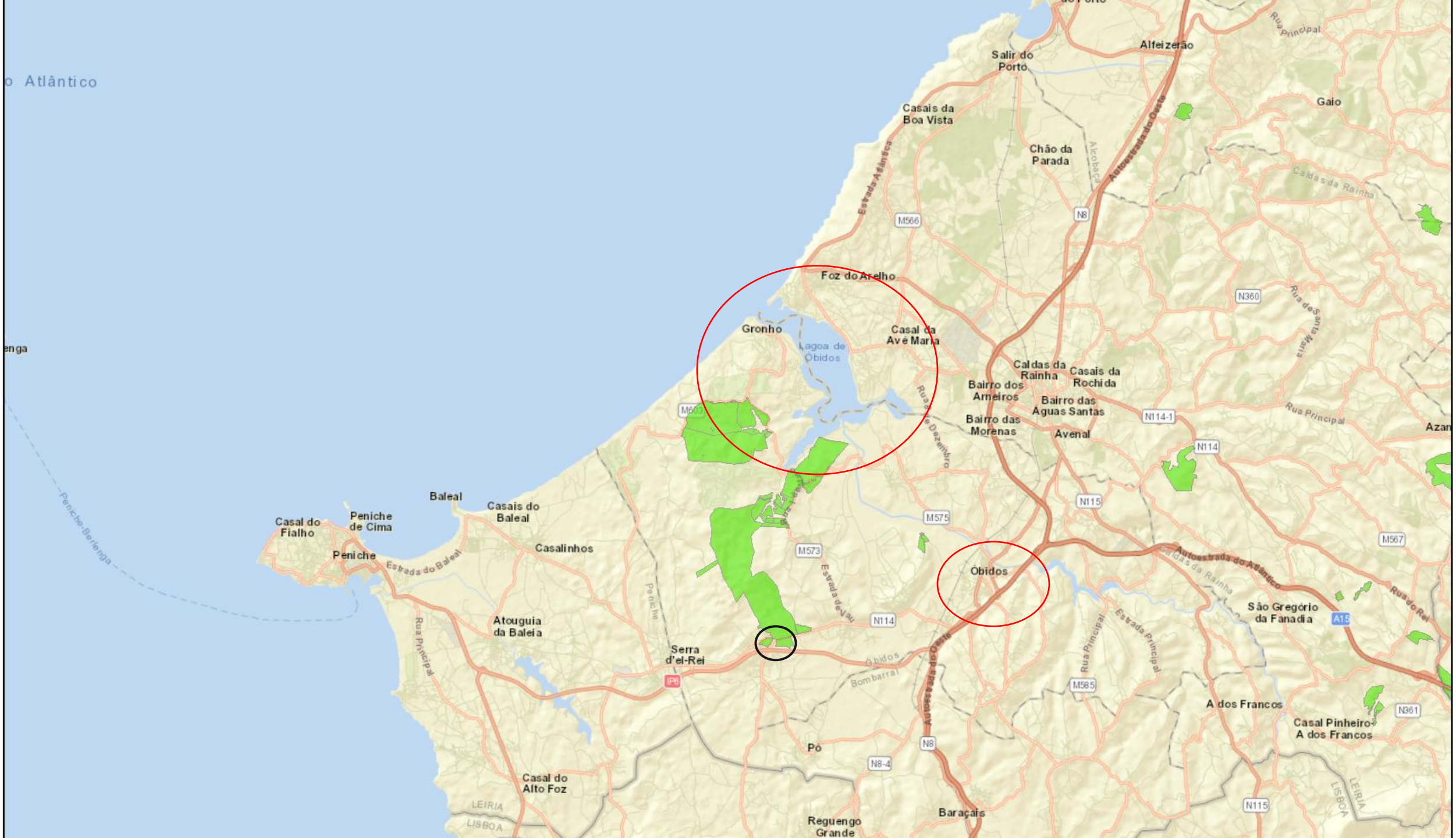
altriflorestal

B4EST Project

Field Visit to Qt. do Furadouro

22 June 2022



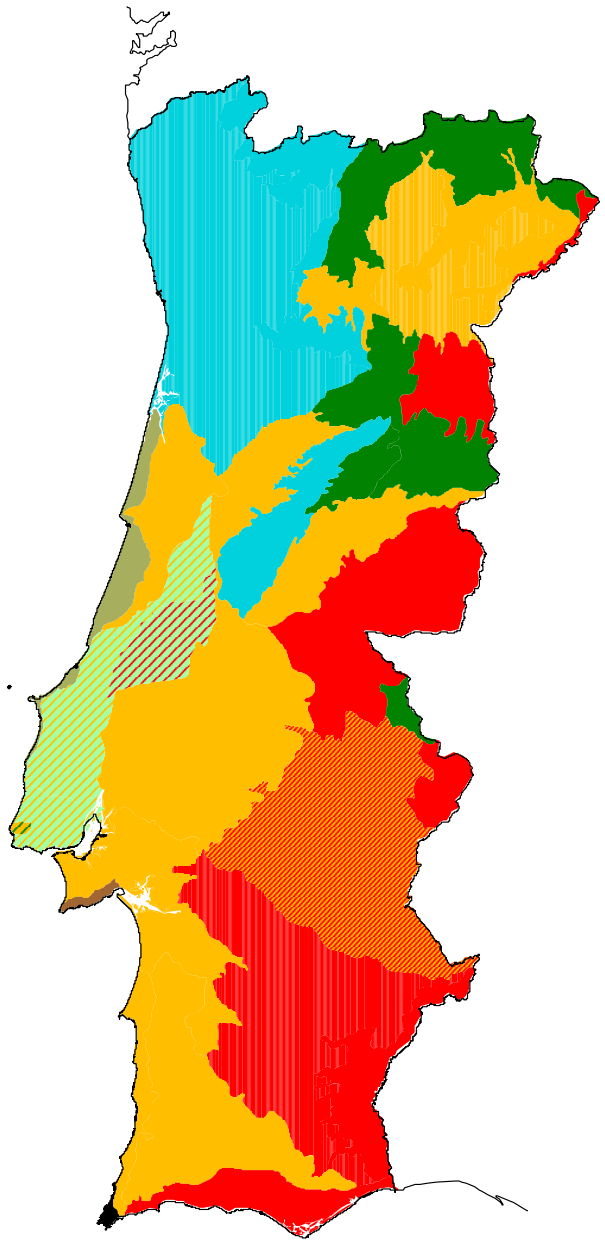
o Atlântico
enga
Salir do Porto
Alfeizerão
Rua Principal
Gaio
Casais da Boa Vista
Chão da Parada
Alcobaça
Autoestrada do Oeste
Caldas da Rainha
Estrada Atlântica
M566
N8
Foz do Arelho
N360
Rua de Santa Maria
Gronho
Lagoa de Óbidos
Casal da Avé Maria
Caldas da Rainha
Casais da Rochida
Bairro dos Arneiros
Bairro das Aguas Santas
Bairro das Morenas
Avenal
N114-1
Rua Principal
Azan
N114
M603
Rua de Dezembro
N115
M575
M567
Baleal
Casais do Baleal
Casal do Fialho
Peniche de Cima
Peniche
Estrada do Baleal
Casalinhos
Peniche-Berlenga
M573
Estrada de Vau
Óbidos
Autoestrada do Atlântico
Caldas da Rainha
São Gregório da Fanadia
A15
Rua do Rei
Atouguia da Baleia
Rua Principal
Peniche
Serra d'el-Rei
IP6
N114
Óbidos
Bombarral
Autoestrada do Oeste
Rua Principal
Estrada Principal
M585
A dos Francos
N361
Casal Pinheiro-A dos Francos
Pó
N8
N8-4
Casal do Alto Foz
LEIRIA
LISBOA
Reguengo Grande
Baraçais
N115
LEIRIA
LISBOA

0. Agenda

1. General presentation
   - Forests in Portugal
   - Altri Forests and Organization
   - Breeding, deployment and nursery
   - Biodiversity in Altri
   - Short movie about Altri Florestal
2. Field Visit
   - Seed Orchard
   - Furadouro Biodiversity path
   - Viveiros do Furadouro
3. Snacks before travelling

altriflorestal

Forest types (potential natural vegetation)



Dominant tree species, for mainland Portugal

costa *et. al.*, 1998/2001

pedunculate oak (*quercus robur*)
pyrenean oak (*quercus pyrenaica)*
cork oak (*quercus suber*)
holm oak (*quercus ilex*)
maritime pine (*pinus pinaster*) **& wax myrtle** (*myrica faya*)
portuguese & holm oaks
portuguese (*quercus faginea*) **& cork oaks**
cork & holm oaks
cork, pyrenean & pedunculate oaks
kermes oak (*quercus coccifera*)
phoenician juniper (*juniperus turbinata*)

altriflorestal

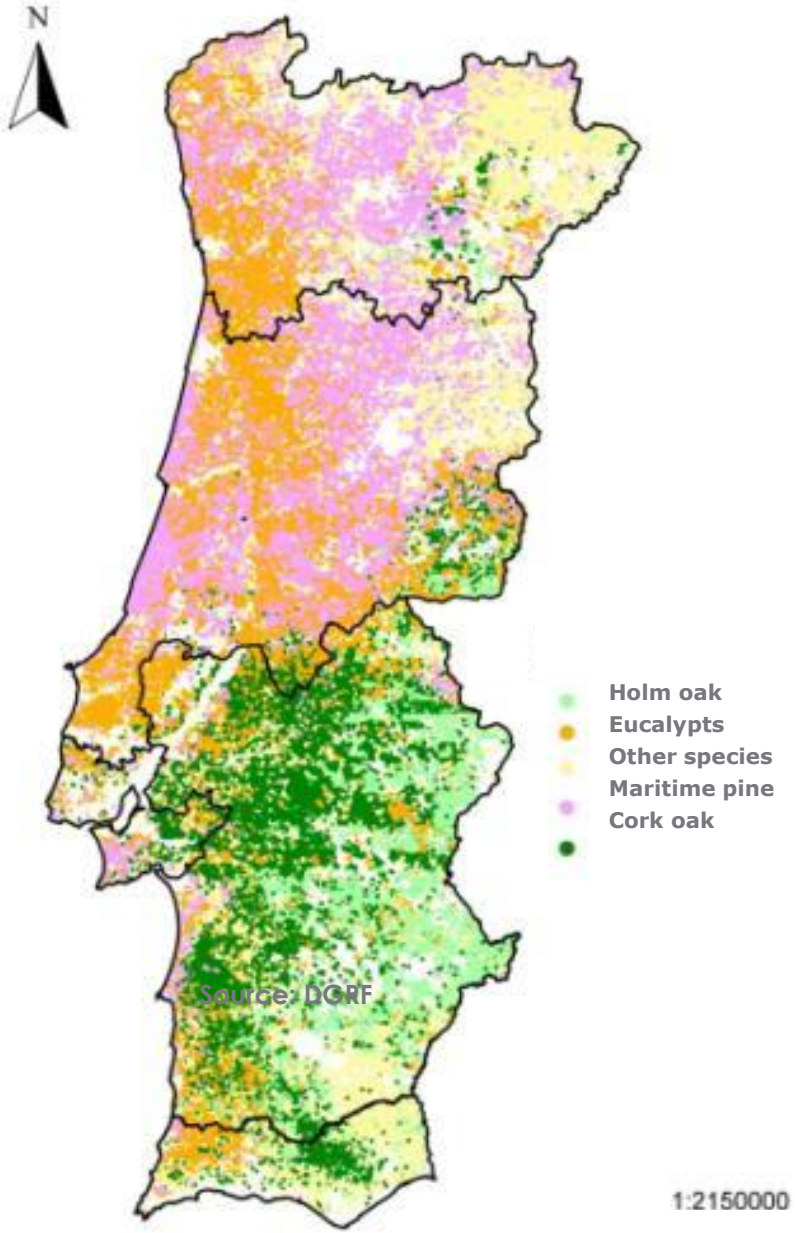
2. Portuguese forests, 2015

Total Forest Area

- 3,2 million ha
- 36% of inland Portugal

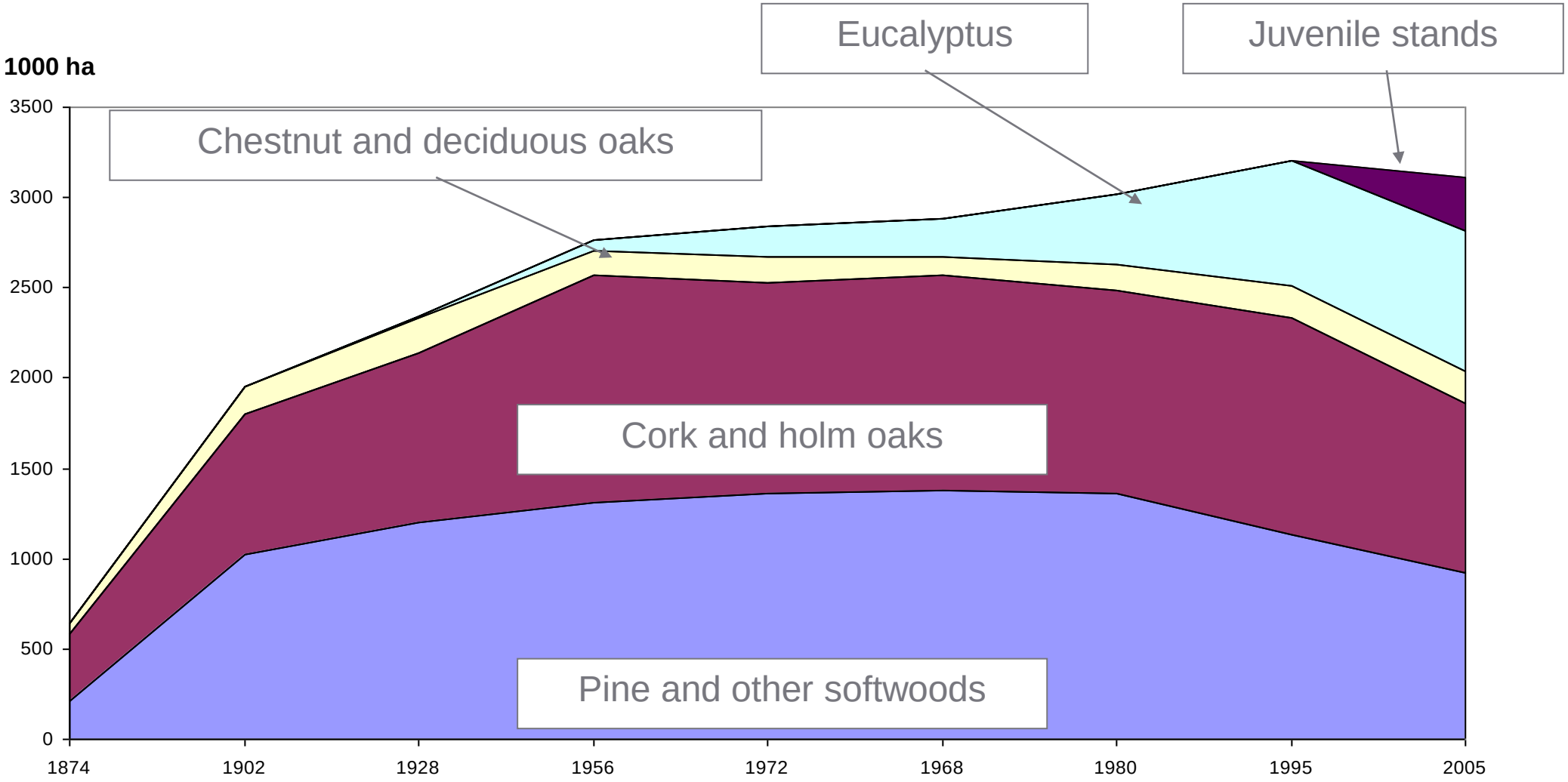
Main Species

- Cork oak, 23%
- Maritime pine, 22%
- Eucalyptus, 26%
- Holm oak, 11%
- Other pines 6%
- Other Oaks 3%
- Chestnut 1%



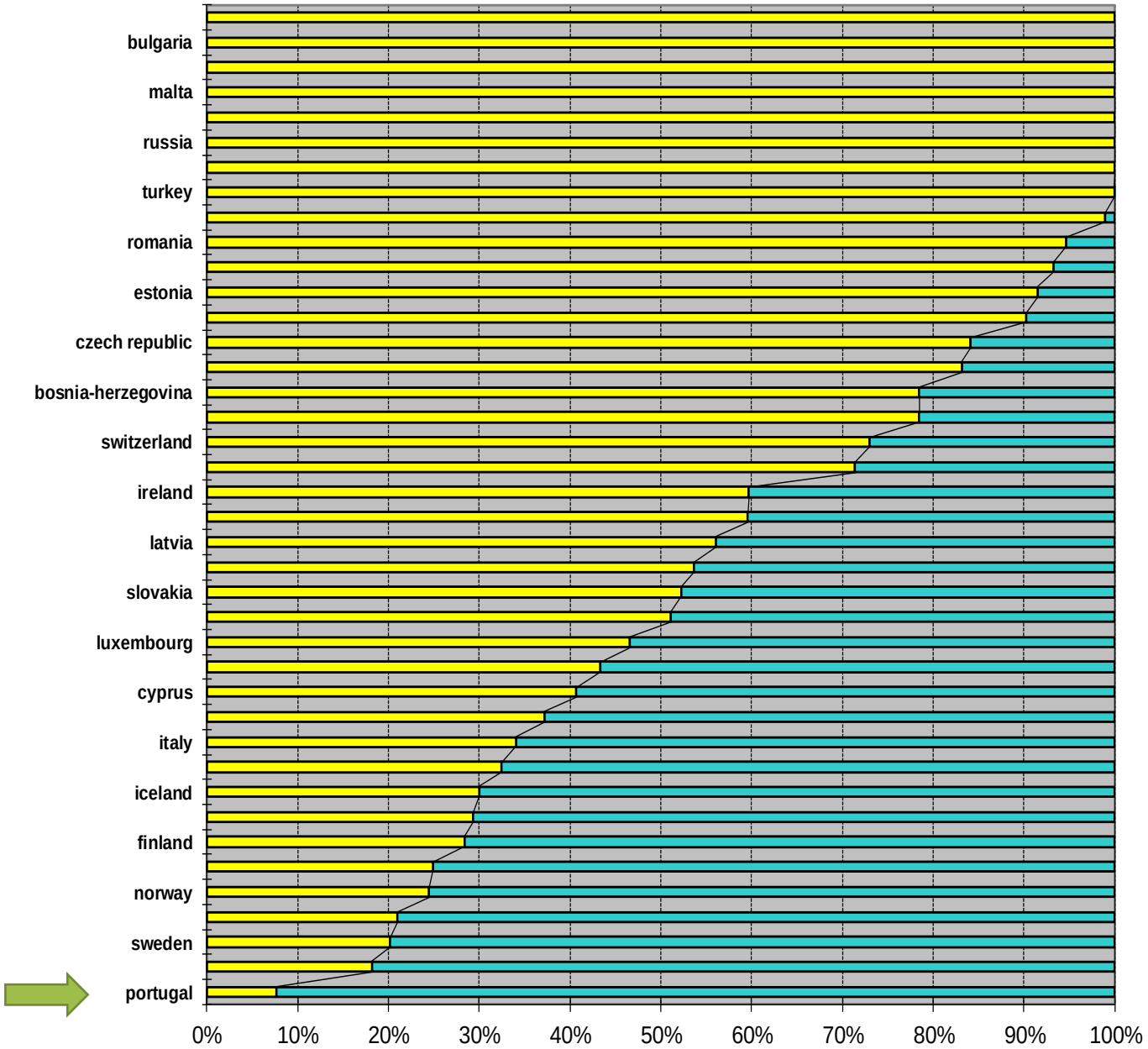
Source: IFN6, ICNF

3. Forest area by species 1874-2005



Source: DGRF, 2005

4. Private and public ownership in Europe



ownership structure of forest and other woodland

public ownership

private ownership

source: unece/fao, 2000

Afforestation of mobile sand dunes systems

Late 19th century, early 20th

Afforestation of mobile sand dunes systems

Late 19th century, early 20th

Afforestation of mobile sand dunes systems

Late 19th century, early 20th

1938 Afforestation plan

5. Eucalyptus in Portugal

- Introduced by a ‘plant lover’ around 1850’s
- Wood characteristics were appreciated
- First plantations with industrial purposes made in1926, Caima Pulp Company (5.000 t/ano)

Eucalyptus trials

1910, Mata Nacional do Urso

ICNF archives

N.º 2938

MINISTÉRIO DA ECONOMIA

Direcção-Geral dos Serviços Florestais e Aquícolas

ARQUIVO FOTOGRÁFICO

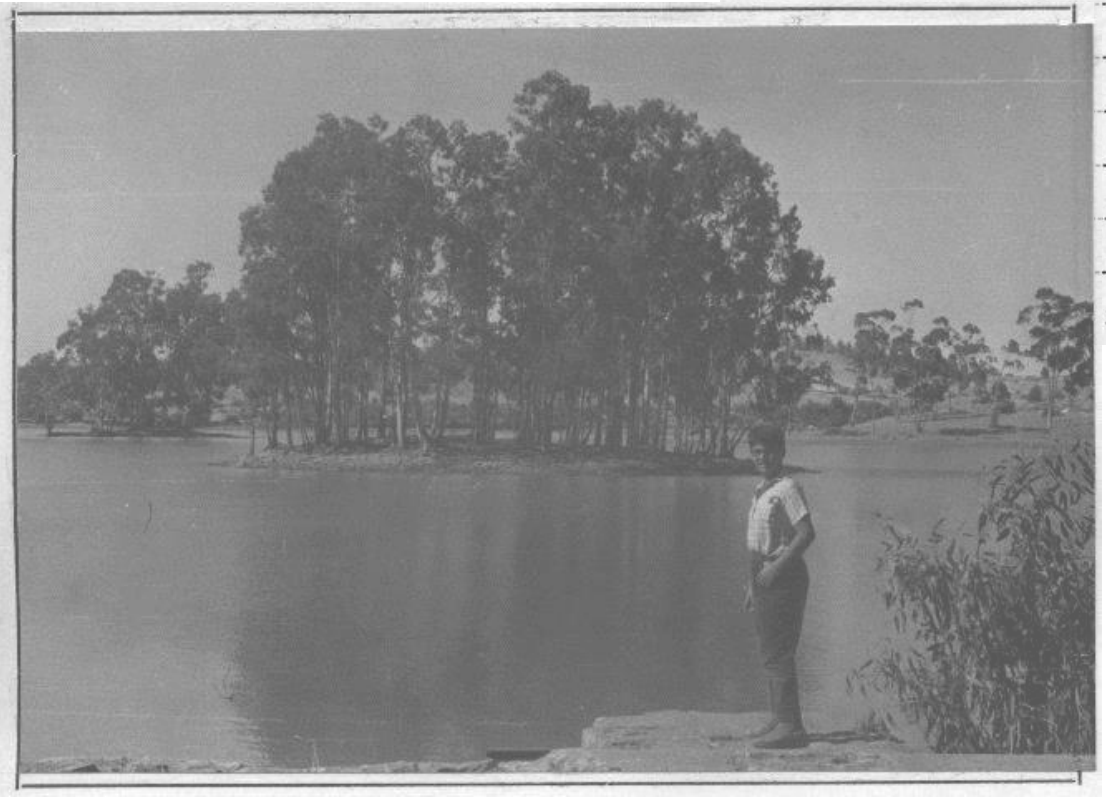
LOCAL .....

DATA 1963

ASSUNTO Povoamento de eucaliptos com 20 anos, em Albergaria-a-Nova (Caima Pulp)

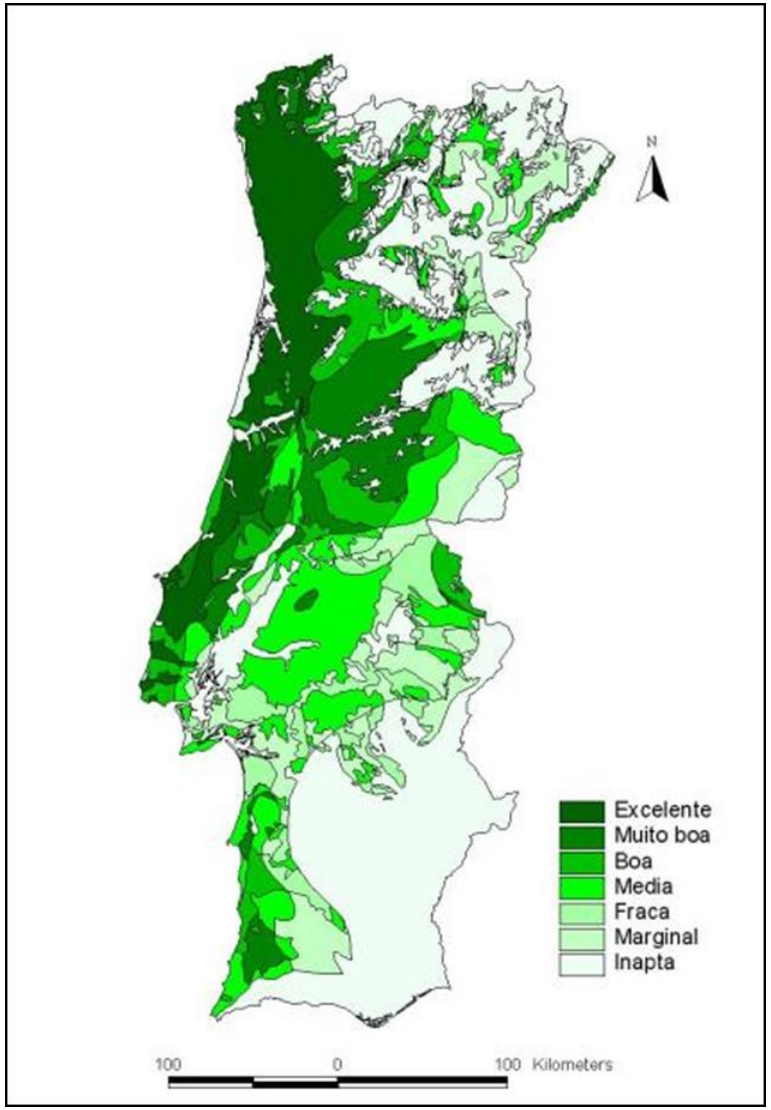
FLORESTAIS – EXTENSÃO

N.º 287-A



6. National Eucalypt Forest in Portugal

- 845.000 hectares, 43 million cubic meters ob, Pure+Dom (IFN6, 2015)
- Two major owners
  - Pulp and paper industries (~27%)
  - Individual private forest owners (~73%)
- Management method
  - Short rotation coppice (10 to 12 years)
  - Reforestation with genetically improved planting stock after 2 or 3 harvests
- Wood characteristics
  - Average specific weight wood, absolute dry, 550 kg/m^3



altriflorestal

7. Altri Business areas

Industrial group listed on the Lisbon Stock Exchange:

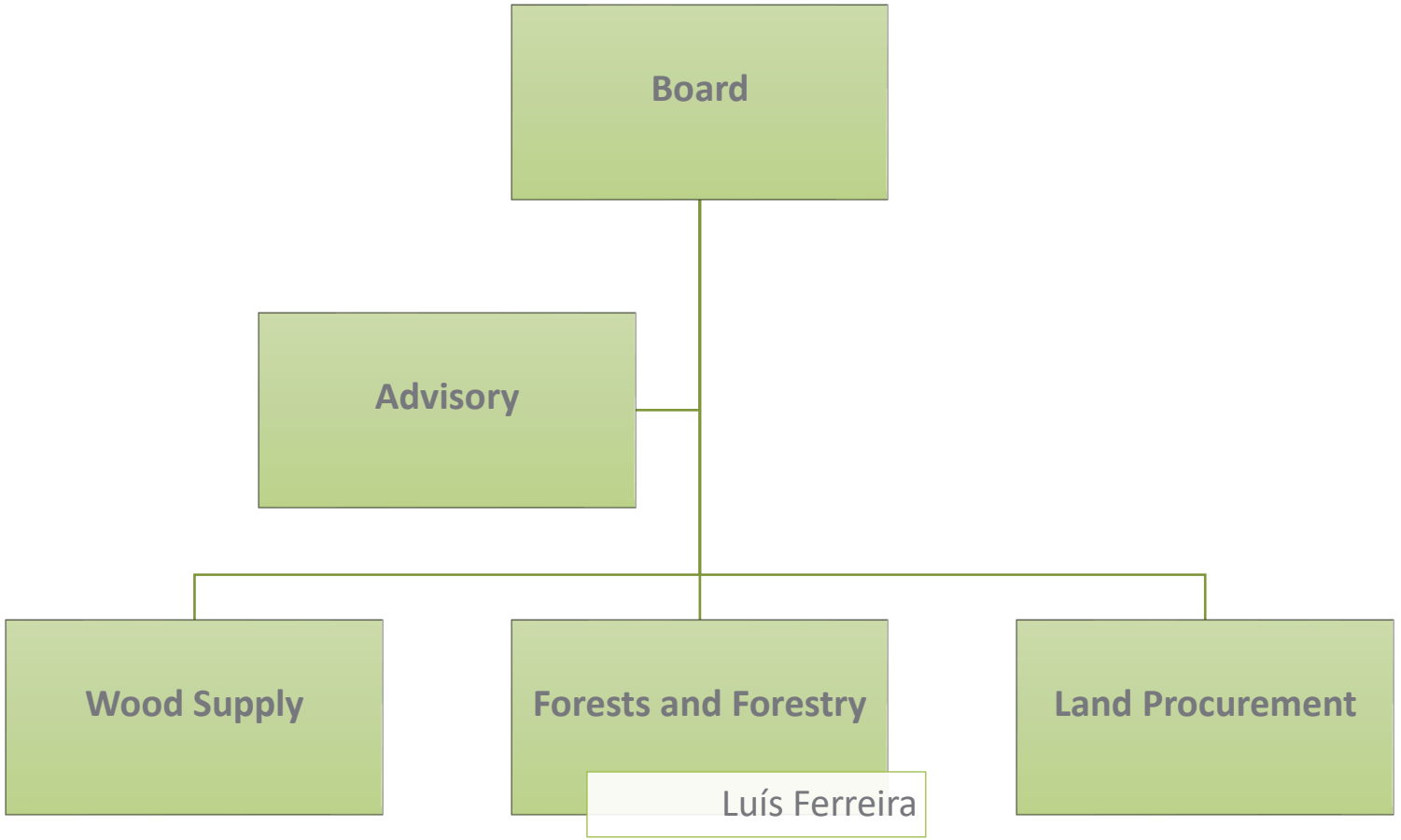
- 3 bleached eucalyptus pulp mills: Celbi, Caima and Celtejo.
- GreenVolt: 5 power plants running exclusively on residual forest biomass

9. Mission

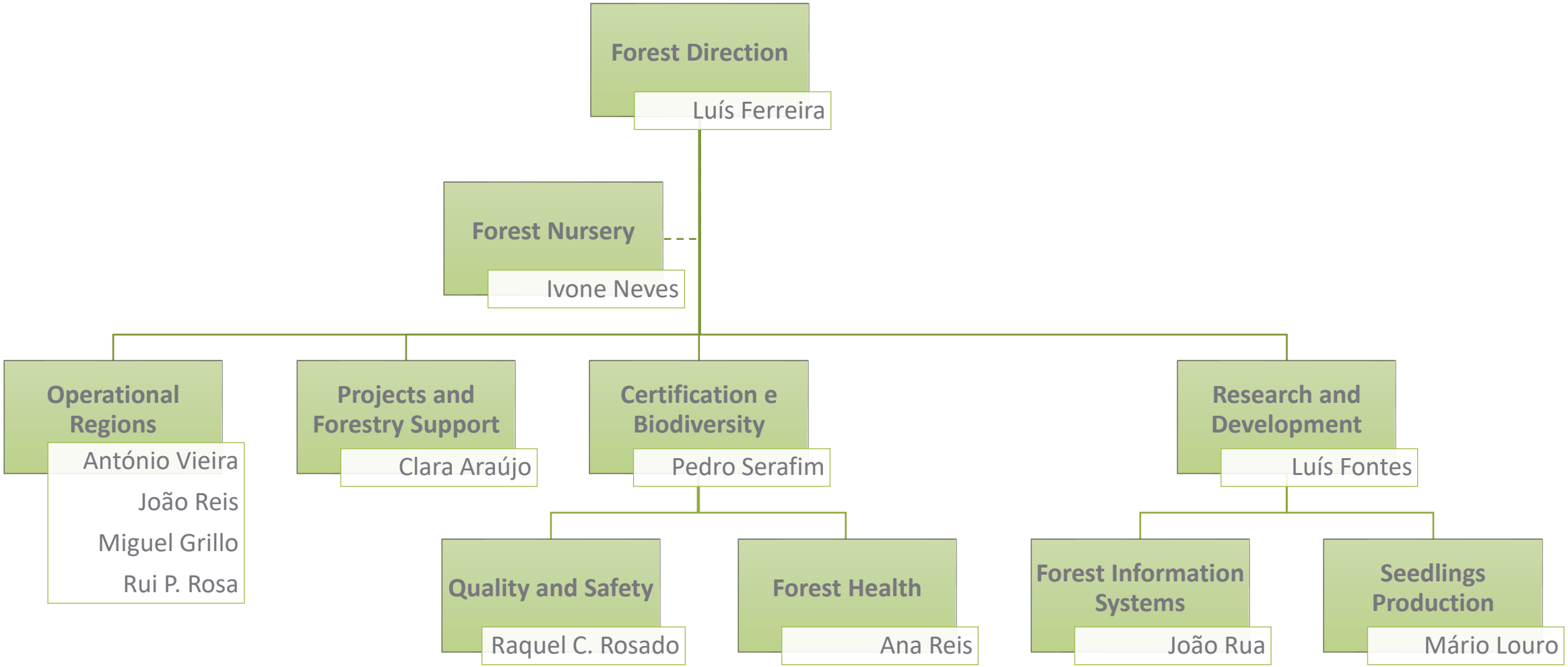
To ensure the continuous supply of quality wood and biomass to all ALTRI mills and energy plants at competitive prices

altriflorestal

8. Altri Florestal – general structure



1.1 Forests and Forestry unit: organization chart



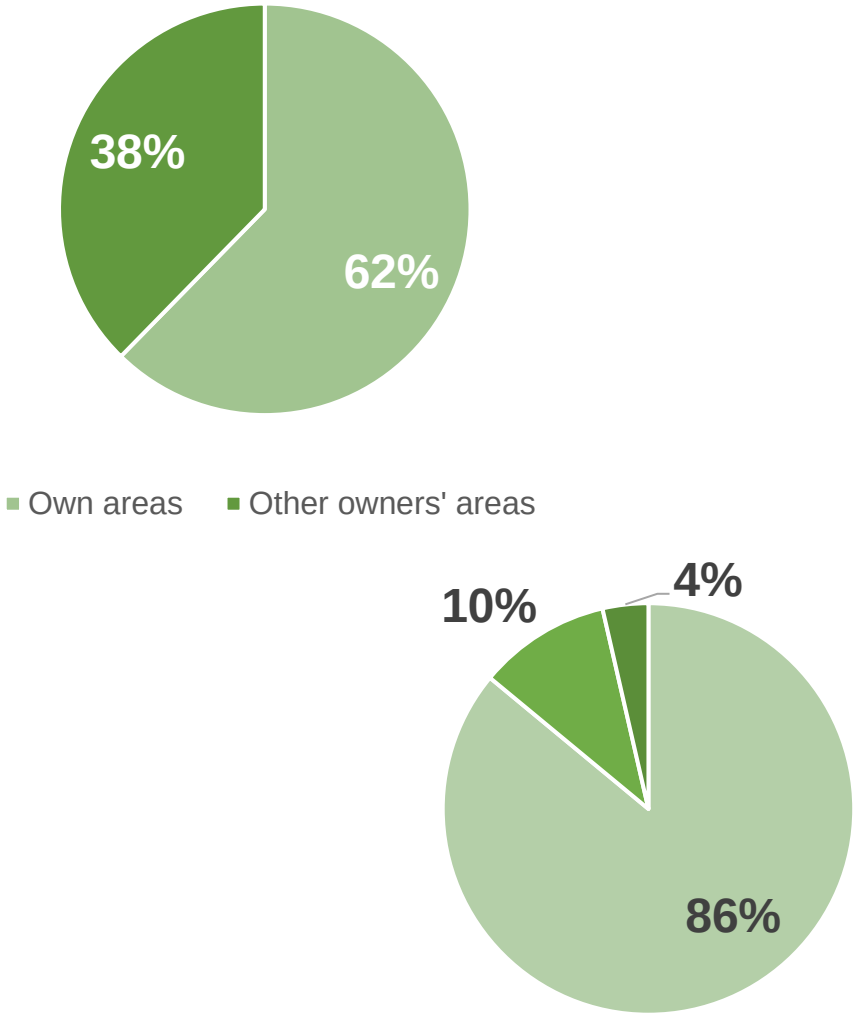
1.1 Misson statement

- To implement a multidisciplinary management of the company's forest and natural areas, focusing on **production sustainability**, **continuous improvement of operational efficiency**, **innovation and technical-scientific development** and the **sound functioning of all associated processes and systems**.

2.1 Forests and Forestry unit: main numbers and indicators

“Big” numbers:

Number of properties	**1 076**
Total management area (ha)	**86 255**
Forest production area (ha)	**74 181**
Conservation area (ha)	**8 976**
Eucalyptus area (ha)	**69 578**
MAI 12 years (m3 u.b./ha/year)	**9,3**



* Mean annual increment of commercial volume projected to 12 years old

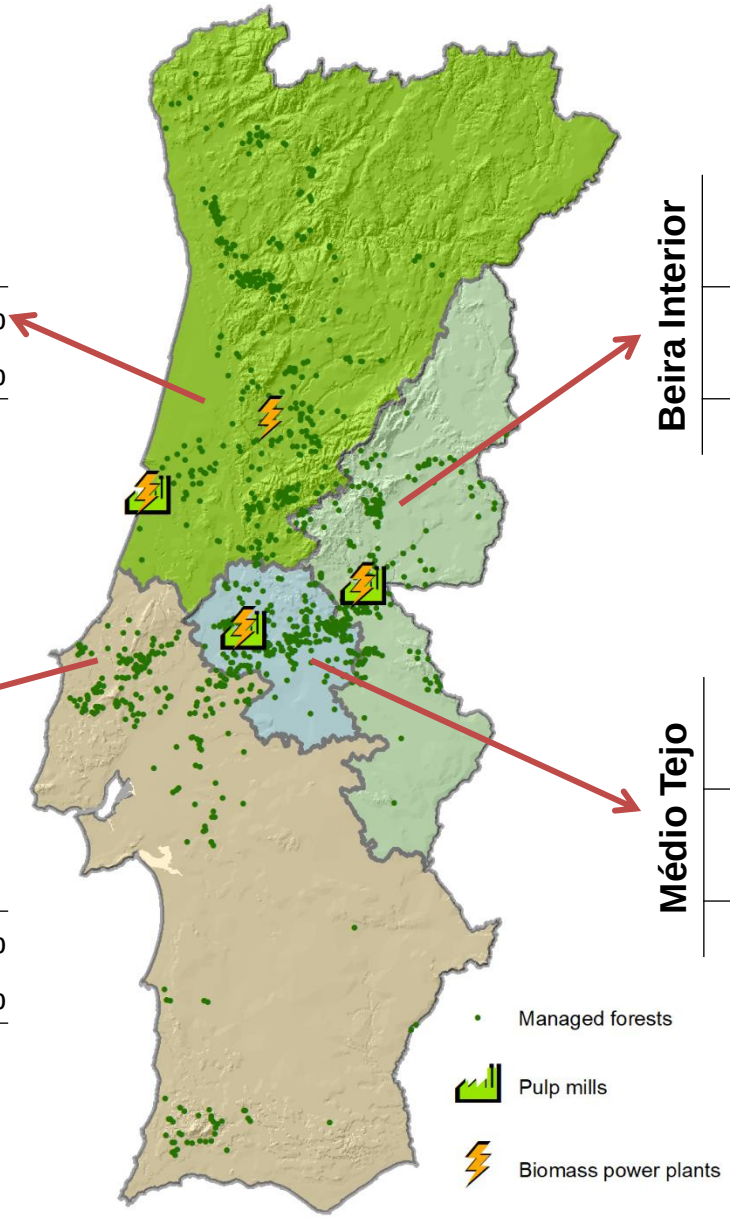
2.2 Forests and Forestry unit: main numbers and indicators

Norte

Management type	Properties number	Total area (ha)	Area ratio (%)
Own areas	170	8 053	60%
Rented areas	242	5 436	40%
Total areas	**412**	**13 489**	

Beira Interior

Management type	Properties number	Total area (ha)	Area ratio (%)
Own areas	130	18 362	66%
Rented areas	89	9 426	34%
Total areas	**219**	**27 788**	



Oeste

Management type	Properties number	Total area (ha)	Area ratio (%)
Own areas	49	10 508	47%
Rented areas	171	11 646	53%
Total areas	**220**	**22 154**	

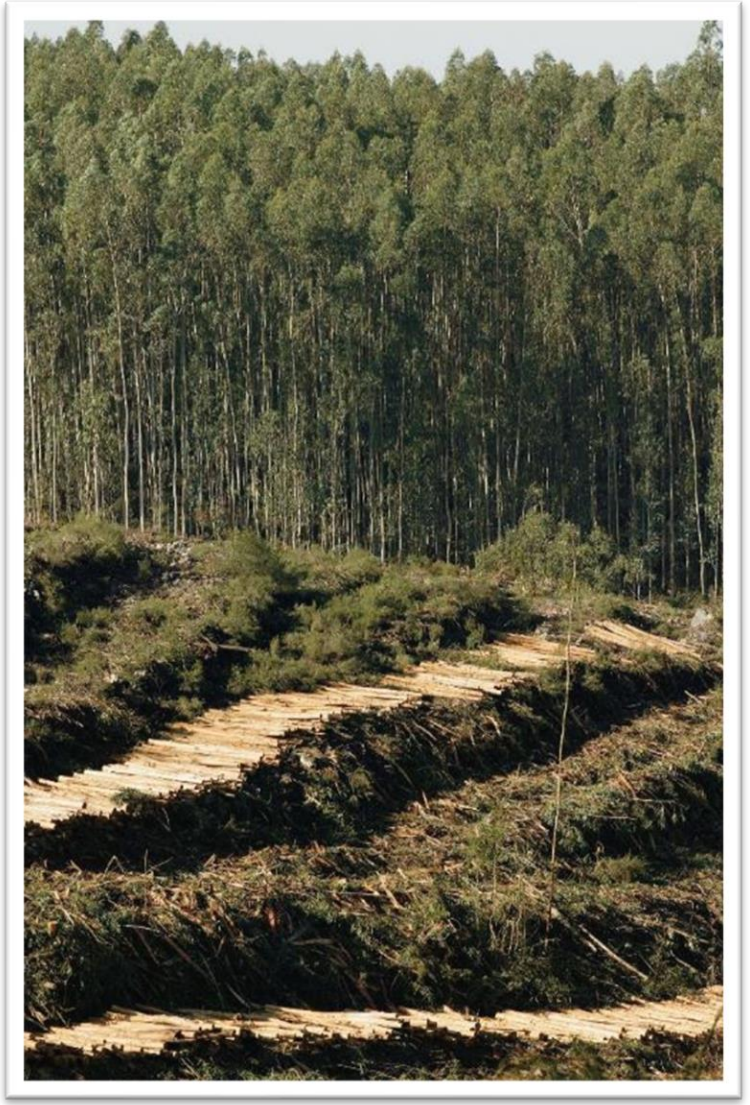
Médio Tejo

Management type	Properties number	Total area (ha)	Area ratio (%)
Own areas	115	16 837	74%
Rented areas	110	5 986	26%
Total areas	**225**	**22 824**	

2.3 Forests and Forestry unit: main numbers and indicators

Land use	Area (ha)	Ratio (%)
Eucalyptus plantations	**69 578**	**80,7%**
Natural shrubs and herbaceous	**5 672**	**6,6%**
Cork oak and holm oak	**4 088**	**4,7%**
Firebreaks and infrastructures	**2 808**	**3,3%**
Pine and other coniferous	**1 973**	**2,3%**
Riparian forests	**843**	**1,0%**
Others oaks and other hardwood	**704**	**0,8%**
Others occupations	**589**	**0,7%**
	86 255	

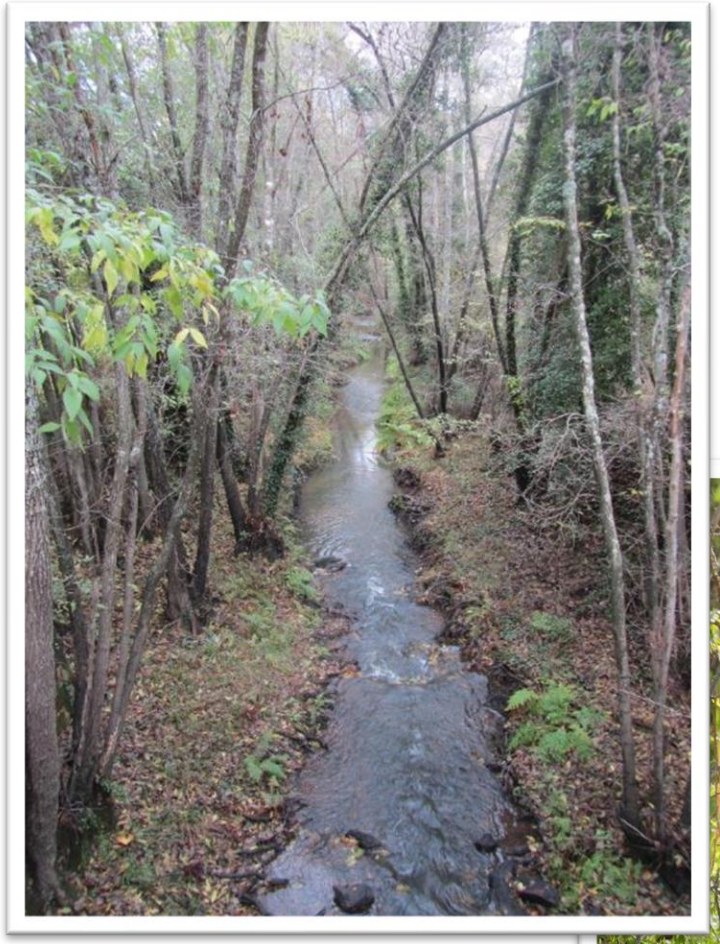
Altri Florestal manages 69 500 hectares of eucalyptus plantations, where 96% is Eucalyptus globulus

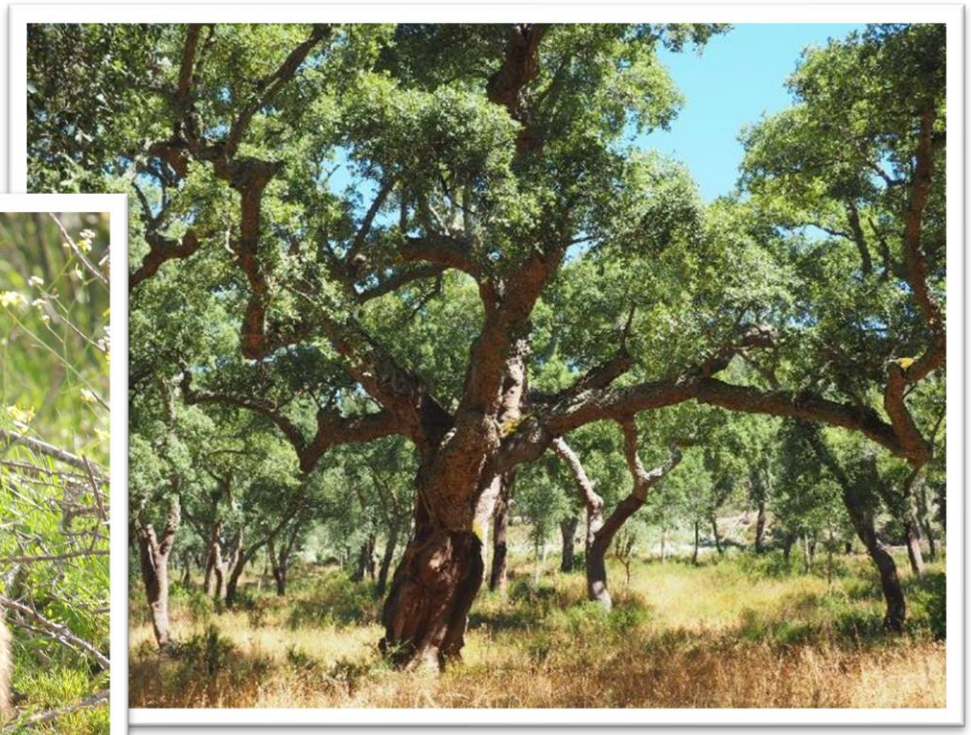


altriflorestal

2.4 Forests and Forestry unit: main numbers and indicators

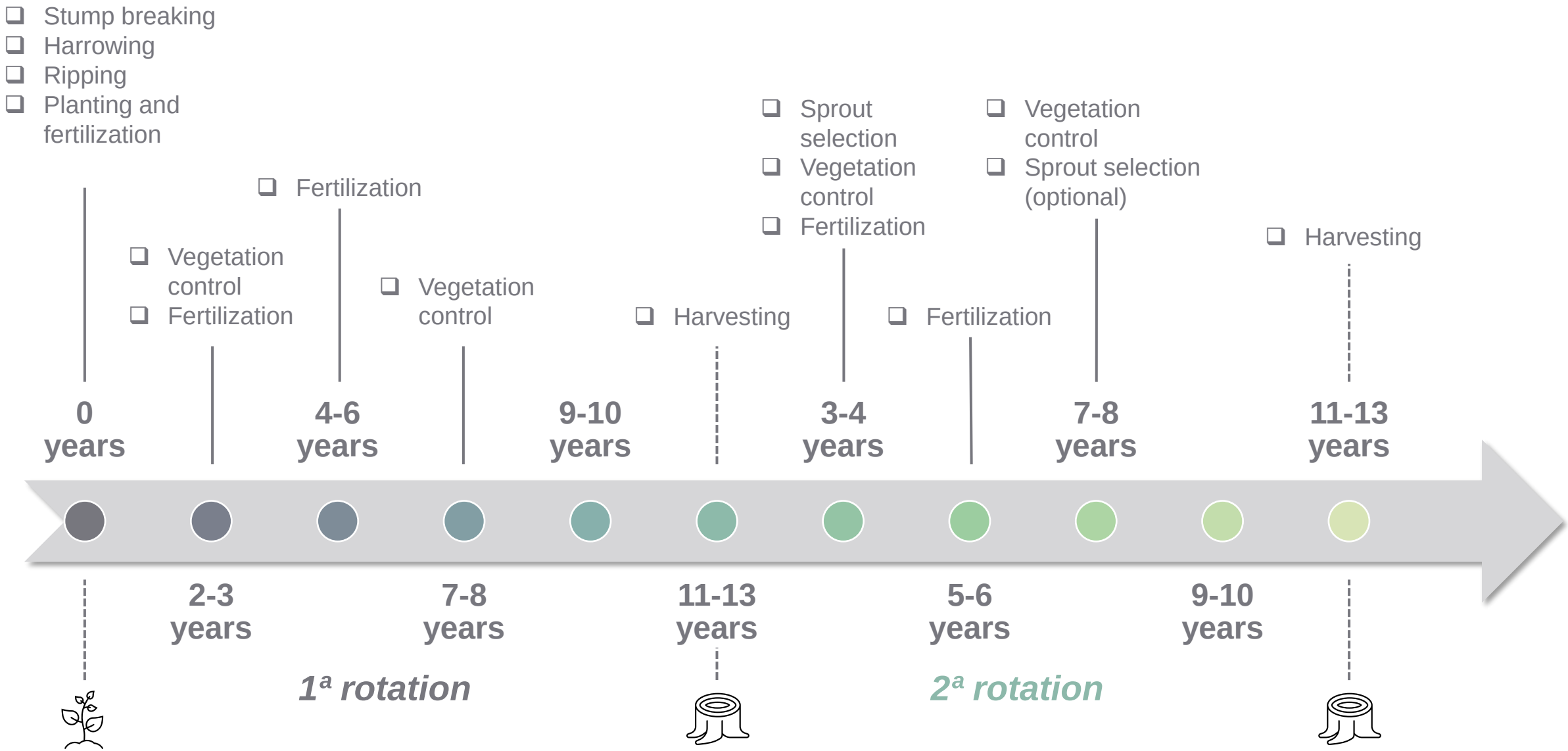
The company manages 4 000 hectares of habitats, classified according the Natura 2000 (European Union's Habitats Directive).





altriflorestal

3.1 Time bar for eucalyptus management model



Thank You

altriflorestal@altri.pt

www.altri.pt