

Spanish Statistical Forest Information System and

Spanish National Forest Inventory: state of the project, perspectives and future developments

Statistical Forest Information System

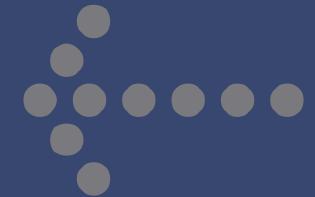
- 1.- Background
- 2.- Legal support
- 3.- Organization
- 4.- Statistical analysis
- 5.- Diffusion



Spanish National Forest Inventory

- 1.- State of the project
- 2.- Actual NFI improvements
- 3.- Perspectives

National Inventory of



Natural Heritage and Biodiversity

Ley 42 / 2007 de Patrimonio Natural y la Biodiversidad

PRIORITY COMPONENTS

- Forest Fires Statistics
- National Protected Areas Survey, Natura 2000, and Protected areas by International Processes
- National Sea Species Survey
- National Terrestrial Species Survey
- National Sea Habitat Survey
- National Terrestrial Habitat Survey
- National Forest Wealth Survey. Public Interest Forest Catalogue
- National Soil Erosion Survey
- National Forest Inventory
- Other Components of Spanish Forest Statistics



FOREST INFORMATION REQUIREMENTS

Main International Requirements

- PAN-European Indicators for Sustainable Forest Management: **MCPFE**
- **Forest Resource Assessment 2010, FAO**
- Integrated Economic And Environmental Accounts, **EUROSTAT**
- JQ (Joint Questionnaire): **EUROSTAT – UNECE – FAO**
- TC (Timber Committee): **UNECE**
- Reporting for the **Kyoto Protocol**

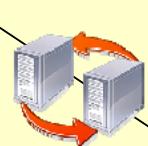
Other National Requirements

National Statistics Plan (PEN)

Sources

17 Autonomous Communities

Forest harvesting
Game and Fishery
Reforestation
Forest genetic resources
Forest planning and management



National Forest Inventory National Forest Map

10 – 12 years



Spanish Forest-based Industries Register 2009 (Law 43/2003)

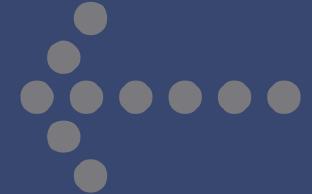
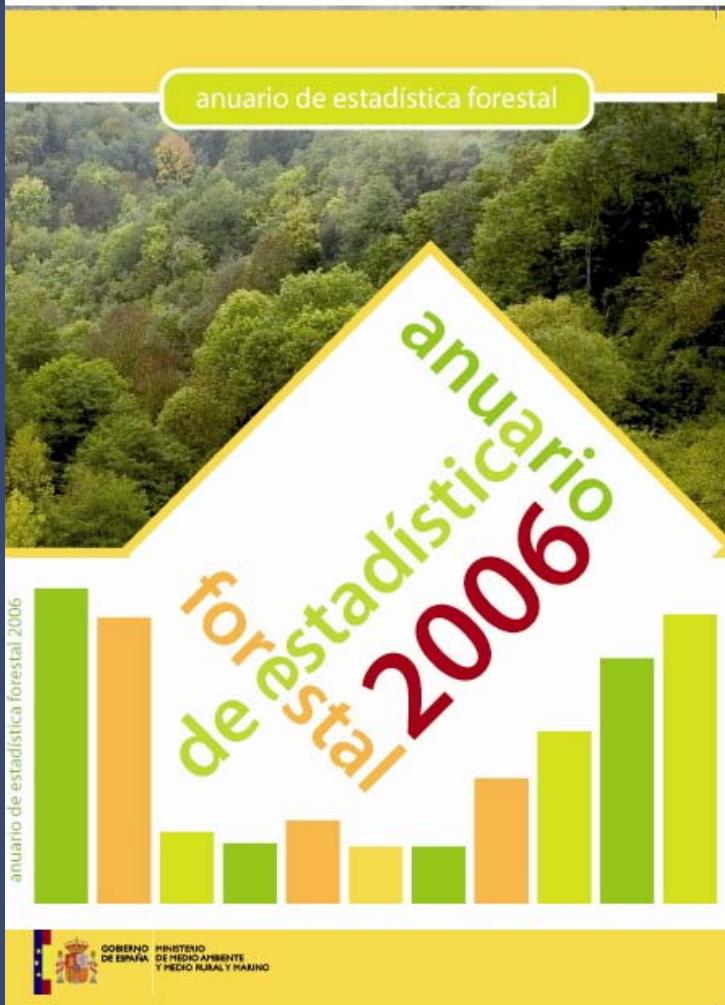
Renewable Energy Plan 2005-2010



National Statistics Institute

- Companies Central Directory (DIRCE)
- Industrial Products Survey
- Energy Consumption Survey
- Population and Housing Census 2001
- Agricultural Census 1999, 2009
- Survey on the generation of waste
- Labour Force Survey (EPA)

SPANISH ANNUAL STATISTIC INFORMATION



Actual status

http://www.mma.es/portal/secciones/biodiversidad/montes_politica_forestal/estadisticas_forestal/index.htm

NATIONAL FOREST INVENTORY



IFN1 1964-1977



IFN4 2008-2018



IFN3 1997-2007



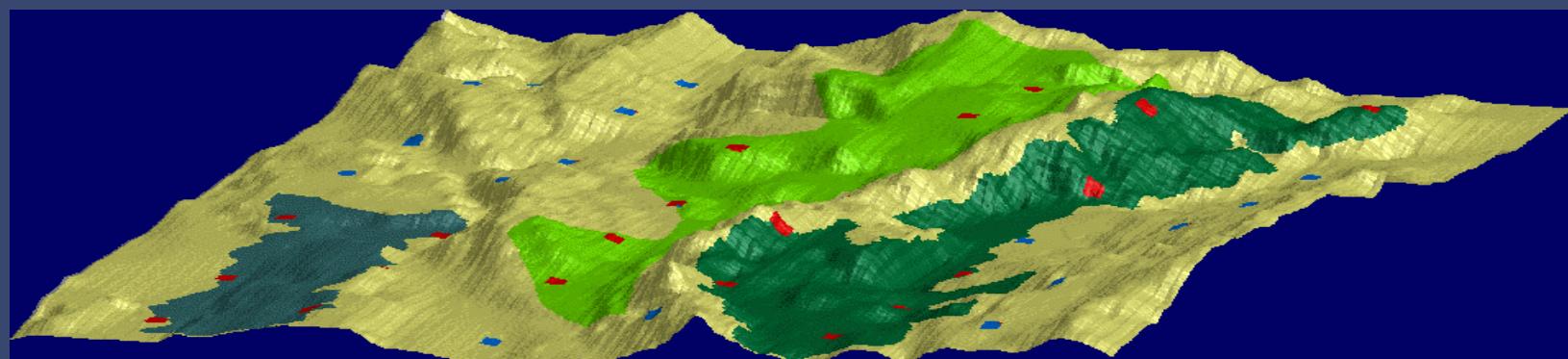
IFN2 1986-1996

SPANISH NFI SUMMARY

Cycle:
Monitoring design unit:

10 years
Province

| Inventory | Years | Stratification | Sampling method and field plots | Number of plots |
|-----------|-----------|------------------------|---|-----------------|
| NFI 1 | 1965–1974 | Grid over photographs | Optimal allocation of plots; temporary plots | 65,000 |
| NFI 2 | 1986–1995 | Grid over digital maps | Systematic 1-km x 1-km grid; permanent plots | 84,203 |
| NFI 3 | 1997–2007 | Grid over digital maps | Same systematic grid as NFI2; permanent plots | 95,327 |
| NFI 4 | 2008–2018 | Grid over digital maps | Same systematic grid as NFI3; permanent plots | 98,000 |



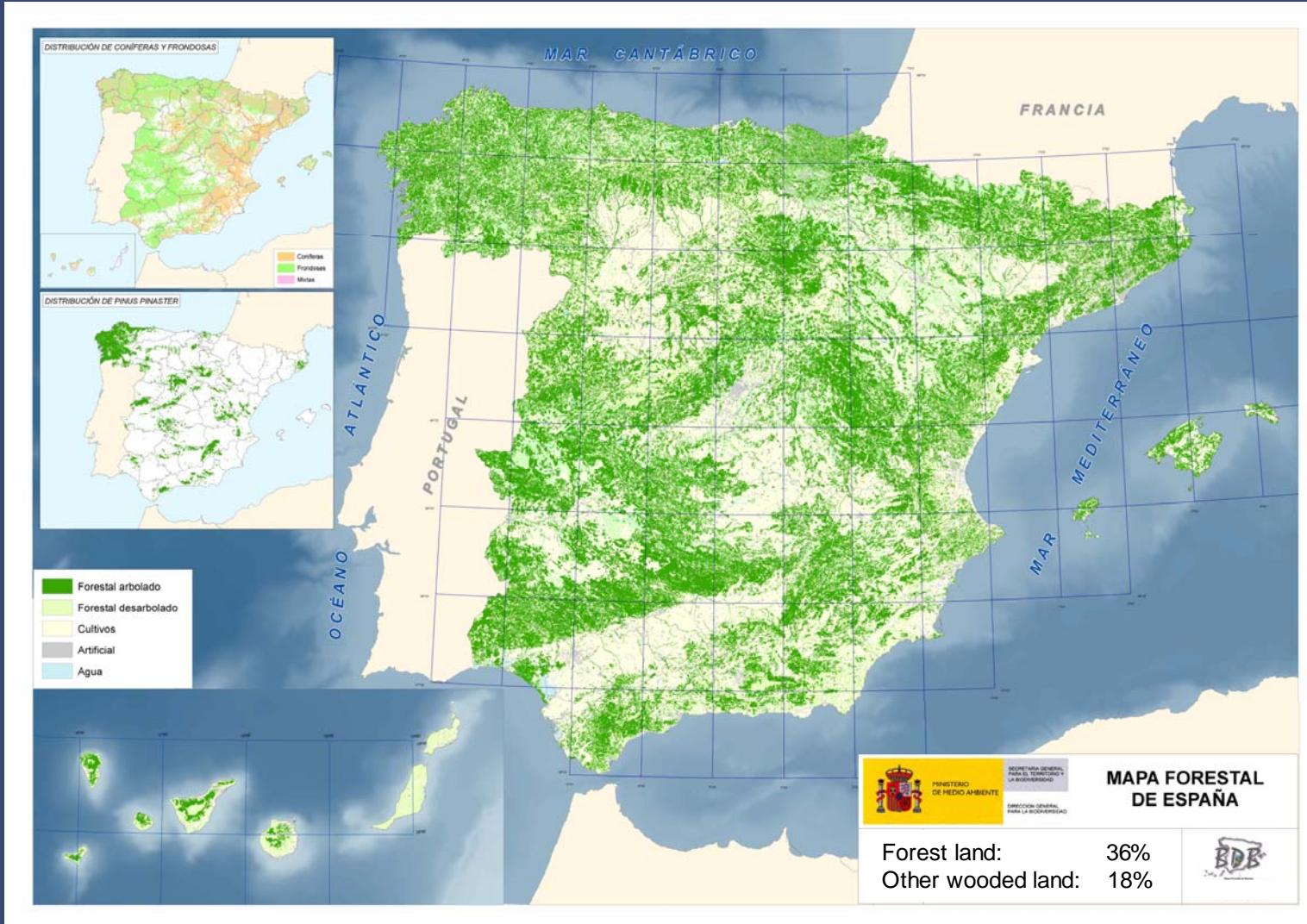
FOREST TYPES DIVERSITY



FOREST TYPES DIVERSITY

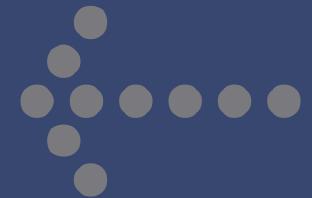


FOREST DISTRIBUTION IN SPAIN



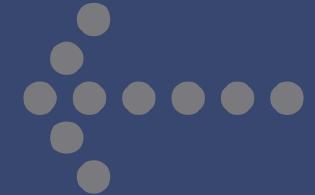
NATIONAL FOREST INVENTORY – BROAD AIMS

- Forest areas
- Composition
- Condition (carbon)
- Changes



WHAT IS NEW?

- Minimize to a half the cycle
in the atlantics provinces (North of Spain)
- Strata definition
- New definitions based on COST E43
harmonization process (age)
- Biodiversity survey



BIODIVERSITY SURVEY



Forest structure

Vegetation species



Invasive exotic species survey

BIODIVERSITY SURVEY

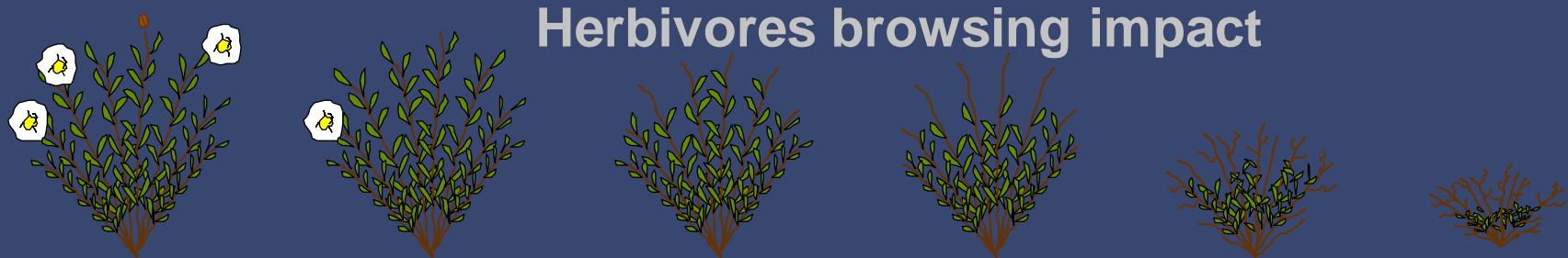
Dead wood



Dendrology

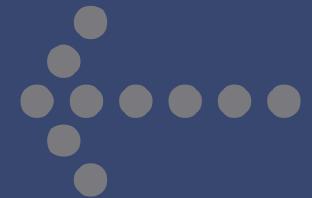


Herbivores browsing impact



NEXT EFFORTS?

- European Forest types
 - Bridges needed – MFE
 - Related with national stratum
- Soil survey
- Other wooded land
- European harmonization process



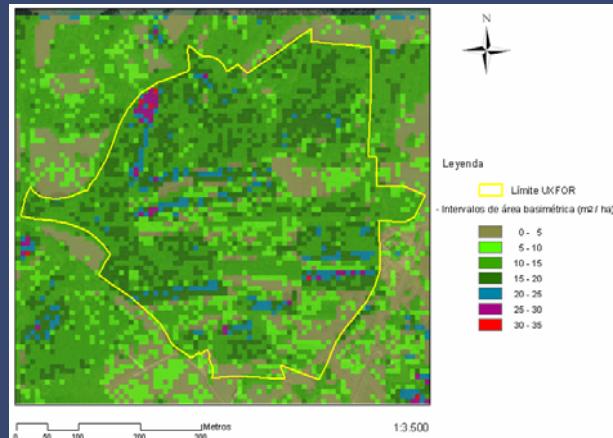
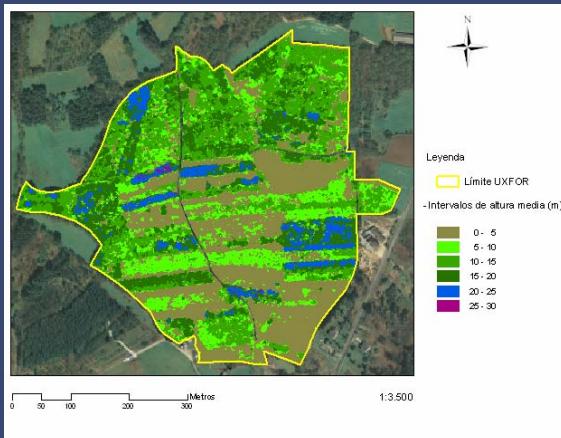
MAIN SPANISH NFI HARMONIZATION NEEDS (COST E43)

- Forest types (National-Provinces)
- Land cover (minimum area, boundary line)
- Growing stock (stem top diameter; minimum breast height diameter)
- Forest structure (social classes)
- Ground vegetation (GV layers ; Shrub species lists)
- Dead wood

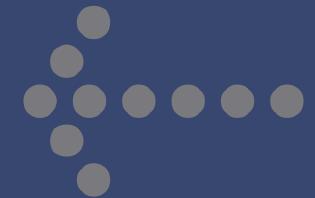


NFI FUTURE CHALLENGES

- New technologies: LIDAR



- Annual report
- Other Networks harmonization:
 - Others National surveys
 - Level I, Level II



Thank you for your attention

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National Statistics Web Site:

http://www.mma.es/portal/secciones/biodiversidad/montes_politica_forestal/estadisticas_forestal/index.htm

National Inventory Web Site:

<http://www.mma.es/portal/secciones/biodiversidad/inventarios/ifn/index.htm>