



MINISTERO DELL'AMBIENTE
E DELLA TUTELA DEL TERRITORIO E DEL MARE



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THE ALPINE CONVENTION IS THE FIRST INTERNATIONAL TREATY FOR THE PROTECTION AND PROMOTION OF THE SUSTAINABLE DEVELOPMENT OF A CROSS-BORDER MOUNTAINOUS REGION
italian presidency 2013-2014
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Workshop

"The services of the Alpine forests ecosystems as a natural, economic and cultural asset for a regional and European green economy"

Pieve di Cadore (BL)
12 September 2014



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I servizi delle foreste alpine nelle prospettive di sviluppo del settore forestale italiano.

Daniele Zovi
Corpo Forestale dello Stato



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A photograph of three forest inventory workers walking away from the camera on a path through a forest. They are wearing green shirts, dark pants, and yellow backpacks. The worker on the right is holding a blue clipboard. The background is a dense forest with sunlight filtering through the trees. A green semi-transparent rectangle is overlaid on the upper half of the image, containing the text.

NFI

National Inventory of Forests and Forests Carbon Sink



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FOREST AREA



- Forest
- Other wooded land

Land use	Area (ha)	Proportion	S.E. %
Forest	8,759,200	29%	0.4
Other wooded land	1,708,333	6%	1.3
Total wooded area (2005)	10,467,533	35%	0.3
Total land area	30,132,845	100%	
Total wooded area (1985)	8,675,000	28,7%	0.9





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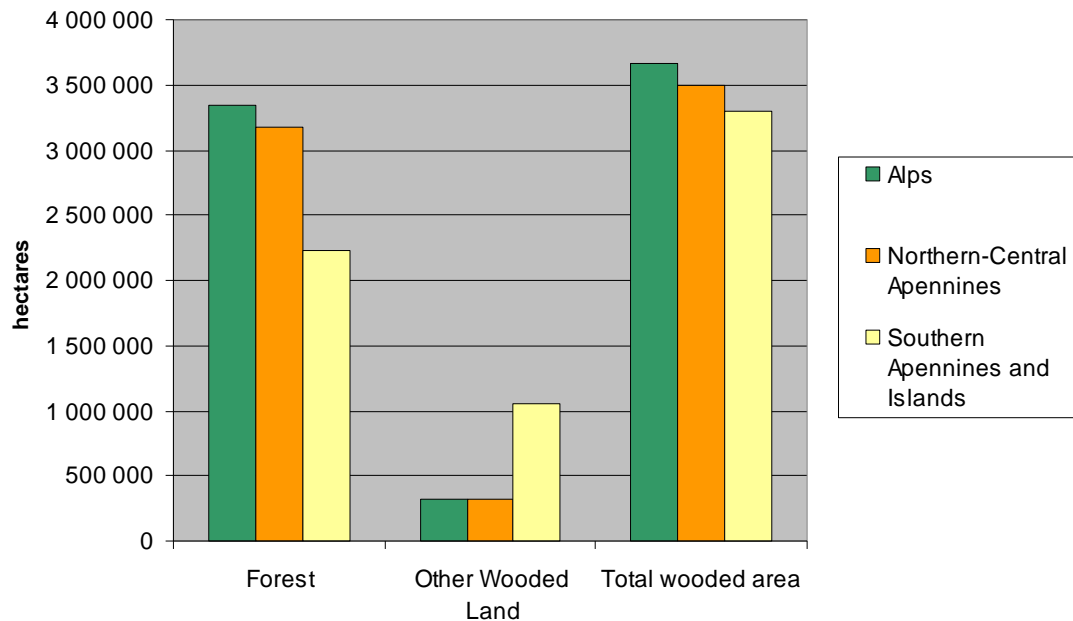
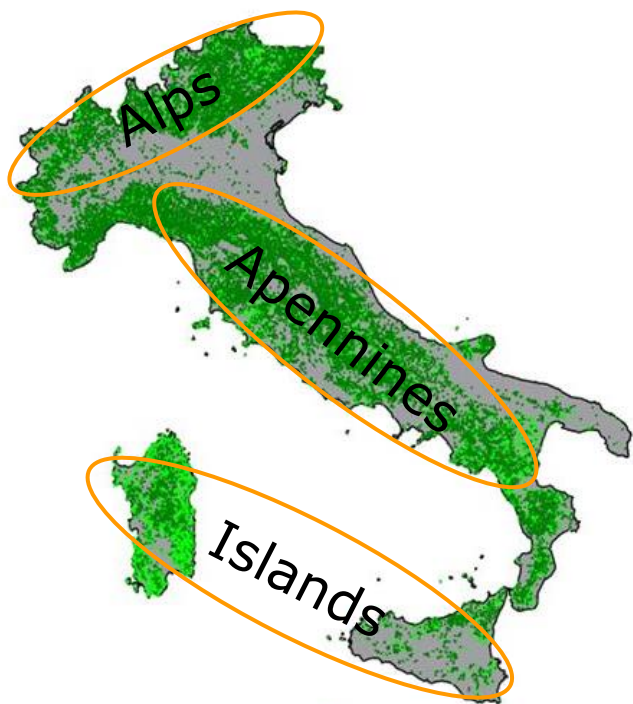


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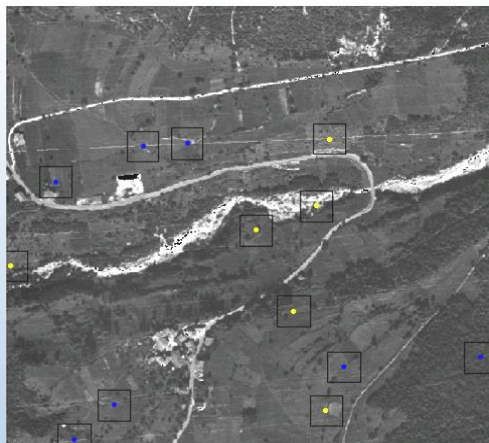


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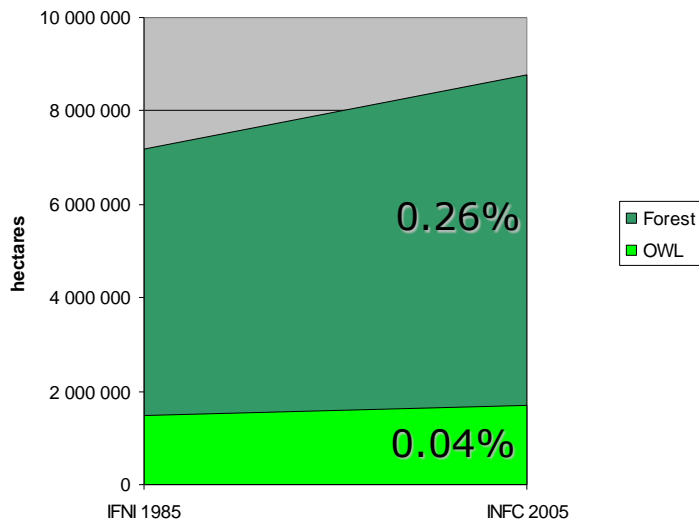
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The percent yearly increment of
total wooded area in the last
20 years has been **0.30 %**

The land cover/use changes are mostly due to
land abandonment and **natural
recolonization** by trees and shrubs

Changes in Forest and OWL area (1985-2005)



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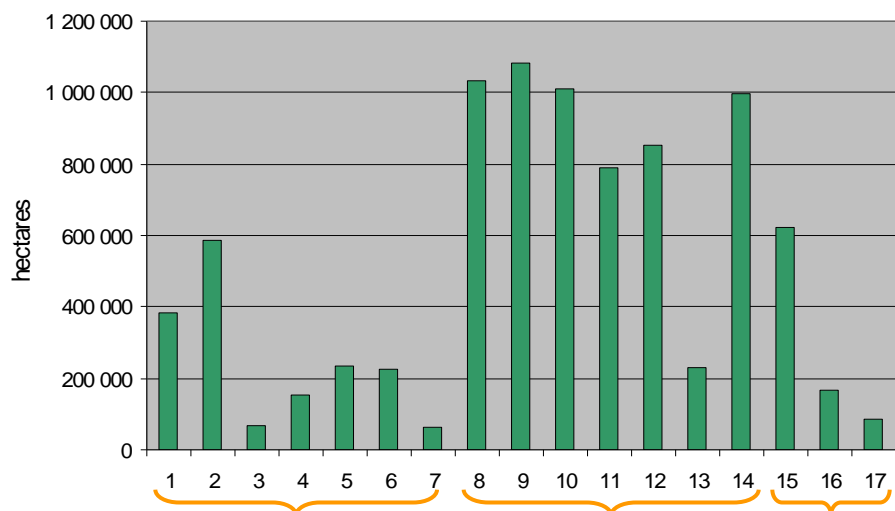


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Forest types area

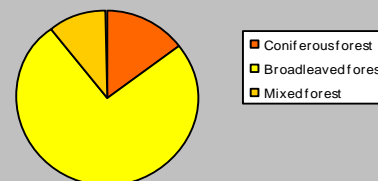


Coniferous
forests

Deciduous
broadleaved
forests

Evergreen
broadleaved
forests

Forest composition by species groups
(area)



Forest types

- 1 Larch and Stone pine forests (*L.decidua*, *P.cembra*)
- 2 Norway spruce forests (*P.abies*)
- 3 Fir forests (*A.alba*)
- 4 Scots pine and Mountain pine forests (*P.sylvestris*, *P.mugo*)
- 5 Black pines forests (*P.nigra*, *P.laricio*, *P.leucodermis*)
- 6 Mediterranean pines forests (*P.domestica*, *P.maritima*, *P.halepensis*)
- 7 Other coniferous forests
- 8 Beech forests (*F.sylvatica*)
- 9 Temperate oaks forests (*Q.petraea*, *Q.pubescens*, *Q.robur*)
- 10 Mediterranean oaks forests (*Q.cerris*, *Q.frainetto*, *Q.trojana*, *Q.macrolepis*)
- 11 Chestnut forests (*C.sativa*)
- 12 Hornbeam and Hophornbeam forests (*Carpinus spp.*, *Ostrya carpinifolia*)
- 13 Hygrophilous forests
- 14 Other deciduous broadleaved forests
- 15 Holm oak (*Q.ilex*)
- 16 Coark oak (*Q.suber*)
- 17 Other evergreen broadleaved forests





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Beech forests



BEECH FORESTS

	ha
Mesophylous beech forests	414 165
Acidophylous beech forests (with <i>Luzula spp</i>)	96 580
Thermophylous beech forests (with <i>Cephalanthera spp.</i>)	102 070
Beech forest with holly, ferns and <i>Campanula spp.</i>)	298 757
Other beech forests	123 531
Total	1 035 102



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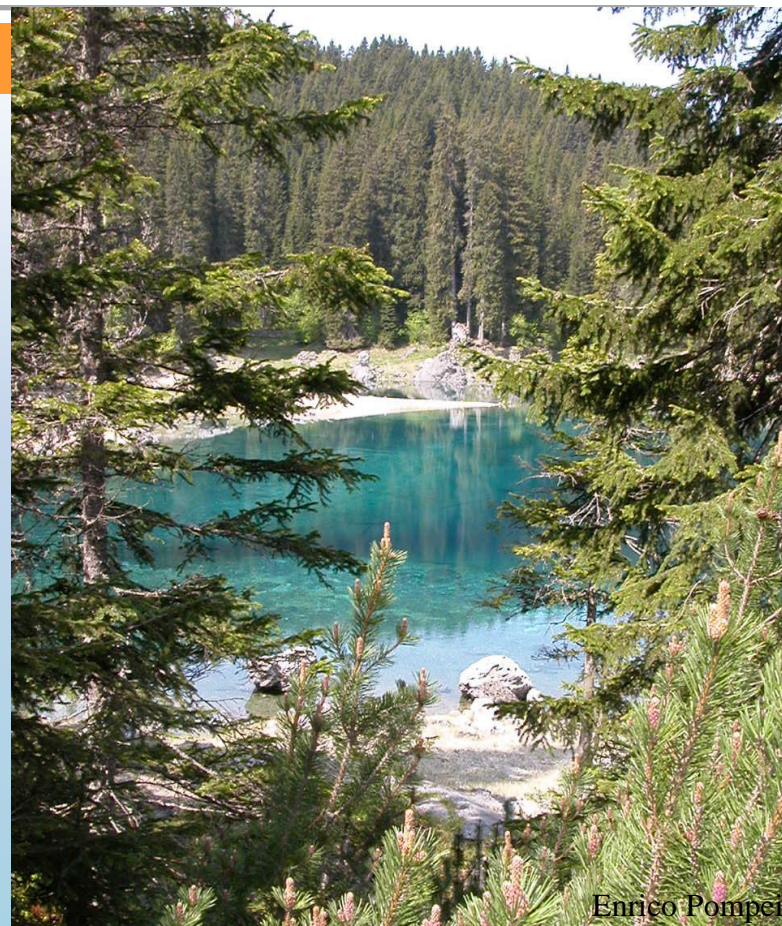
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Spruce Forests

SPRUCE FORESTS	ha
Subalpine spruce forest	196 134
Mountain spruce forest	330 003
Other spruce forests	59 944
Total	586 082



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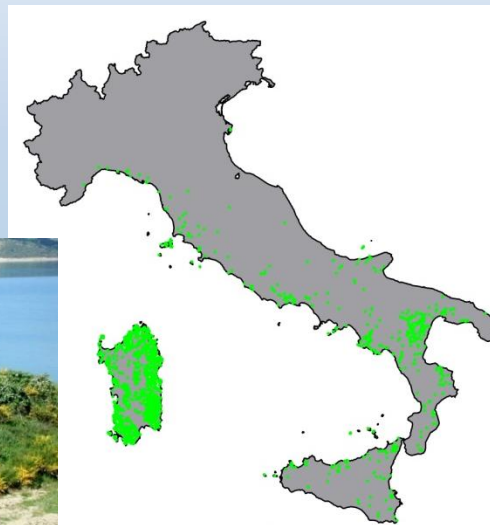
Shrublands



Subalpine shrubs – 121 524 ha



Temperate shrubs – 178 581 ha



Mediterranean scrubs and shrubs – 690 811 ha

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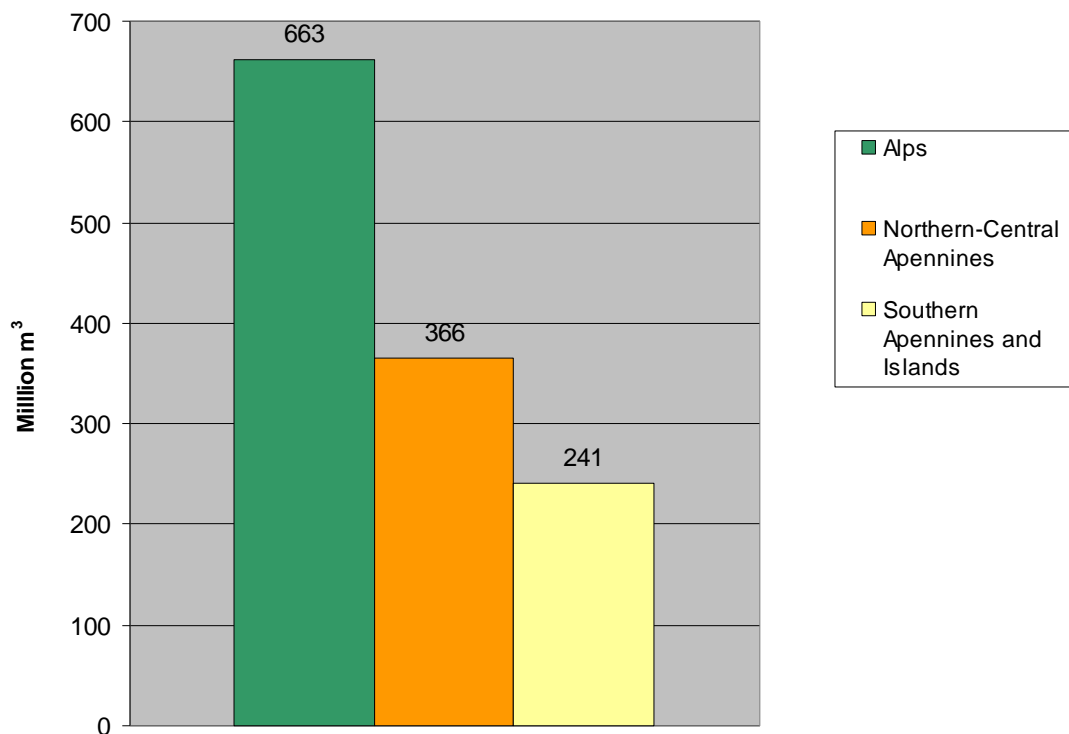


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Total growing stock - Forest



Total growing stock
1 269 millions m³

Growing stock density
144 m³ ha⁻¹ (Italy)

197.9 m³ ha⁻¹ (Alps)

115.1 m³ ha⁻¹ (Northern-Central Apennines)

107.9 m³ ha⁻¹ (Southern Ap. and Islands)





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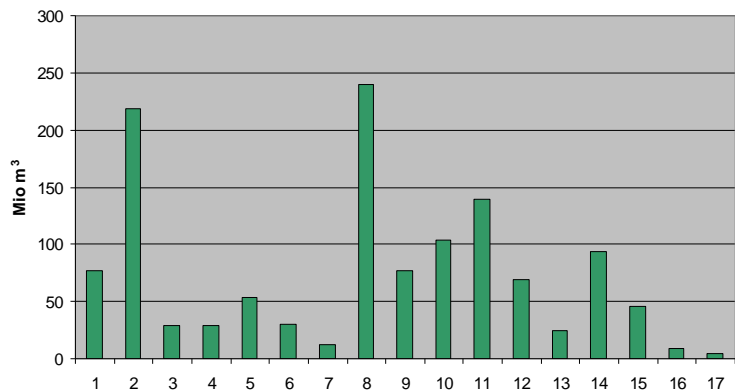


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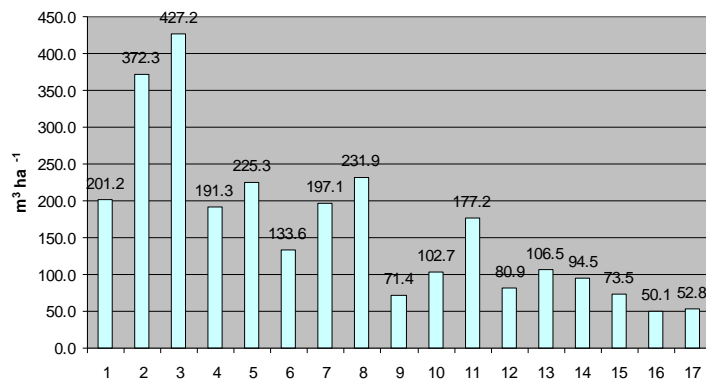
Growing stock by forest type



Growing stock density by forest type

50.1 ÷ 427.2 m³ ha⁻¹

Growing stock per ha by forest type



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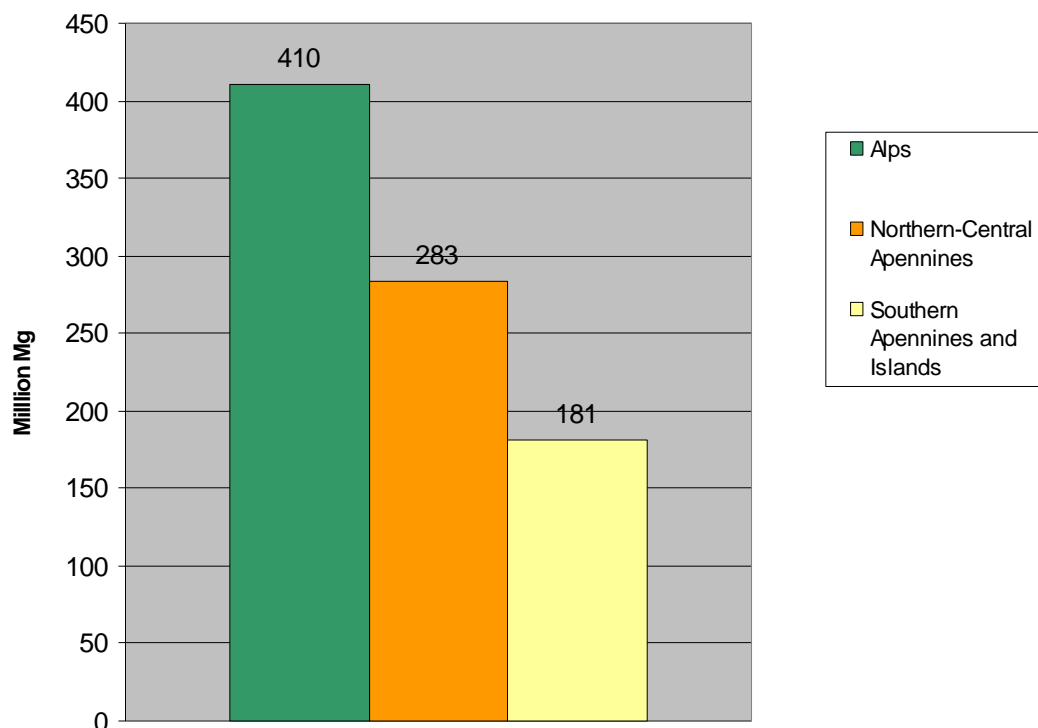


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Total above-ground biomass - Forest



Total above-ground biomass

874 millions Mg

Above-ground biomass density

99.8 Mg ha⁻¹ (Italy)

122.5 Mg ha⁻¹ (Alps)

89.2 Mg ha⁻¹ (Northern-Central Apennines)

81.0 Mg ha⁻¹ (Southern Ap. and Islands)



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Total annual gross increment

36 millions m³

Annual gross increment per ha

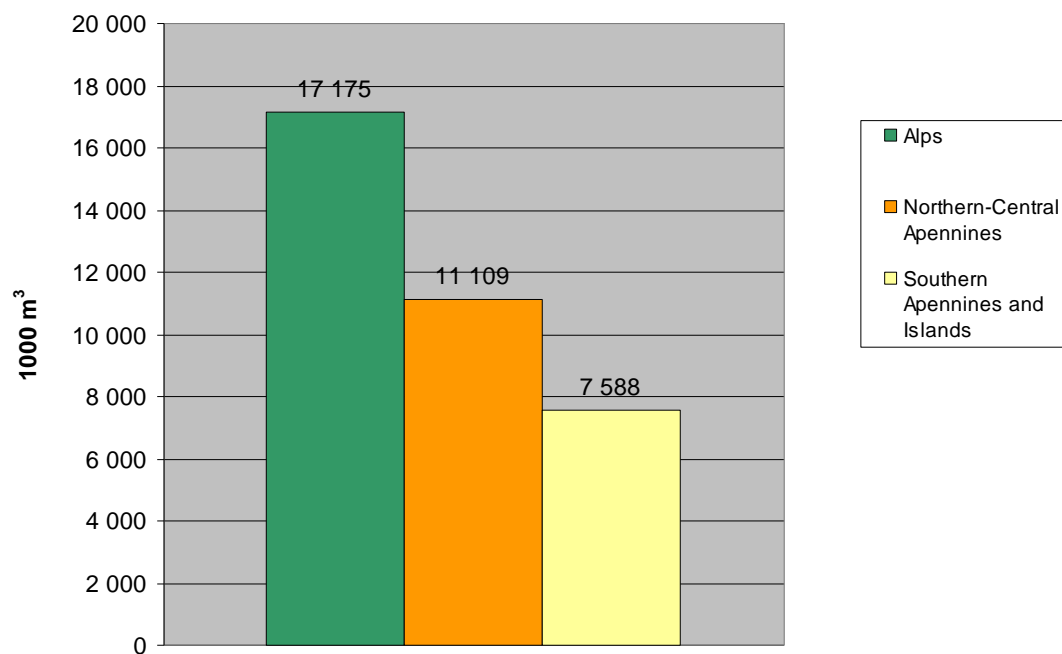
4.1 m³ ha⁻¹ (Italy)

5.1 m³ ha⁻¹ (Alps)

3.5 m³ ha⁻¹ (Northern-Central Apennines)

3.4 m³ ha⁻¹ (Southern Ap. and Islands)

Total annual gross increment - Forest



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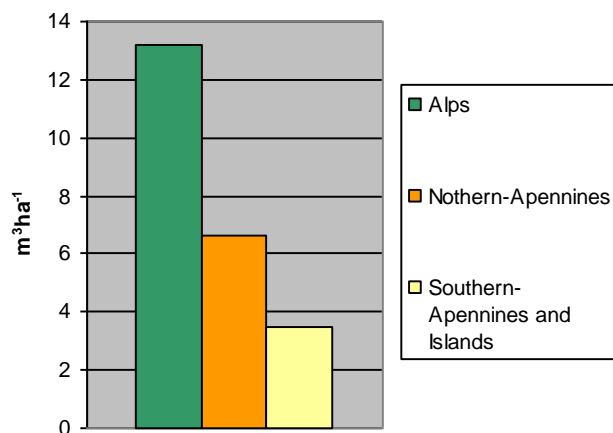
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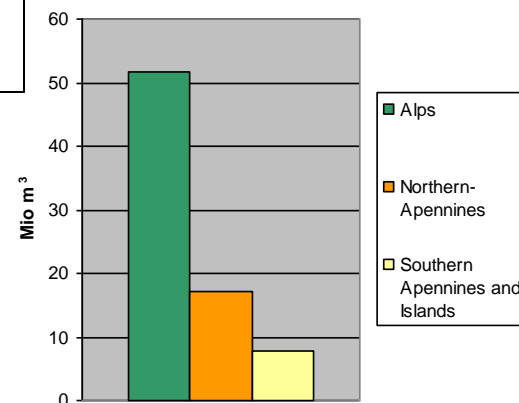
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DEADWOOD



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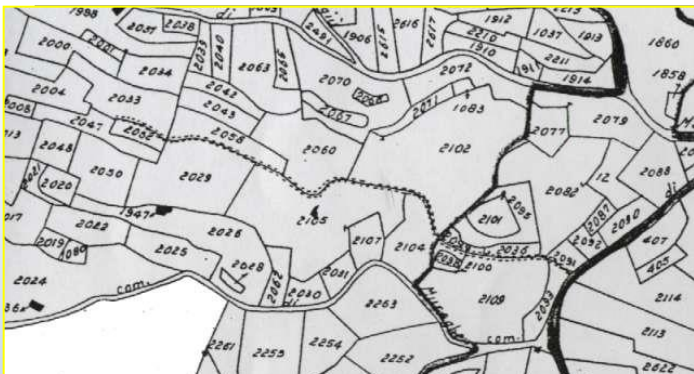


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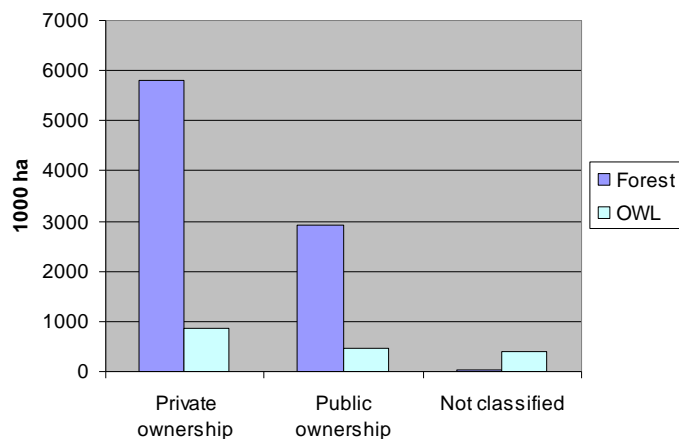


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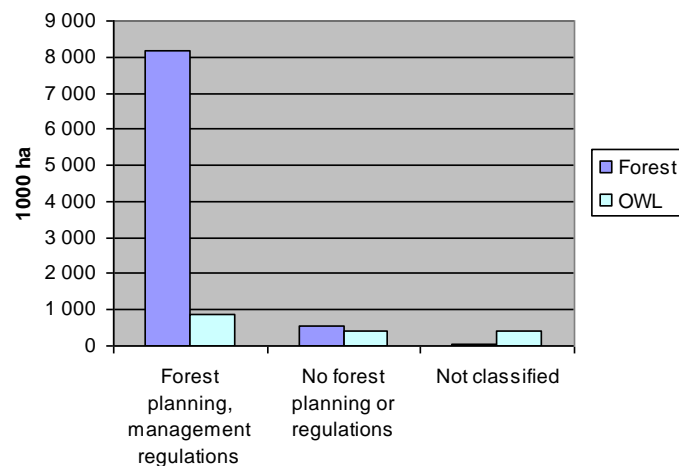
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Ownership



Forest planning and regulations



Private ownership is prevailing both in Forest (66.4%) and in OWL (...64.8%)

Forest management plans on 16% of Forest area and 6% of OWL area

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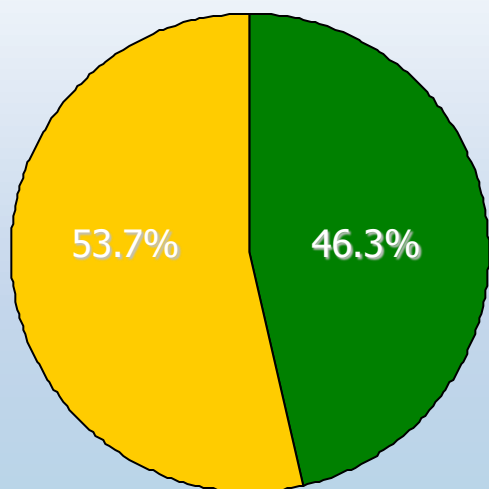


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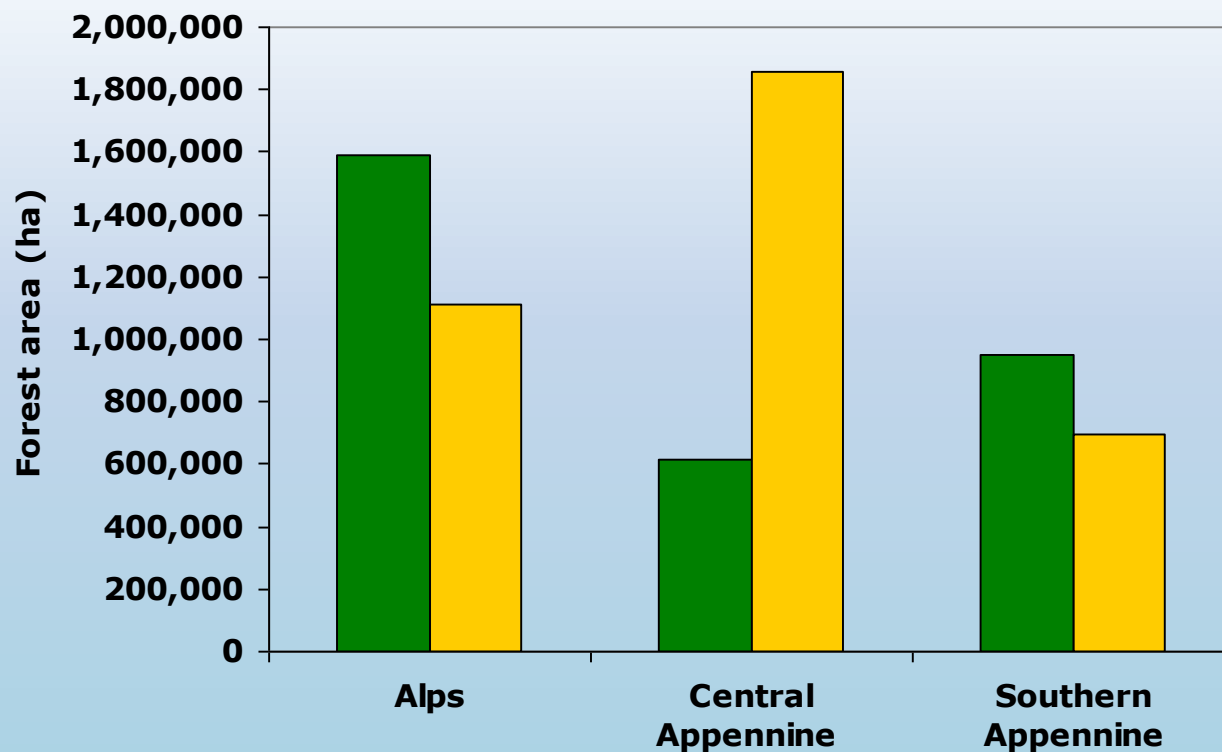
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SILVICULTURAL SYSTEM



- highforest
- coppice



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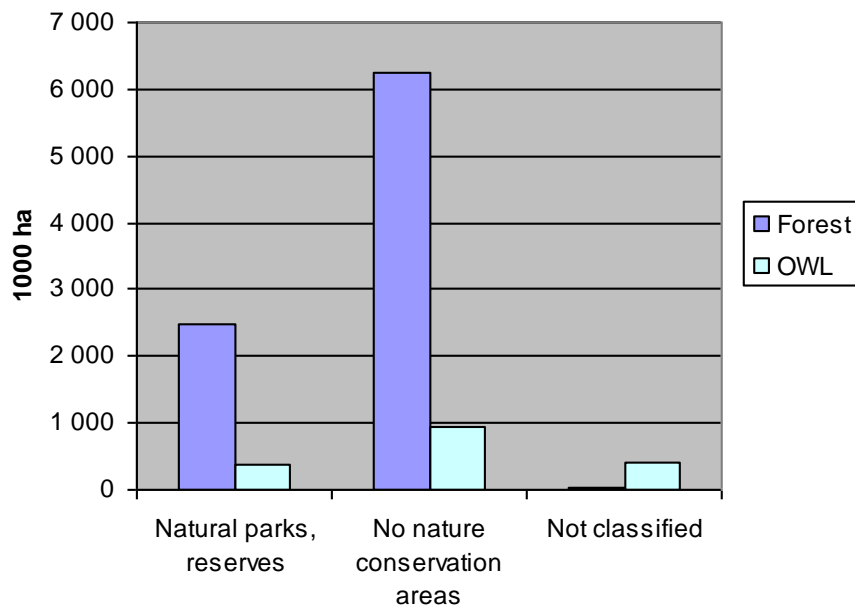
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PROTECTION STATUS AND NATURALNESS

Nature conservation areas



28,6% of Forest area and 29.1
% of OWL are located in
protected areas



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FOREST CARBON STOCK

The forest is an important carbon sink, accumulated through photosynthesis. In Italy, the amount of organic carbon retained in tissue, plant residues and soils of forests (root systems excluded) amounted to about 1.2 billion tons, equivalent to 4.4 billion tons of CO₂.



The carbon is accumulated mainly in the soil (58%) and in the trees and shrubs (38%) 2% of the carbon is present in the form of litter and plant residues and finally 2% in the form of dead wood.



A group of eleven Italian Carabinieri forest guards are posed in a mountainous landscape. The group includes men and women in various uniforms: some in dark tactical gear with red helmets, others in olive green uniforms, and one in a bright orange jumpsuit. One man is mounted on a dark horse. A German Shepherd dog is visible in the foreground. The background features steep, rocky mountains under a blue sky with scattered clouds. Two semi-transparent blue text boxes are overlaid on the image.

Thank you for your attention

Daniele Zovi
Corpo Forestale dello Stato