Greece

Giorgos Mallinis, Ioannis Mitsopoulos, Petros Tsioras, Thomas Papachristou and Gavriil Spyroglou

Facts and Figures

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Definitions

Forests that resprout after felling - Papachristou	*πρεμνοφυή δάση (premnofie dasi)*
Coppice forest, or paravlastogenes forest, is forest where regeneration is done by sprouts. - Mallinis	*Πρεμνοφυές ή παραβλαστογενές δάσος είναι το δάσος στο οποίο η αναγέννηση γίνεται με παραβλαστήματα.*

Legal Framework

Presidential Decree. 19-11-1928, 28-29.
Restrictions and guidelines regarding coppice forest harvesting.

Statistics

Coppice forests cover an area of approximately 1,930,000 ha (12% of the total country's area). The main species managed as coppice are broad-leaved oaks (1,105,339 ha), beech (337,000 ha), chestnut (33,000 ha) and other broadleaved species (88,000 ha). The management of these coppice forests is intensive, with a clear cutting cycle ranging from 20 to 30 years.

1.1. Area of forest and other wooded land and its changes

	1964		1992	
	Area (1000 ha)	Percentage (%)	Area (1000 ha)	Percentage (%)
Forest *	2 512	19.0%	3 359	25.5%
Other wooded land *	3 960	30.0%	3 154	23.9%
Forest and other wooded land	6 472	49.0%	6 513	49.4%
Other land uses	6 724	51.0%	6 683	50.6%
Total area	***13 196***	***100.0%***	***13 196***	***100.0%***

* Definitions are quoted in the Appendix I

1.1.1. Area of forest according to management type and its changes

	1964		1992	
Management type	Area (1000 ha)	Percentage (%)	Area (1000 ha)	Percentage (%)
High forest	872	34.7%	1 166	34.7%
Coppice forest	1 206	48.0%	1 612	48.0%
Coppice forest with standards	434	17.3%	581	17.3%
Total	***2 512***	***100.0%***	***3 359***	***100.0%***

Source: a) Distribution of Forests in Greece 1964, General Secretariat of Forests and Natural Environment (GSF&NE), Ministry of Agriculture
b) First National Inventory of Forests 1992, GSF&NE, Ministry of Agriculture

Images

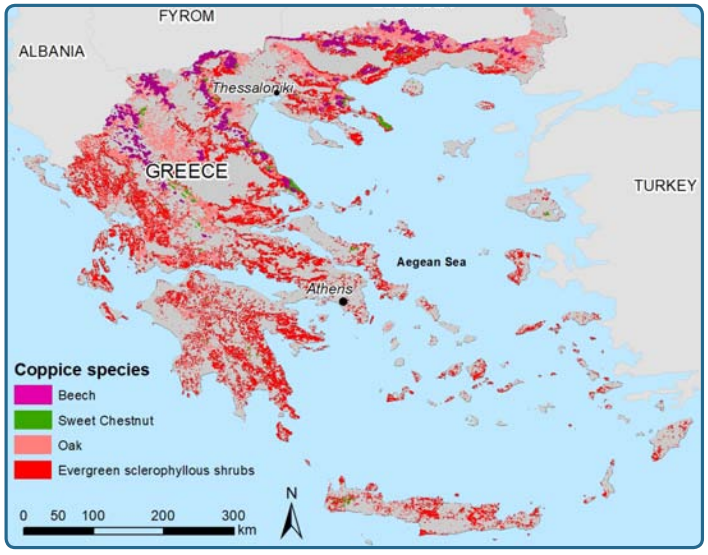
Coppice Oak forest in Northern Greece

Typology

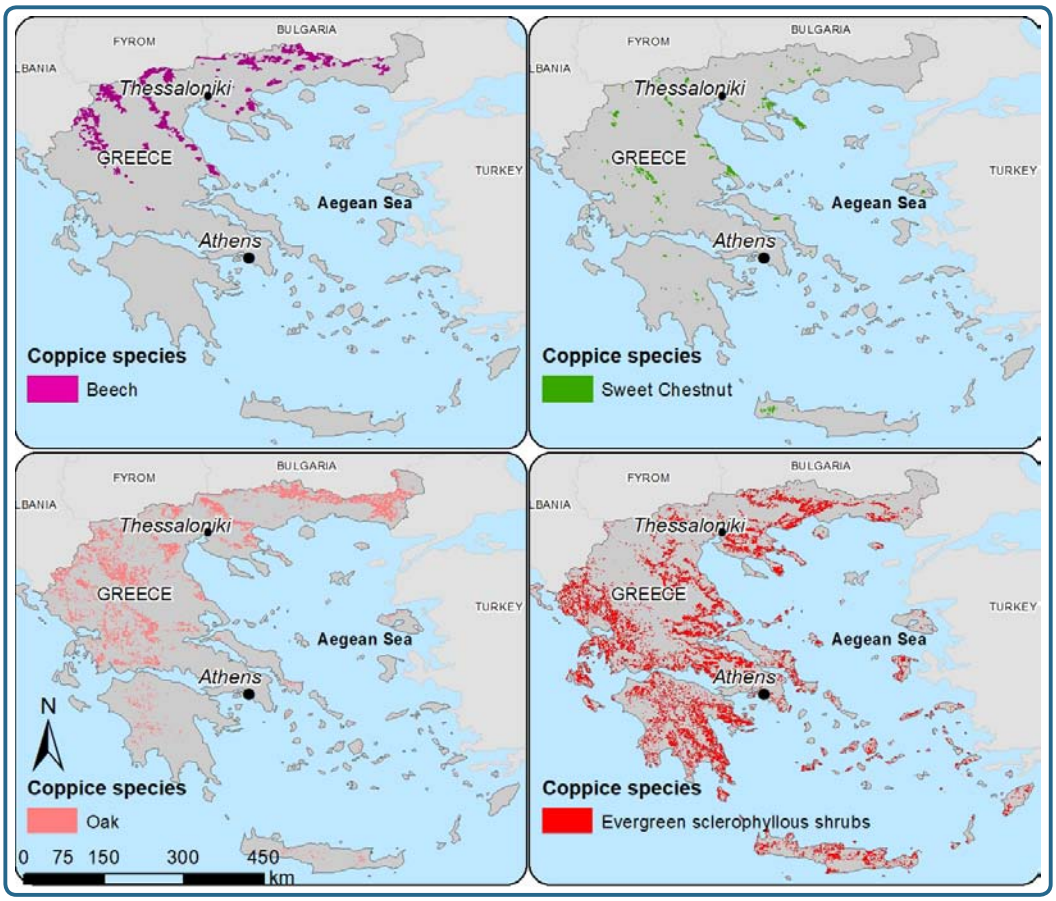
Simple coppice	Used to be applied to all broadleaved species in the past. Today almost all of the beech has been converted and much of the oak coppice forests are being converted into high forests by extending the rotation and altering the method of stand tending. All evergreen broadleaved species forests (maquis) are managed as simple coppice.
Coppice with standards	Used to be applied traditionally in oak and chestnut coppice forests but in the nineties and after the chestnut blight infestation it was prohibited to manage chestnut coppice forests with standards in order to prevent the expansion of the disease. As an alternative it was suggested to extend the rotation time or to leave standards in groups, not individual trees. Coppice with standards management is applied regularly in all oak coppice forests of the country.
Pollarding	Practised locally in rather limited cases; not practised systematically. One exception is the pollarding of white mulberry trees for feeding the silkmoth in sericulture or silk farming, but only on privately-owned mulberry plantations. Some livestock growers in rural Greece also occasionally use tree pollarding for animal fodder, but it is rather extensive and cannot be considered typical.
Short rotation coppice	Short rotation coppice is not officially applied in Greece. There is no law or other legal document for this particular management method specifically for energy purposes. One small exception of short rotation coppice concerns the basket willow (*Salix viminalis*), which was the raw material for the traditional basket making but today it is limited in very few places and the production is very small.
Other types	Coppice conversion into high forests: (1) coppice with standards can sometimes be implemented as an indirect method of conversion where a number of standard trees are retained individually or in groups at each rotation time and after several rotations the forest becomes uneven-aged and can be regenerated by seeds; (2) the extension of rotation time and stand tending by thinning is another indirect method of conversion.

Maps

Giorgos Mallinis and Gavriil Spyroglou



Overlaid map - range of the four main species that are coppiced in Greece (beech, sweet chestnut, oak and evergreen sclerophyllous shrubs)



Single maps - range of the four main species that are coppiced in Greece (beech, sweet chestnut, oak and evergreen sclerophyllous shrubs)

Data source: First National Inventory of Forests in Greece, 1992. GSF&NE, Ministry of Agriculture

Description

Gavriil Spyroglou

Coppice forests in Greece make up 65% of the forested area and 12% of the entire country (Ministry of Agriculture 1992). The main species are oaks (*Quercus* spp.) followed by chestnut (*Castanea sativa*), beech (*Fagus* spp.) and the evergreen broadleaves that make up the maquis. Other than chestnut, which can produce good quality wood in coppice rotations, the coppiced forests are characterized by very low growth rates, producing very low-value products such as firewood and charcoal. Most are grazed, either legally or illegally, and trees are still being pollarded by farmers and residents who keep a few domestic livestock animals. The aesthetic value is small because of the large clear cut areas created by this management. As a result, many of these forests are not serving their required purpose, i.e. to provide an economic use (wood production), a protective function against soil erosion and aesthetic benefits. However, the great contribution of these forests is in mitigating climate change (Chatziphilippidis and Spyroglou 2004).

Coppice silviculture is a purely man-made management system that has been implemented in Europe since Roman times, based on the re-sprouting ability of broadleaf tree species. In the past, coppice management was the "child of necessity" and an easy management solution, but today it presents numerous ecological

and environmental problems which, in the context of sustainable, multifunctional, forest management should be directly addressed by a wide program of conversion to high forest. In Mediterranean environments, coppicing remains important because, despite the exhaustive logging, uncontrolled grazing and fires, intact ecosystems have been preserved in the coppice forests. Where forests are degraded, this is not necessarily linked to coppice management and the practice can contribute to improving both habitats and biodiversity with appropriate management. Other species, such as conifers or fast growing species, can co-exist in coppices, combining trees that regenerate from seed and those sprouting from coppice stools.

Conversion of coppice into high forests represents a change in management and can be achieved in two ways (Dafis 1966; Stamou 1981). Indirectly, by extending the rotation time so it equates to that of a high forest and managing the coppice stand as if it was of seedling origin. Alternatively, it can be achieved directly by changing the species, which usually takes place on very degraded sites and is achieved by planting conifers (pines). Coppice conversion in Greece has been going on for more than 90 years, with many fluctuations. The current coppice regime is based on the

Figure 1. Typical coppice forest in Taxiarchis, Chalkidiki

views of the 1950s and earlier. It is therefore appropriate to reconsider it under the current legislative framework and to develop a new strategic plan for a modern holistic approach that will meet today's challenges.

Mediterranean ecosystems in general, and coppice forests in particular, have been used over time for resources other than woody products. Non-timber forest products such as bark, forage, soil protection, mushrooms, fruits, honey and recreation are important. A critical evaluation of the whole spectrum of uses gives the real value of coppice forests. In this context, the Mediterranean coppice forests contribute to rural development, maintaining biodiversity and its associated economic values, ecosystem functions and services and last – but not least – are of considerable cultural importance.

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