

The Medieval Forest: A Precious Resource to Preserve

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ABSTRACT

Omnipresent in medieval literature, a territory of myths and legends, the medieval forest is also, and above all, a lived-in space, occupied by people. Wood was an indispensable resource for many human activities - be they agricultural, artisanal or proto-industrial. Forest cover, a source of food resources, also held in reserve space that could be cleared to respond to a need for arable land. The demographic growth and economic renewal that characterize the High Middle Ages (11th-13th centuries) led to increased pressure on forests, which were threatened by overexploitation. So owners of wooded lands multiplied measures intended to protect that resource, whose renewal and sustainability needed to be ensured.



Illustration 1: "November: Pannage" in *Recueil : calendrier et livre de prières* (*Compendium: Calendar and Prayer Book*), 14th century. Toulouse Municipal Library, Ms 144, fol. 6r. Source : [BnF/Gallica](https://gallica.bnf.fr/).



Illustration 2: "Producing Glass Items," in *Livre des simples médecines* (*Book of Medicinal Simples*), 15th century. Paris, Arsenal, Ms 2888 f. 199.
Source : [BnF/Gallica](https://gallica.bnf.fr).



Illustration 3: "Woodcutter," in *Heures à l'usage de Rome* (*Book of Hours for the Use of Rome*), 1475-1500. Paris, Bibliothèque Mazarine, Ms 502 f. 12.
Source : [Biblissima](https://www.biblissima.fr).

The image that sticks of the medieval forest is often one from hagiographies, *chansons de gestes* ("songs of heroic deeds", or epic poems), novels or poetry. We imagine it as being wild, dangerous or marvelous, inhabited only by hermits, marginals, brigands and outlaws. Yet other written sources, combined with environmental-archeology studies, reveal an anthropized environment, amply used and exploited by humans, some of whom settled lastingly in the clearings that dotted the forest cover. The medieval forest was actually a nurturing space that supplied both numerous food resources and a precious raw material: wood. Crisscrossed by farmers and their herds, graced by seignorial hunting parties, it bustled with the activity of colliers, lumberjacks, potters and glassblowers. Far from

fleeing the woods, the people of the Middle Ages exploited its many riches, but also quickly began to protect them from overexploitation in order to ensure their renewal. It would be taking liberties to interpret that as an ecological conscience; the point was more about not exhausting an important source of revenue.

A Nurturing Forest

The forest, composed of different varieties of trees depending on the region, was above all a space that complemented agricultural zones; cleared as needed, it provided farmers with lands where they could send their livestock as well as a place for gathering all sorts of edibles.

The edges of forests and woods were filled with berries and other fruits, as well as truffles and other mushrooms. Swarms of bees (known as *mouches à miel* or “honey flies”) could be caught, placed in hives, and raised for honey and beeswax by a specific category of foresters known as *bigres*. Foliage and ferns could be used as fodder or bedding for livestock that roamed the woods, feeding on grass and leaves in summer, beechnuts and acorns in fall.

The forest also supplied game, whose flesh was consumed while the skin and fur were used for clothing and furniture. Hunting, which had originally been authorized for all, began to be seen as an aristocratic privilege. Local seigneurs and princes reserved large game for themselves, and created protected spaces, called *forestes* in Carolingian times. Then, from the 13th century onwards, in the kingdom of France, *défens* and *garennes*, or game parks.

Lastly, from the 10th to the 13th centuries, the forest was a space from which ground was gained to create new agricultural lands. The period of massive, managed clearing, encouraged by the aristocracy (12th century) was flanked by less spectacular phases of gaining ground (9th-11th and 13th centuries), characterized by individual, almost clandestine nibbling away at the edges of woodlands. It has been estimated that from the 11th to the 13th centuries 30 to 40,000 hectares (75,000 to 100,000 acres) of forest was cleared annually in the Kingdom of France. That shift added up to a significant decrease in the forest area, which covered only 13 million hectares (32 million acres) by the 13th century (for a forest-cover rate of close to 25%) as opposed to 25 to 30 million hectares (60 to 75 million acres) in the 9th century.

A Storehouse of Raw Materials

Wood was an indispensable material in daily life, used for heating, building, furniture and tools for farmers and craftspeople, etc. Medieval sources distinguish different types of wood by their use: *merrain* meant hand-split staves for house-framing and coopering; firewood, or dead wood, was taken from groves in accordance with estovers, or timber rights granted to tenants in exchange for a usage fee paid to the seigneur.

Forests were mainly exploited by the communities on their outskirts, but the need was so great, essentially in large cities, that supply chains were established from the major wooded areas. Around 1230, the framework for the

Cathedral of Rouen required the cutting of 1,200 oak trees. In the 15th century, the 100,000 inhabitants of Venice used wood for heating, baking bread and firing bricks, as well as for fueling their glass workshops, forges and foundries, and for ship-building. To meet that urban demand, wood was transported essentially by waterways, either by driving loose logs for heating and industrial purposes or by timber-rafting, creating rafts of planks and wood for architectural framework. The transportation created a windfall for seigneurs, who charged tolls in river ports, but those tolls spurred those profiting from the forest to process heating wood into coal. Easier to transport, coal also offers the advantage of generating more heat by weight. Setting up camp in the heart of the forest, colliers built clamps (carefully arranged piles of wood) covered with turf to make them practically airtight. The coal-making process, which occurred through pyrolysis, lasted several days or even weeks, and the quantity obtained represented approximately 20 to 25% of the starting weight.

That charcoal was indispensable for running forges, which had been established in the forest as early as the Early Middle Ages. Iron was made first in low furnaces with manually activated bellows, then in high ones connected to watermills that activated one or more hydraulic bellows. That technique was particularly destructive for the forest, since it required an abundant use of charcoal to fuel ovens and furnaces that could reach temperatures of up to 1,530°C. (2,786° F) by then. There was also a process known as the “Walloon type,” because the system was operational by the late 14th century in that region before spreading, after 1450, first to France, then England and the rest of Europe.

Salt production was another activity that demanded a lot of fuel. Until the 19th century and the discovery of rock salt, salt was obtained by evaporation from large, open pans that were heated constantly — complete evaporation takes 12 to 18 hours of heat — which required a tremendous amount of wood. Starting in the 12th century, the forest also provided glassmakers with the ingredients they needed for their craft: clay, fuel and sand. The last of those was the source for silica, whose fusion temperature was lowered with silica obtained from rinsing plant-based ashes. Those ashes usually came from ferns, which are rich in potassium, but could also come from beech-tree shoots or other young wood. All in all, producing 1 kilogram (2.2 lbs.) of glass requires 1 m³ (approx. 35 sq. feet) of wood.

A Forest to Manage and Protect

The emergence, in the latter half of the 15th century, of highly proto-industrial activities, shifted the forest’s status from a domanial one to a speculative one, raising the question of how to renew that resource. The possibility for wealth contained in wooded spaces whetted many appetites. Traded, given away and negotiated over, forests belonged to seigneurs, who ruled their access and use. Usage rights (taking wood, grazing herds, hunting, fishing, etc.) could be subject to fees or could be granted as free warrens – franchises negotiated between communities and their sovereigns. Princes and kings confided the exploitation of the wooded lands to specific officers (usually the *gruyer*, or *woodward*). Woodward depended on foresters or sergeants who surveyed the woods, marking trees that could be sold, and keeping an eye on the land. When poachers or other offenders were found out, the transgressors were fined.

In the 15th century, the overexploitation of forests became significant, although the threat of it had been looming for a long time. As far back as the mid-12h century, Suger, the abbot of Saint Denis Basilica, had had a hard time

finding beams large enough to rebuild his abbey. By the late 13th century, the need to preserve a certain amount of forest cover across the territory of the Kingdom of France was one of the reasons explaining the end of clearing.

Seigneurs then began implementing legislation establishing minimum time periods between cuttings and limiting the amount of wood removed each time. As far back as the reign of Philip II, French sovereigns had also taken hold of the issue. In 1219, he regulated the sale of wood cut from royal forests. In 1291, Philip the Fair created the office of Masters of Waters and Forests. In charge of granting usage rights, they also made sure that royal decisions were obeyed. Decreed by King Philip VI of France on May 29, 1346, the *Ordonnance de Brunoy*, or Brunoy Ruling, is believed to be the first forestry code enacted by a sovereign: it was the first time that the forest's "production capacity" was formally taken into account.

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