

# Chapter 10

## Guided Pollards and the Basque Woodland During the Early Modern Age

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### 10.1 Introduction

In the early modern age, oak was considered the most useful tree, not only for shipbuilding or house building, but also for charcoal making. This was due to the extraordinary qualities of its timber and the proximity of vast oak forest areas to shipyards and forges. Moreover, this was related to geography, which does not change so rapidly, and the observation that oaks grow in Guipúzcoa up to a height of 600–700 m. As a result, it was the most exploited and re-forested tree in Guipúzcoa during the Early Modern Ages; followed by chestnut, despite the fact that this has a shorter lifetime, and beech, which had not such a good characteristics.

Throughout the Modern Ages, humanity faced the problems in the field of forestry. These were on the one hand, the incompatibility between the rate of forest exploitation and the voracity of production activities, and, on the other hand, the biological rhythms and growth-rate of plant species (Perlin 1989, pp. 16–17). As a result, deforestation and scarcity of raw materials became increasingly the most serious problems. Trying to ensure the sustainability of woodlands, forests and their related activities, from the fifteenth to the eighteenth centuries, the people of Guipúzcoa introduced a number of different forestry techniques (coppice, maiden trees and pollards). This was an attempt to achieve the highest possible level of productivity. These techniques gradually evolved over time, in accordance with the needs and priorities of economic activities and the abundance or scarcity of forest materials and resources.

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## 10.2 Types of Forestry Techniques

Coppices were the trees cut from the base of the trunk, which needed 5 years to produce hoops suitable for barrel-making, and 12 or 15 years for charcoal. The essential problem with coppices in this landscape was that when the stools were pruned, they could not be protected. This would have required the building of fences or hedges, and because the majority of them were located on common woodland, where everyone had both right of way and the right to graze their animals it was not possible. In his *Ciencia de Montazgos*, written in 1783, José Odriozola affirmed that coppices for firewood could be achieved in many different ways, but that the best way was to sow oak acorns and beeches mixed with chestnuts (Cruz Mundet 1989, p. 149). In the nurseries, it was important to maintain a certain distance between those plants destined for coppices, in order to enable pollarding or the formation of the stools that would later serve as the base, and to permit the branches to spread correctly. According to Villarreal de Bériz, the best coppices were chestnut one, because they grew more quickly and provided good wood for making charcoal, although for fires the wood was not as good as oak. Following an initial cut half a metre from the ground, when fully grown, it was best to cut them almost right back down to ground level, since in that way they would shoot up anew (Villarreal de Bériz 1736, p. 152) (Fig. 10.1).

Maiden trees did not have the disadvantage of the coppices. Livestock could be left to graze beneath the trees without fear that they would harm the new growth. Trees were left to grow for between 80 and 100 years, and were used for building houses and smithies, as well as for the shipbuilding industry. However, even maiden trees required a certain amount of care and handling, since as the Marquis of Rocaverde, Superintendent of Ships and Plantations, stated in 1743, the lower branches had to be pruned and the tree should ideally be guided.<sup>1</sup> José Odriozola recommended following the traditional method of planting oaks thickly in these areas, thus

**Fig. 10.1** Coppices in Leitza (Navarre)



<sup>1</sup> AMF (Municipal Archive of Fuenterrabía), C, 5, II, 10, 1.

**Fig. 10.2** Maiden trees in Urdanibia-Irún (Guipúzcoa)



making the most of the available land and enabling the trees to protect each other from the wind: 2 m for re-populated woodland, and 1.5 m for virgin areas or areas which had been sterile for some time (Cruz Mundet 1989, p. 160) (Fig. 10.2).

Pollarding fulfilled, as the lawyer Arnedo explained in 1662, a large number of different functions, including that of responding to the combined demands of the iron and steel industry, the shipbuilding industry and livestock farming. First, it produced pastureland, but less acorn harvest than coppices. According to bachelor Arnedo in 1662, pollards “...produce several branches and, even though it takes longer to produce fruit at the beginning, until the tree grows and complete the head, later the cuts come every 8 years or 10 years at the least, and although it does not produce as much fruit as coppice, it comes 4 years before, which compensates each other...” Therefore, it seems that the pollards produced less acorns than coppices, taking into account that it used to take quite long to made a pollard from a coppice and it could not produce any acorns during the process. Nevertheless, there could be another reason to explain this. Pollards were cut every 8–10 years, whereas coppices were every 12–15 years; therefore, coppices produced more acorns from cut to cut. Moreover, when coppicing not every branches was cut, just some of them, which allowed the tree to produce acorns; on the contrary, most of pollard’s branches were removed, which means that the tree would not produce any fruit during the next 5 years. Recent research shows that a hard thinning could damage the acorn production, as it happens with a weak density of trees: the harder the thinning, the poorer the harvest (Gutiérrez Galindo et al 2003, pp. 141–145; Gea-Izquierdo 2006, pp. 346–348). Pollarding also enabled grass to grow so that livestock could graze, while at the same time

preventing them from eating the spring growth on the cut trees, because the pruning was carried out at a greater height. Second, it left it two or three main guide branches, which with time could be used for obtaining the curved parts (*tuertas* or *curvatonas*) so essential for shipbuilding. Likewise, from these main branches a series of smaller ones grew, which could be used for making planks, although they were mainly used for producing charcoal, with the added advantage of increased productivity, since pruning could be carried out 4 years earlier (oak pollards could be cut every 8 or 10 years, and beech pollards every 5–6). Third, the distance between the trees enabled them to expand, thus growing longer branches.<sup>2</sup>

In this sense, Javier Ignacio de Echeverría, author of *Discurso sobre la plantación del roble*, written in 1775 for the *Real Sociedad Bascongada de Amigos del País*, calculated that a guided pollard oak could grow to occupy 60 m<sup>2</sup>, while a straight one could only occupy 15 m<sup>2</sup>.<sup>3</sup> On this occasion, we are more interested in describing the last technique than the other two, which would be subject of a deeper research in a next opportunity.

### 10.3 *Ipinabarres* or Guided Pollard Oaks

The *ipinabarros*, *ipenabarres* or guided or shaped pollard oaks, were created using the *horca y pendón* method, in which one tree was left standing every 4.5 m, and of its main branches, all but two or three were cut off. Those that were left were pruned to a height of 3 m, one at a right angle to the main trunk (the *horca* or fork), and the other at an obtuse angle (the *pendón* or standard) (Fig. 10.3).

### 10.4 The Beginnings of the Technique

The first references to *Ipenabarres* (a Basque word that in the Vizcayan dialect means *to put or leave a branch*) in the Guipúzcoa region are linked to the Deva and Urola river basins and date from the 1530s.<sup>4</sup> Nevertheless, the Basque Country was not an exception and this forestry technique had been in use in the Castilian region since at least the end of the fifteenth century, mainly in connection with the development of pasturelands. By means of an ordinance dated 28th October, 1496, the Catholic Monarchs ordered that trees should no longer be cut down to the base of the trunk, but rather should be left with two (or sometimes three) main branches (the aforementioned *horca y pendón*) from which new shoots would be able to sprout. The use of this technique could be found in Castilian, Cantabrian and

<sup>2</sup> AMH (Municipal Archive of Hernani), C, 5, I, 3, 4.

<sup>3</sup> AMR (Municipal Archive of Rentería), C, 5, V, 1, 5.

<sup>4</sup> AML (Municipal Archive of Legazpia), 167-9.

**Fig. 10.3** Guided pollard oak in Artikutza (Navarre)



Spanish American countries. In Castile, for instance, some forest regulations, instead of using that expression it was claimed to leave two *aleros* and one *pendolero*: first was the *horca* and second the *pendón*. This technique has been used to date in the mountains of the Central System (Martín Jiménez 2003, pp. 412–414).

Nevertheless, it seems that this practice did not become common in Guipúzcoa until 1548. In the *Juntas Generales* (or General Assembly) held in Zumaya between 14th and 24th April, 1548, the issues facing timber production were addressed. In light of the increasing deforestation and the general concern over the scarcity of timber in the region for building ships and wood for making charcoal, in addition to ordering the planting of 500 oaks and chestnut trees every year on the commons, the *Juntas* decreed that no tree should be felled. This was with the exception of those trees destined for the shipyards and the construction of buildings. Those trees used for firewood and charcoal should be turned into guided pollards.<sup>5</sup> The concern over forestry resources was not exclusive to the Guipúzcoan authorities. Voices rang out all over the Iberian Peninsula and across Europe also, warning of the problems of deforestation (Aragón Ruano 2001, pp. 62–63; Bechmann 1984, pp. 286–287; Belhoste 1990, pp. 223–224; Rackham 1990, p. 77).

By the middle of the sixteenth century, the scarcity of materials, mainly for the construction and shipbuilding industries, forced the province to issue the aforementioned order in 1548. They also petitioned Carlos I for the confirmation of another order issued by the Elgoibar *Juntas Generales* on 10 May 1552, regarding

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<sup>5</sup> AGG-GAO (General Archives of Guipúzcoa), R2.

the management of coppices. The order recommended that guided pollard oaks be left standing in the coppices at 22-m intervals. Curiously enough, towns like Elgóibar, Hernani, Rentería and Oyarzun, in which coppices were common and where the principal industrial activity was ironworking, rejected the order and voted against it. Consequently, the confirmation was issued but in a modified form, with the principal change being the distance between the pollard trees left standing, established as 33.5 m instead of 22 m.<sup>6</sup>

## 10.5 The Spread of the Technique Throughout Guipúzcoa

In other areas, outside the aforementioned Deva and Urola river valleys, guided pollards, or *ipinabarros*, were unknown, or at least the technique was not applied until the end of the seventeenth century. Indeed, most of Guipúzcoa's woodland areas were covered with coppices and maiden trees, at least until the seventeenth century. This seems to have been the predominant situation throughout the Late Middle Ages, as indicated also by the municipal bylaws. According to the *Juntas Generales* Díez de Salazar 1991, p. 509), in 1564 coppices occupied at least a third of Guipúzcoa's woodland area<sup>7</sup>, and continued to predominate in towns with a strong ironworking tradition, such as Legazpia (1591)<sup>8</sup>, Oyarzun (1691)<sup>9</sup> and Hernani (1662)<sup>10</sup>

The survey that Doctor Hernando Suárez de Toledo carried out by royal decree in 1569, aimed to determine the degree of compliance with the 1563 Royal Order commanding the planting of oaks for the Royal Armada. This applied to all areas within two leagues of the sea (an order that Guipúzcoa failed to fulfil). The findings were that two forest models coexisted in the region: coppices, mainly used for charcoal production, and maiden trees, used for shipbuilding and the production of charcoal.

According to the aforementioned survey, the predominance of coppices during that period was most manifest in towns which had strong ties to the iron and steel industry such as Elgóibar, Legazpia, Rentería, Oyarzun, Fuenterrabía and Hernani. In other towns, such as Zarauz, for example, maiden trees were more common, while in Zumaya, pollards existed alongside the coppices. Deva, on the other hand, had a few trees from which bow pointers (known locally as *corbatones*) could be obtained, while in Guetaria, the majority of the woodland areas were dedicated to the production of these elements. We can see, then, that in those towns with a strong iron and steel industry, coppices were most common. Whereas in the coastal

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<sup>6</sup> AGG-GAO, JD IM 2/17/4.

<sup>7</sup> AGG-GAO, JD IM 2/17/5.

<sup>8</sup> AML, 170–162, 3.

<sup>9</sup> AMOr (Municipal Archive of Ordizia), leg. 3, 1.

<sup>10</sup> AMH, C, 5, I, 3/4.

villages, which were more concerned with shipbuilding, it was not unusual to find a combination of coppices, maiden trees and pollards used for producing parts for the shipyards. The majority of those surveyed agreed upon the general lack of not straight wood, but rather curved wood. Suárez de Toledo himself affirmed that in Guipúzcoa coppices and *straight* woodland areas (used for plank production) were most common, while in Vizcaya, *twisted* wood (used for shipbuilding) was more abundant. In Vizcaya, it was not customary to cut maiden trees destined for charcoal production from the base of the trunk, but rather from the base of the branches. According to Brad Loewen, based on archaeological sources, during the sixteenth century in the Basque Country, there was a standardized system to obtain pieces for shipbuilding. This means that all pieces used in shipbuilding had the same proportions, though different sizes, which allowed to build the same basic vessel in different sizes. This involves branches that were deliberately shaped using ropes and stakes or making cuts (Loewen 2007, pp. 291–292) (Fig. 10.4).

All the towns along the coast and in the immediate surroundings (Fuenterrabía, San Sebastián, Zarauz, Guetaria, Zumaya, Cestona, Azpeitia, Elgóibar and Motrico) highlighted the lack of trees available for shipbuilding, and the need to import them from Vizcaya, where they were more abundant. Rentería, for example, had been doing this for quite a while. One of the keys to the question was that the aforementioned 1552 ordinance regarding coppices, which specified that a guided pollard be left every 33.5 m, had not been respected along the coast, and was difficult to enforce. The townsfolk complained bitterly that they were forced to go further and further afield for their timber, and pay ever-increasing prices. The supply problems experienced by Guipúzcoa's shipbuilding industry lasted right up until the second decade of the seventeenth century. In 1580, the witnesses asked in different towns of the Guipuzcoan coast reckoned there was from Fuenterrabía to Motrico, enough timber to build 50 vessels of 500–600 metric tonnes. Fuenterrabía and Irun had timber for five vessels, Oyarzun for three vessels, Rentería for 30 vessels, Urnieta for just one, Usúrbil for five, Zumaya for three and Deva and Motrico for two each. These figures were confirmed some years later, when, on

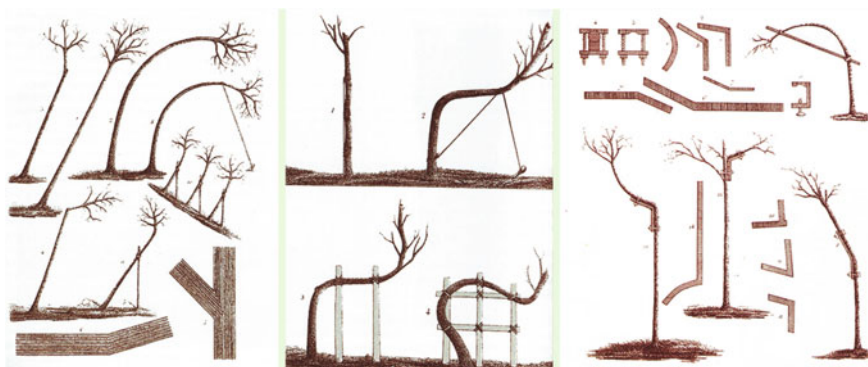


Fig. 10.4 Shaping methods in the eighteenth century

19th of July 1589, the War Council ruled an order to find out how much timber could be used in shipbuilding. According to the witnesses, the village of Zubieta had wood of 10,000 ducats worth and timber suitable to build five–six vessels of 500 tons. In Usúrbil, there was timber suitable to build 14 vessels. In Rentería, traditionally, the main supplier of timber in Guipúzcoa, 30–40 vessels could be built. In San Sebastian, there were some particular forests with enough timber to build four vessels. Deva, as in particular as in common lands, there was timber for four–five vessels and planks for another three. Finally, in Zumaya there was timber for four–five vessels. As a result, in 1589, there was in Guipúzcoa, within the two leagues from the sea timber suitable to build 52–66 ships of an average of 500 tonnes; quite similar to figures in 1580. Nonetheless, proof of the increasing scarcity is the fact that the *Juntas Generales* of Guipúzcoa were obliged to petition Vizcaya for the sale of bow pointers for the manufacture of ships in 1611, 1616 and 1617 (Fig. 10.5).<sup>11</sup>

While by the mid-seventeenth century, towns such as Azpeitia and Azcoitia were obliged to pollard their oaks in the *horca y pendón* style, in the Free Mountains of the Urumea, which belonged to Hernani, San Sebastián and Urnieta, and it was not until 1658–1671, that pollards replaced the hitherto predominant



Fig. 10.5 Structure of Guipúzcoan Forest according to surveys of 1569 and 1756

<sup>11</sup> AGG-GAO, JD AJI 2, 4, JD AJI 2, 5 and R 17.



coppices. This change, however, was not without its difficulties. In 1658, a legal dispute ensued regarding the new cutting system, which ended in its generalised enforcement. The practice was definitively established in the aforementioned woodland areas in 1671, after the *Concordia* held in Astigarraga on 21st March that same year between San Sebastián, Hernani and Urnieta decreed that every cut must leave reserves and guide branches. From then on, in the firewood auctions of the Free Mountains of the Urumea, foresters were expressly ordered to respect the rulings of the 1671 *Concordia*, and were prohibited from felling those oaks marked for guided pollarding, known as *ypinabarros*. Meanwhile something very similar was occurring in the nearby towns of Oyarzun and Rentería. Here an order was issued to leave oaks suitable for pollarding at intervals of 6.5 m in the coppices. In Oiartzun, in the forest auctions carried out by the council from 1656 to 1691, cut conditions bound to leave among the coppices oaks suitable to become pollards or *guiones* (guided oaks)—this word was also used in the neighbouring Rentería. At the end of the century pollard oaks were called *suaritzak*, which literally means “oaks for fire”. Contemporary Basque language uses the word *zuhaitza* to refer to wood trees, whereas fruit trees are called *arbola*. Probably, and this is our own hypothesis, the word *zuhaitza* comes from the aforementioned *suaritzak* (Aragón Ruano 2009, pp. 84–86).

Unlike what had occurred previously, during the eighteenth century, the number of coppices decreased notably, although they continued to be used (mainly) for the basket-weaving and barrel-making industries. The reason for this decrease was that most of the woodland areas and forests in Guipúzcoa were now occupied by pollards and maiden trees. It is more than likely that the needs of the Real Compañía Caracas, from 1728 onwards, and the Royal Armada, following the Royal Order of 1748 (with its specific chapter for Guipúzcoa in 1749), played a key role in this change. Both were major customers of the Guipúzcoan shipyards. In light of all the available data, we confirm that by the middle of the eighteenth century, pollard forests had overtaken coppices, and even maiden woods (Aragón Ruano 2001, pp. 147–172).

## 10.6 The Results of the Application of the Pollarding System

Despite the efforts put in practice by Royal Army, it could not have at its disposal all the supplies previewed, because the application of the aforementioned techniques had to overcome a series of major difficulties. Firstly, many of the plantations were lost before the wood could be harvested. In places such as Larraul, Ordicia, Legazpia, Hernani, Rentería, Irún and Tolosa, between 1749 and 1808, around one third of all the trees planted were lost. Others such as Asteasu, Segura, Villarreal de Urrechú, Fuenterrabía, Oyarzun and Ataun lost only 10 %. Perhaps

the most flagrant case was that of Legazpia, which lost 84 % of its plantations between 1776 and 1805, harvesting only 16 % (Aragón Ruano 2001, pp. 77–79).

Secondly, as Jerónimo Tavern and the majority of the naval officers and forestry experts of the time had warned, due to the ignorance of those responsible for carrying out the pruning operations, there were only a very few pollards whose two guide branches grew in the necessary direction. In the majority of cases, a lot of bad faith underlay these practices, along with the vested interests of the nursery owners, eager to get their hands on the one *cuartillo de real* paid by the Guipúzcoa Provincial Council for every tree planted. The ironworkers and charcoal makers, eager to obtain a quick, safe harvest of firewood and charcoal, and the councils themselves were keen to make a greater profit than that provided by selling the wood to the Royal Navy. All this meant that many trees, despite being marked for shipbuilding purposes, actually became unguided pollards, i.e. no guide branches were left. In light of the Crown's lack of cash, and delays in payment, many towns attempted to make a profit from their forests by felling or pollarding (although without guides) young maiden trees, before they grew large enough to be suitable for building royal ships and were claimed by the Naval Authorities. This practice was reported in 1792 by Bernardino Corvera, the Navy Commissioner for San Sebastián. The practice grew so common that when in 1811, during the Napoleonic occupation, Governor Thouvenot of Vizcaya ordered the Province to conduct a survey to determine the status of the Navy's forests, in the whole of Guipúzcoa only 175 trees were found to be suitable for the purposes of shipbuilding.<sup>12</sup>

Thirdly, given that the forests of Guipúzcoa were responsible, through contractors, for supplying the naval dockyards, such as the one at Ferrol, another factor should not be overlooked. This was the terrible destruction wreaked on them by the needs and requirements of the Royal Navy throughout the whole of the eighteenth century, and particularly between 1749 and 1794. Proof of this is the survey conducted in 1784 by the provincial authorities, in which of the approximately 11 million trees counted in Guipúzcoa, only 1.5 % (156,132) were ripe or suitable for use in the manufacture of Royal ships, either as maidens or as pollards. Of this 1.5 %, the vast majority (97,403) were young trees which would provide the required timber in the future. Only 16,476 were mature maidens and 42,253 mature pollards, capable of providing curved timber (for bow pointers, rib planks, deck beams, etc.) (Otaegui Arizmendi 1999, pp. 481–486). After the disaster at Trafalgar, the pressure exerted by the naval authorities on the forests of Guipúzcoa disappeared, although the needs of the Merchant Navy prompted the Mountain Ordinances drafted by the Province in 1815 to state that at least one third of all woodland areas be dedicated to maiden trees and the remaining two thirds to pollards. The Ordinance also ruled that young woodland areas located in river basins situated within one league of the sea be dedicated to maiden trees, for future use in the shipbuilding industry (Aranda y Antón 1990, p. 83).

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<sup>12</sup> AGG-GAO, JD IM 2/13/75 and 81.

Fourthly, another major problem was the shortening of the intervals between cuts, since the recommended 10-year intervals and the 12- and 14-year-long intervals established at the woodland auctions were not respected, and pruning was carried out once every 7 or 8 years. As the eighteenth century advanced, and the demand for firewood for kitchen stoves increased, cutting intervals became shorter, as reported by the Real Sociedad Bascongada de Amigos del País in 1766 and by the Marquis of San Millán in 1788.<sup>13</sup> The harm this practice caused was fourfold. Landowners suffered because many thin, young branches were wasted and much shade was eliminated. Indeed, a forest pruned once every 8 years enjoyed only 5 years of shade, since during the first 3 years the new shoots and branches provided little protection, especially compared to forests pruned once every 13 years, which enjoyed 10 years of shade, which in addition to keeping the soil moist, also provided a greater quantity of dry leaves and fertiliser, causing the trees themselves to grow stronger. The ironsmiths, despite having to pay the same price, got less firewood for their money and needed more labour to remove it, thus increasing the price of each load. The practice also harmed the villagers, who had less firewood for their kitchens and other uses. And finally, the tree itself gradually died as a result of too frequent pruning.

Between the sixteenth and eighteenth centuries, a permanent conflict raged between the naval authorities and the ironsmiths regarding the cutting and pollarding method applied. The naval authorities always demanded that the trees be pollarded, leaving guide branches in order to render them suitable for use in shipbuilding. Despite their insistence, however, the demands of the naval authorities were rarely respected, as shown in the complaints made by the aforementioned Tavern. The charcoal makers and ironsmiths were aware of the demands made by the naval authorities, but were more concerned with their own interests and failed to respect the guidelines established by the Navy Commissioners during their visits. The charcoal makers and woodcutters were not receptive to new ideas which required the shared exploitation of woodlands, and continued to cut wood and firewood in the same way as they had for centuries, i.e. felling from the stump, unguided pollarding and selective felling. The main complaints aired by the naval authorities in their visits to the woodlands of Guipúzcoa focused on the methods used by charcoal makers during the first and second pruning operations. It is true that the methods used by ironsmiths, who cut the branches randomly, in any direction, caused the tree to store water in its trunk, thus causing gradual but unstoppable rot to set in. Cuts needed to be made in such a way as to ensure that the water was allowed to fall to the ground, rather than be retained. During the middle of the eighteenth century, the Commissioner denounced the poor management of the majority of the Guipúzcoan councils, with the exceptions of Tolosa and Ataun. Consequently, following the instructions of the Navy Commissioners, many places appointed an “intelligent person” to make the cuts, so as to avoid leaving the task in the hands of the charcoal makers.

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<sup>13</sup> AMT (Municipal Archive of Tolosa), C, 5, II, 1, 3.

Nevertheless, as Commissioner Garmendia stated in 1780, the town councils failed to follow the guidelines which stated that the cuts should be made by those qualified in the building of ships for the Royal Navy.<sup>14</sup>(Fig. 10.6).

## 10.7 Conclusions

Perhaps the model of tree that offered the widest variety of uses and which was able to combine the greatest number of exploitations was the guided or shaped pollard, also known as *ipinabar*, *guión* or guided tree. This might be oak, beech, chestnut or alder. This model of forestry exploitation, therefore, enabled a single tree or forest to respond to the needs of a range of production activities, while at the same time increasing productivity. Nevertheless, despite the fact that, repeatedly and over the course of three centuries, the guipuzcoan authorities and the Navy demanded and ordered, by means of binding legislation, that pruning and pollarding be carried out leaving guide branches in the *horca y pendón* (fork and standard) style, the majority of ironsmiths, woodcutters, foresters and charcoal makers failed to comply. The same, however, was not true of carpenters or shipwrights. This twofold practice resulted in two types of tree, despite the fact that, in theory, a single model was followed, p. pollards and guided pollards, with *horca y pendón* guide branches.

Despite the fact that the technique had also developed in other countries, it had specific characteristics in the Basque Country, mainly due to its ties with ship-building. The timber needs of shipyards were the key factor which boosted the generalization of the technique across Guipúzcoa in the seventeenth century. This

**Fig. 10.6** Pollard oak in Sara (France)



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<sup>14</sup> AMR, B, 6, 1, 1.

was not only along the coast as had happened previously. The practice of pollarding became more widespread and this took place as an attempt to prevent livestock from damaging the coppices. Curiously enough, Guipuzcoan iron men, the most important livestock owners until the sixteenth century, decided consciously to get rid of them and to replace them with flocks, apparently less harmful. This was on account of the damage made by their animals in common coppices, and which slowed down the tree growth; in turn harming the charcoal production. Thanks to their control on the councils, the iron men encouraged people to replace coppices with guided pollards.

Although the practice and use of pollarding without guides has survived almost to the modern day, guided pollarding has been lost to history. The decline of the shipbuilding industry was linked to the Royal Navy following the defeat at Trafalgar. There was also the gradual disappearance of timber-based shipbuilding during the nineteenth century, the import of exotic wood and foreign species, and the voracity of the iron and steel industries. The latter survived right up to the last third of the nineteenth century, and was compounded by the destruction wreaked during wartime (War of the Convention, War of Independence and the Carlist Wars). Confiscation processes and the spread of agriculture and livestock farming, all resulted in the disappearance of this forest husbandry model, the recollection of which now only remains in our collective memory. While everyone knows of the existence of pollard trees, because many beech groves and a few isolated oak groves still survive today with these characteristics, only a very few examples of guided pollards (*ipinabarros*) now survive in the province. Curiously, the majority of them are mistaken for unguided pollards, used basically for the production of charcoal, rather than recognised for what they really are. This view is not only deeply rooted among the general population, but is also prevalent among Basque historians (Uriarte Ayo 1988, p. 92; Carrión Arregui 1991, p. 26).

Currently, the Regional Government of Guipúzcoa is carrying out a programme in which the author of this article is involved. This is part of a European LIFE project, related to the conservation of biodiversity, in order to recover old pollarding system, and involves surveying elderly woodcutters. This action will lead to the publishing of a guide to good practice. The guidance should then be applied by anyone, either public or private, in order to preserve the large areas of pollard beeches that exist today in Guipúzcoa but which are on the verge of destruction. Something similar should also be applied to the few guided pollard oaks that currently survive and are authentic historical and biological monuments.<sup>15</sup>

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<sup>15</sup> <https://www.lifetrasmoschos.net/en>. Accessed 23 December 2011.

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