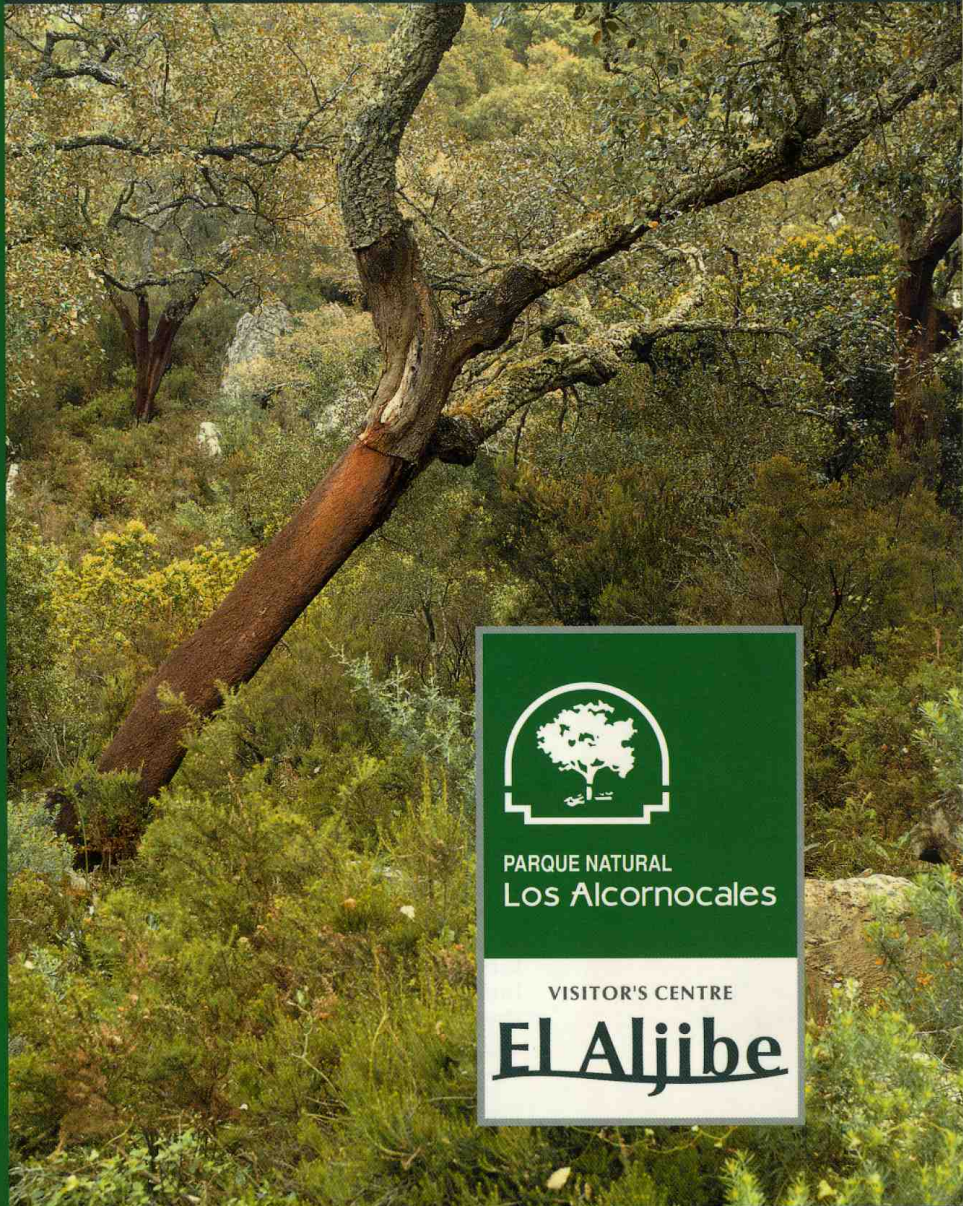


CONSEJERÍA DE MEDIO AMBIENTE



• visitor's guide



PARQUE NATURAL
Los Alcornocales

VISITOR'S CENTRE

El Aljibe



JUNTA DE ANDALUCÍA



Tienda

renpanet
www

Jardín botánico

Restaurante

Audiovisual

Exposición

The creation of the El Aljibe Visitor's Centre in the Los Alcornocales Natural Park will strengthen and complete the network of public facilities in the region and encourage the integration of the local population with their environment. The centre will include new interpretation techniques, offering historical information about the area with a modern approach to forest and landscape management.

The Centre approaches environmental interpretation and public awareness in several ways.

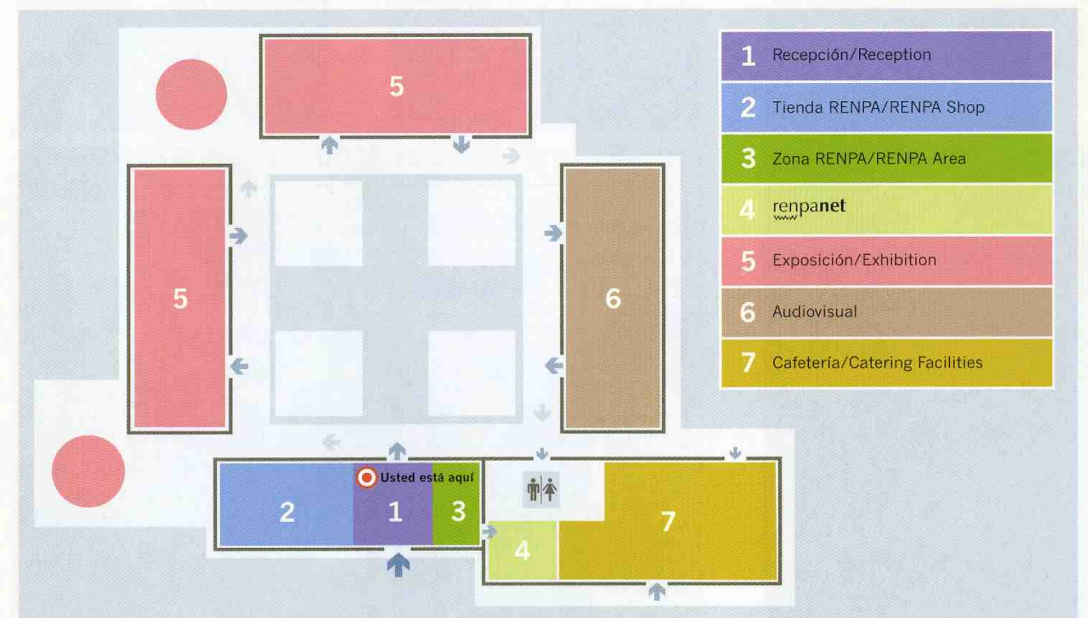
Firstly, at Reception, users and visitors are shown how natural sites in Andalusia are protected through the RENPA network of protected natural spaces. In an adjacent room with computerised facilities, they can obtain updated information. In the shop, there is a range of articles and items for sale.

Secondly, outside, the visitor will find a recreation of different economic processes that are specific to the Los Alcornocales Park, such as charcoal kilns and a cork yard, as well as several plantations featuring the Park's trees and ecosystem.

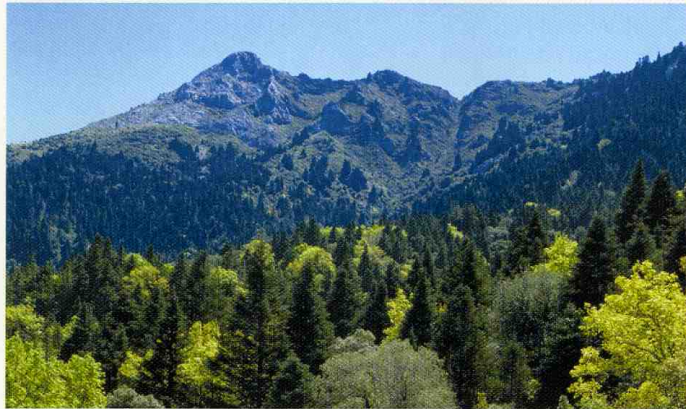
Then, the contents of the Visitor's Centre are presented as follows: in the first exhibition area, there is a film about the exceptional, specific features of the Aljibe mountain range and the Campo de Gibraltar area, introducing several aspects related to the ecological and human history of the territory. Another hall explains the singular ecology and landscape of the countryside and the woods, highlighting the characteristics of each and every tree formation, specially wild olive groves, gall oak groves, cork oak groves, fog woods and gullies.

Finally, the Centre has a large projection and assembly room for ceremonies and events of all kinds.

Starting at Reception, visitors can enjoy a visit on their own without a guide, although, for comprehension purposes in general and to understand the exhibition concept in particular, it is advisable to follow the order suggested here. For the general public, and especially for groups and school students, a booklet is available containing activities explaining key concepts of the exhibition.



RENPA area and renpanet service



In this reception area, there are two exhibitions on the Andalusian Network of Protected Natural Spaces (RENPA) and its public facilities.

On one side, there are three panels about the regional, provincial and local sites. The local display is directly linked to the model of the Nature Park and its surroundings. Another room offers visitors computerised information on several actions carried out by the Regional Ministry of the Environment.



Ecological history

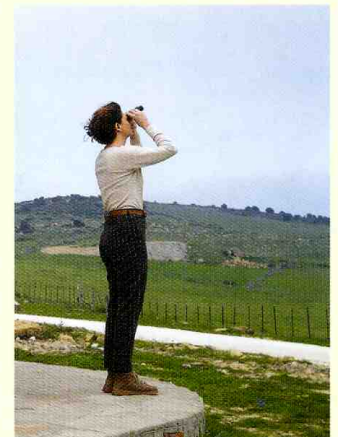
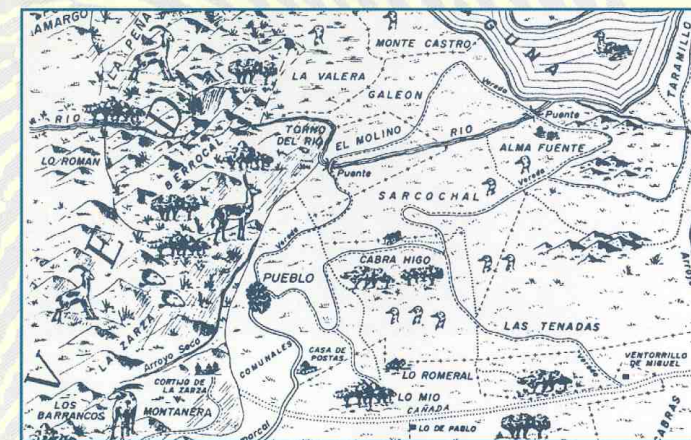
This hall consists of two well-differentiated areas.

At the entrance, the visitors are invited to watch an introductory video, which will show them the singularities and excellence of this region of Cádiz. They will experience a whole range of sensations and feelings as a foretaste of the rest of the contents of the Centre.

In the other part of the room, described in greater detail later, a series of panels with texts, photographs and models explain both the evolution of the space occupied by mankind, and the historical context of the place up to the present day.



The section devoted to ecological and human history deals with the evolution of our territory, in the light of mankind's influence and culture.





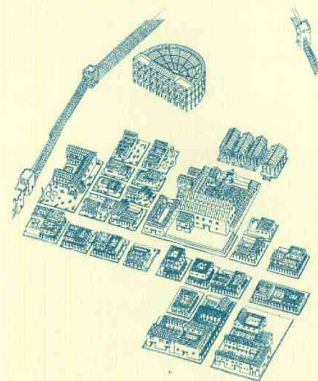
The Human Habitat

Human settlements have modified the territory ever since their very first appearance. Each people who dominated this land of the Straits have left their mark, to a greater or lesser degree, with different patterns and techniques. Likewise, their environmental impact has been unevenly felt.

A series of historical highlights have had a clear-cut influence on the development of these populations and their cultures. Here are the most significant:



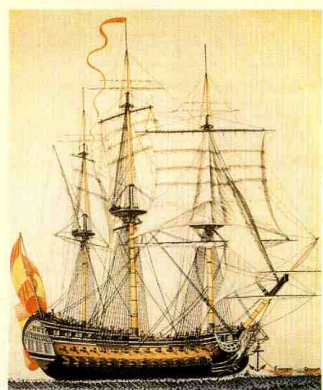
1 The agricultural revolution during the Neolithic period, with a limited population and few settlements, would have had very little impact.



2 The Phoenicians, Greeks and Romans occupied and restructured the territory, mainly on the coastline and in some scattered inland areas in the country and the mountains.



3 The stability and culture imposed on Al Andalus by the Muslims led to the occupation of the whole territory, though with wise use of natural resources.



4 The period of conflicts and conquests between Muslims and Christians exercised strong pressure on the mountains and the villages; this led to the sharing of the land and the heavy exploitation of forest resources for naval purposes.



5 Industrial modernization and our contemporary history are characterised by two opposing phenomena: on the one hand, the intensification of wood and charcoal extraction activities, and on the other hand, a re-orientation towards cork production, hunting and tourism.



Resources for subsistence

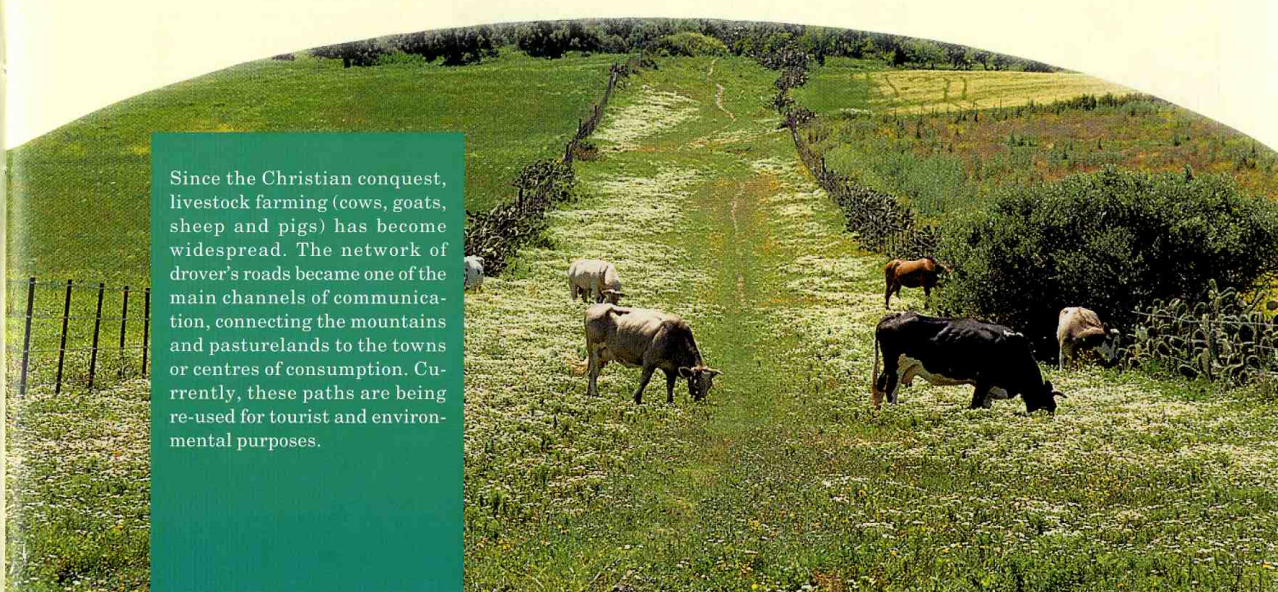
Until a few decades ago, people were always closely integrated with the country, mountains and woods. They could hunt, graze their cattle, and fish on the coast. Crops, initially concentrated around the villages, started to spread over the flat or rolling countryside.



Since medieval times to the present day, hunting has always been one of the most important economic activities. Currently, it occupies about 145,000 hectares of land, divided into over one hundred reserves for both big and small game.



Other food-orientated activities were linked to natural resources, such as the mill industry or honey production from heather and rockrose (cistus), as well as fungi and mushroom collection, an age-old tradition.



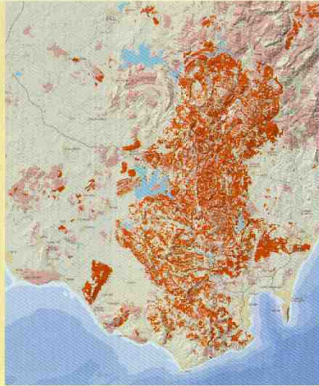
Since the Christian conquest, livestock farming (cows, goats, sheep and pigs) has become widespread. The network of drover's roads became one of the main channels of communication, connecting the mountains and pasturelands to the towns or centres of consumption. Currently, these paths are being re-used for tourist and environmental purposes.



The productive resources of the woodland

Over long stretches of our history, existing natural resources have been maintained without suffering serious alterations. Forestry and charcoal production, as well as industrial cork extraction from the cork oak groves, are the main, most heavily exploited resources. Although they are limited and do require regulation, they are renewable over time.

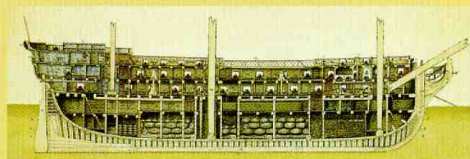
The increasing demand for cork, since its adoption by the bottling industry, led to a continuous regeneration of the cork oak groves from the 18th century onwards. At the same time, a primary processing industry for export was established and started to flourish in the Los Alcornocales area. This area is today the most continuous and productive for this raw material in Spain, with 40% of national production.



For many centuries, forestry has been one of the main assets of the Aljibe Mountains and the Campo de Gibraltar, especially for the construction and shipbuilding industries and as fuel for heating and other uses such as the manufacture of tools and furniture, etc.

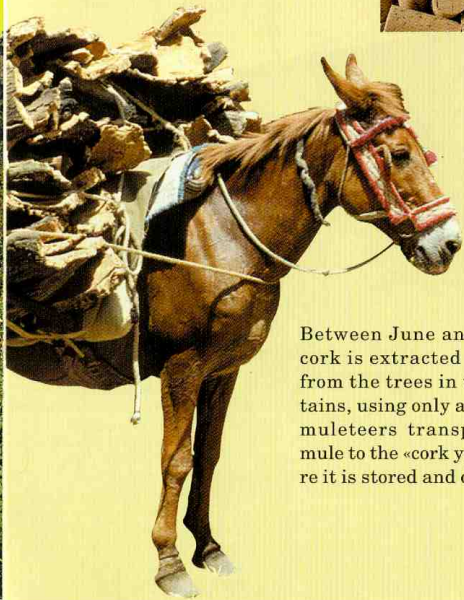


Wood



Although all the species of this area such as the wild olive, cork oak, holm oak, alder and ash trees are used for their wood, the wood of the gall oak is still the most sought-after. This species, typically found in high, shady areas, has always been in continuous, excessive demand, first for building the ships of the Spanish navy, and then for use as sleepers on the railways. In addition to this, charcoaling has been a traditional industry, which lasted until the coming of butane gas.

Between June and August, cork is extracted manually from the trees in the mountains, using only axes. Then, muleteers transport it by mule to the «cork yards» where it is stored and dried.



Cork

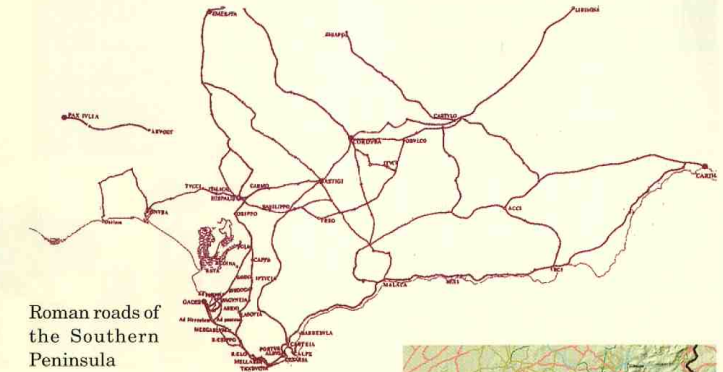


The pathways and natural routes of the prehistoric period linked together the first human settlements and the mining areas. It was not until the period of Roman domination that the roads, seaports, bridges and fortresses were built, bringing with them a certain environmental impact.

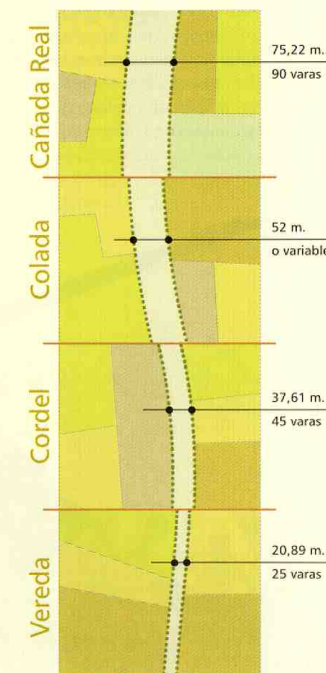


Communications

Communications play an essential role in the colonisation and control of the land. In the Aljibe Mountains and Campo de Gibraltar area, the road network was very poor until the last few decades, when it has been more fully developed.



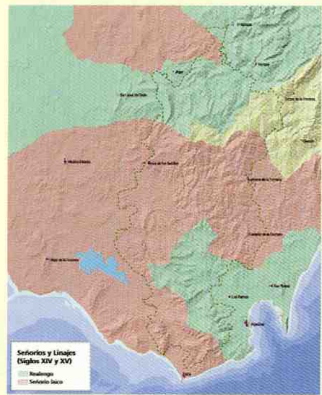
Roman roads of the Southern Peninsula



The Roman road network was maintained for centuries without any major improvement. Later on, in parallel, drover's roads and footpaths were developed until the 18th century, allowing livestock to move to new seasonal pastures, and establishing communications between the towns. This migratory livestock farming between mountains and lowlands has allowed an extensive network of livestock trails, runs and lanes to survive until today, though now with different social and environmental functions. **Today, roads and railways are the main means of transport and communication.**

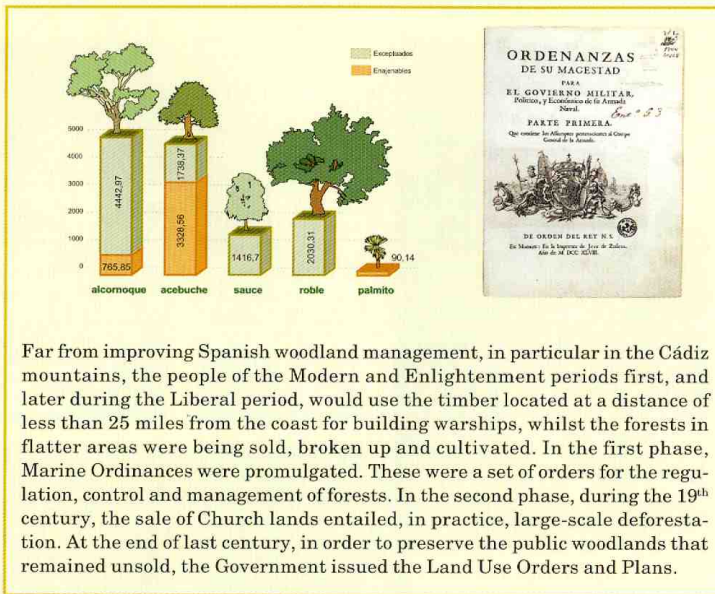


Since prehistoric times, natural resources - and the land on which they are found - have been progressively controlled and exploited without causing any serious local effects. It was not until the new Christian settlements in the 13th and 14th centuries, when conflicts of interest appeared as a result of the share-out of land and a new ownership structure, and from logging. This overexploitation was due to excessive and inappropriate forestry practices, hunting, charcoaling, harvesting and livestock farming.



Land management

The use of natural resources has been critical at some stages of history. Currently, there are very few forests left as a result of overexploitation in the past. The new guiding principles are a friendly approach to bio-diversity, rational use of resources and a balance between current supply and demand.



Far from improving Spanish woodland management, in particular in the Cádiz mountains, the people of the Modern and Enlightenment periods first, and later during the Liberal period, would use the timber located at a distance of less than 25 miles from the coast for building warships, whilst the forests in flatter areas were being sold, broken up and cultivated. In the first phase, Marine Ordinances were promulgated. These were a set of orders for the regulation, control and management of forests. In the second phase, during the 19th century, the sale of Church lands entailed, in practice, large-scale deforestation. At the end of last century, in order to preserve the public woodlands that remained unsold, the Government issued the Land Use Orders and Plans.



Currently, public forest managers encourage nature conservation (by giving priority to the spontaneous regeneration of woodland) using all of their knowledge, and taking into account both the leisure needs of the public and sustainable development of the local population.

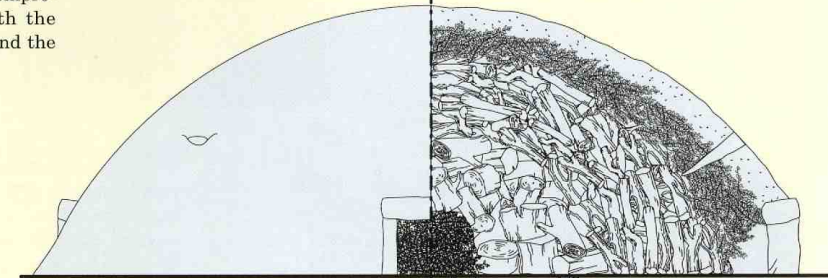
Woodland uses and resources

In the adjacent courtyards, visitors are offered two scenarios, each with its own interpretative support.

Charcoal kiln

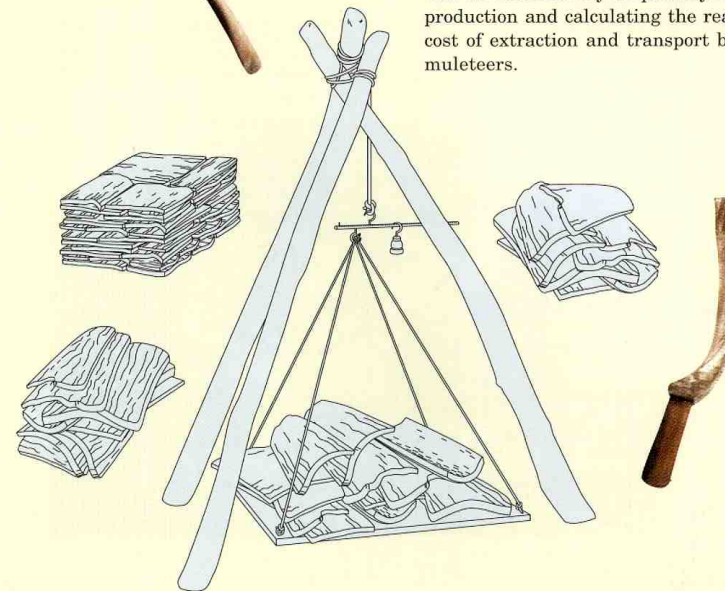
The first -a small furnace or charcoal kiln- reproduces the oldest means of transforming wood, by converting it into charcoal.

This display shows a real, purpose-built kiln allowing visitors to appreciate all of its parts and the materials used. There is also a comprehensive presentation of both the transformation of the wood and the tools employed.



Cork yard

The second scenario -the cork yard- comprises a weighing device for the cork extracted from the woods; this was an efficient way of quantifying production and calculating the real cost of extraction and transport by muleteers.



Other products, such as *zapata* (cork from the base of the trunk) or *bornizo* (the first cork produced by a tree), show the variety of the raw material obtained from the cork oak. Both products are being packed to illustrate the whole process: once the cork has been baked, it is selected, gauged and prepared for industrial processing.



The Woods

The mountains of Cádiz, and in particular those of El Aljibe and Campo de Gibraltar, form a huge enclave protected as a Nature Park, with various ecosystems and forest formations. Their location is dependent on a series of factors such as the soil, humidity, exposure, as well as man's pattern of exploitation, which give rise to the different types of forest and plant formations described below.



The old saying that a squirrel could cross the Iberian Peninsula without touching the ground might exaggerate somewhat the forest density of bygone days, but there is no doubt that tree coverage in this area is unique. In contrast, the country surrounding the mountains has conserved very little tree cover.

To illustrate the different types of forest, some exceptional tree specimens are shown: wild olive trees, gall oaks and cork oaks.



Wild olive

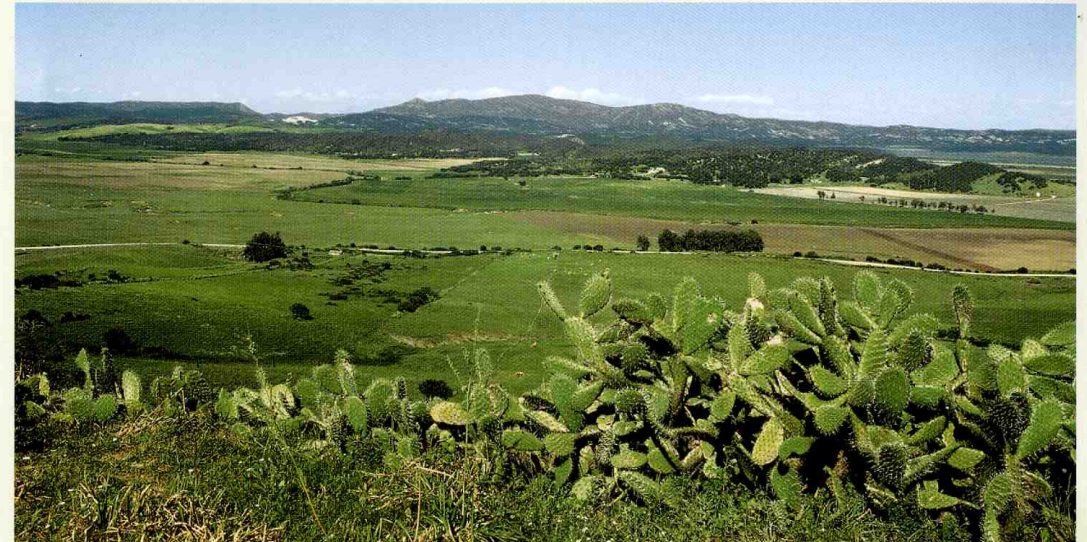


Record specimens of the Park

Gall oak



Cork oak



The countryside and the La Janda inland area

The countryside and the la Janda plains form a territorial and socio-economic unit characterised by a common history and resources based on agriculture and livestock breeding.

The rolling countryside, the high quality of the soil and the mild climate contrast with the harshness of the desiccating east winds in the Straits area.

The major agricultural transformation over recent decades, during which 9,000 hectares of lagoons and natural basins were drained and then turned over to irrigation farming, has generated great wealth in local towns. However, this has also resulted in both a great loss of habitats for many species and the disappearance of valuable landscapes.



Among the areas that have been conserved, the Isla Woods are worth mentioning. They offer safe refuge and a source of food for wildlife. These are rich living enclaves among cultivated fields. The province of Cádiz has a wide range of this type of small woods with abundant, diverse flora and fauna, as a result of a continuous fragmentation of the original vegetation in the countryside, essentially pine, cork oak and, above all, wild olive trees.



The wild olive

The wild olive is a plant formation typical of the Mediterranean Basin, in general, and Cádiz in particular. Its most representative tree, the wild olive (*Olea europaea sylvestris*), is found together with a variety of scrubland species such as kermes oak, the mastic tree, sage or palmetto, which can survive extreme winds, sun and drought.



The wild olive can grow in calcareous soils as well as in deep and clayey soils, resisting both high exposure to the sun and the strong, dry winds that blow in this area. One peculiarity of the wild olive is that it can withstand both water-logged soil and the cracked, dry soil of summer.



The sharp fall in the wild olive tree population has seriously affected certain species that need extensive territory and which specialise in specific prey. The new initiatives for the re-introduction of certain species have had some success, in particular with the golden eagle and the osprey. Breeding is carried out in captivity, and when the animals are released, they are constantly monitored with transmitters.



The wild olive and the plants associated with it are of high ecological value, and their colonising role is essential. A great diversity of species shelter in the tree's branches and eat its oily fruits, which are a basic source of energy in wintertime, especially for the migratory birds crossing the Straits.



The open countryside and the small wild olive groves, the drover's roads, hedges and boundaries, along with other open spaces, such as the Cádiz plains, shelter different species for small game hunting, including turtle doves, blackbirds, starlings, pigeons, partridges, ducks, rabbits and hares.



By far the most important use of wild olive groves is livestock farming. *Retinta* and *Lidia* cattle and *Serrana* goats are perfectly adapted to the harsh conditions prevailing in these pastures. They are a basic pillar of the local economy, providing high quality milk, cheese and meat.



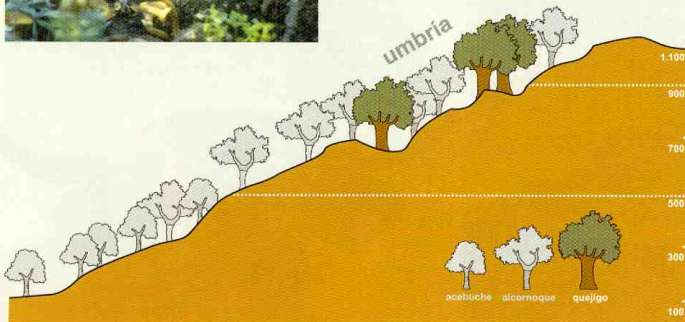


The gall oak

The Algerian oak (*Quercus canariensis*) is the most southerly deciduous oak of the Peninsula. It makes up dense woods of high ecological and landscape value in the most shady and humid parts of the mountains. Once exploited for their wood, but today quite scarce, the groves of these beautiful trees are one of the most singular features of the Cádiz Mountains.



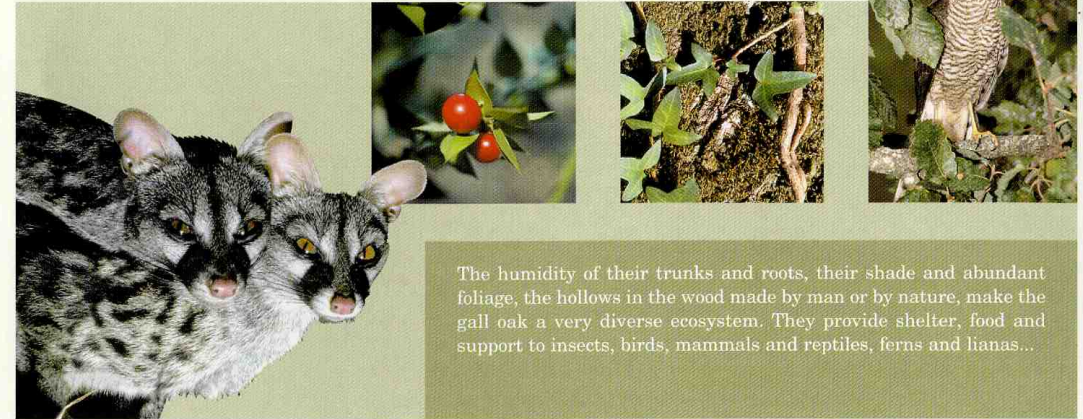
The organisms that decompose the gall oak tree, essentially microorganisms, fungi and insects, are responsible for a high biological activity rate. Consequently, abundant dead matter is disintegrated and recycled, thus passing on to other consumers in the food chain.



The Algerian oak is found in the shady valleys of the sandstone mountains.

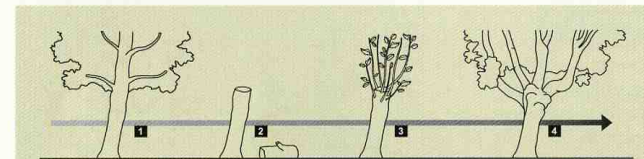


In the soil of the gall oak forests, there is abundant organic matter and humus, thanks to high humidity and moderate temperature, typical of the shady valleys and slopes.



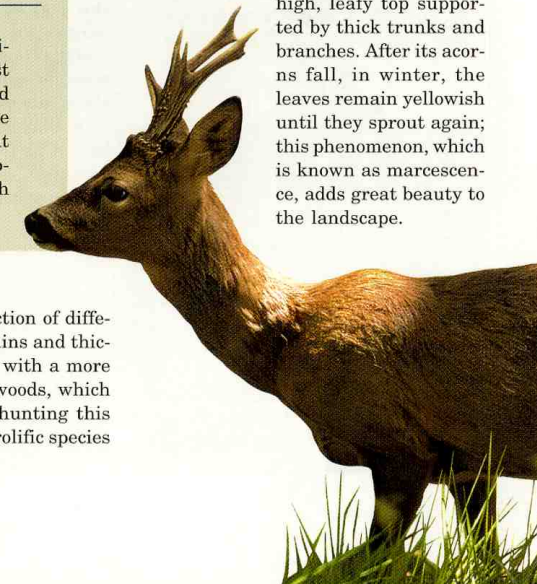
The humidity of their trunks and roots, their shade and abundant foliage, the hollows in the wood made by man or by nature, make the gall oak a very diverse ecosystem. They provide shelter, food and support to insects, birds, mammals and reptiles, ferns and lianas...

Since ancient times, the wildlife and hunting resources of the Cádiz Mountains have been well known. In the 14th century, the «*Libro de la Montería*» (Book of Hunting) described the excellences of the place, the variety of the woods and animals and the royal hunting parties with beaters that were organised there.



The gall oak groves of the Aljibe Mountains and Campo de Gibraltar have enjoyed an unprecedented recovery over the last four decades. This is due to two main reasons. Firstly, the end of the excessive cutting by charcoal burners, which was once very popular, but highly aggressive since it originated a great deal of rotting in the wood, and secondly, the control of the reforestation process and management of the game species which cause excessive damage by browsing on tree branches.

The Algerian oak is a tall, stout tree, with a high, leafy top supported by thick trunks and branches. After its acorns fall, in winter, the leaves remain yellowish until they sprout again; this phenomenon, which is known as marcescence, adds great beauty to the landscape.

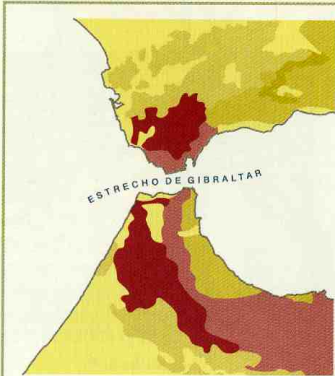


The lack of predators, except for man, and the excessive introduction of different species of deer have brought about overgrazing in the mountains and thickets by these animals, which have easily displaced other species with a more restricted diet. This is the case of the roe deer, the ghost of the woods, which hides in the depths of the gall oak groves. As the demand for hunting this animal is increasing, it is necessary to control other, much more prolific species that have a simpler diet.



The cork oak

The cork oak grove is a forest formation that is unique in the entire world. Exclusive to the Western Mediterranean, its main feature is the unmistakable cork bark, which protects the tree and its trunk from climatic changes, fire and pests.



Both sides of the Straits are very similar in terms of geology and botany. In fact, cork oak groves are also found at the foot of the Atlas mountains, which demonstrates their common origin in the depths of the Alborán Sea some 30 million years ago, followed by a subsequent elevation, and the formation of both ranges of mountains.



In contrast to wild olive trees or gall oaks, the cork oak (*Quercus suber*) prefers loose, sandy soil produced by the disintegration of sandstone. They have a high acid tolerance and grow equally well in low, flat lands or rocky slopes and mountain peaks.



The cork oak only grows in the Western Mediterranean. It forms woodlands that may be pure or mixed with other tree species, but it is always found together with abundant scrub, mainly heather, cistus, arbutus and ferns. These forests have proven their high capacity for recovery after fires.

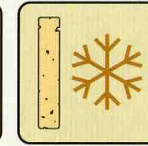


The main characteristic of the cork tree, which differentiates it from other species, lies in the production of suberose bark or cork. Over time, the accumulation of this bark ensures effective protection against fires and drilling insects.

The industrial importance of the cork oak stems from its natural qualities and physical characteristics. The six most important are:

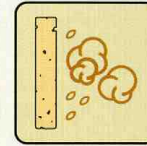


Fireproof
Resistant to fire and combustion



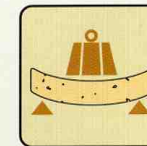
Insulating

Thermal and acoustic



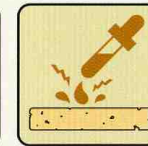
Impermeable

To liquids and some gases



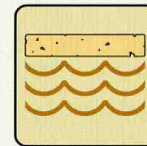
Elastic

Resistant to physical deformations



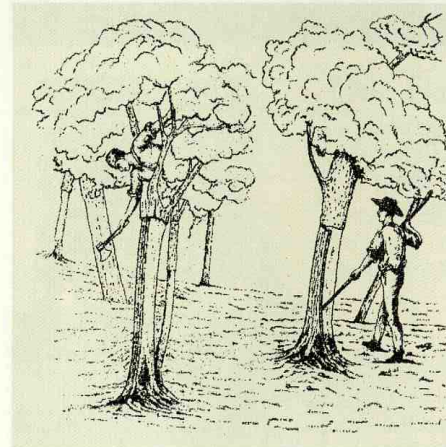
Stable

Whatever the chemical agents or the atmosphere

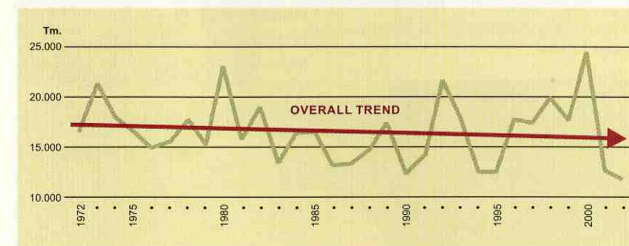


Floatable

Due to its low density



The operation of extracting the cork from the trees, every nine years, is called stripping or debarking. It is performed in summer, when tree growth is at a standstill. The work is highly specialised, with some removing the bark with axes, the muleteers transporting it on muleback to the cork yards where it is weighted and selected. After it is dried, the cork is sent to the industrial and manufacturing centres.



Intensive exploitation of cork since the 19th century to the present day has led to an inevitable fall in production, due to factors including pests, fires and the so-called «dryness», which appears as a general and sudden decay of the cork oak groves. Other anthropic factors, such as the excessive pressure of herbivores, mainly deer, or the disproportion between young and old trees, have exacerbated this situation.



Gullies

The gorges and gullies of the Aljibe Mountains and Campo de Gibraltar are mainly characterised by steep-sided valleys between medium to high mountains, luxuriant vegetation that has been there for millions of years, continuous streams and permanent shade and humidity.



Conditioning factors, such as humidity and steep relief around the mountain streams, have ensured the survival of hot, subtropical vegetation, typical of the Tertiary, called «laurisilva» for the similarity of its leaves to the laurel.



The flora of these gullies is especially rich and diverse, changing with both the altitude and the distance from the main stream. The «ojaranzo» or rhododendron is worth mentioning. The beautiful blooms of this plant, which is typical of these valleys of Cádiz, are abundant from March to May.



Unexpected results have been produced by recent research on aquatic macro-invertebrates (dragonflies, caddis flies, stoneflies...), which are indicators of the good health and natural conditions of the aquatic systems. The presence of many rare ferns, some in danger of extinction, has also been detected. They have found their last refuge here, in rocky crevices, tree trunks, on the edges of pools, etc.



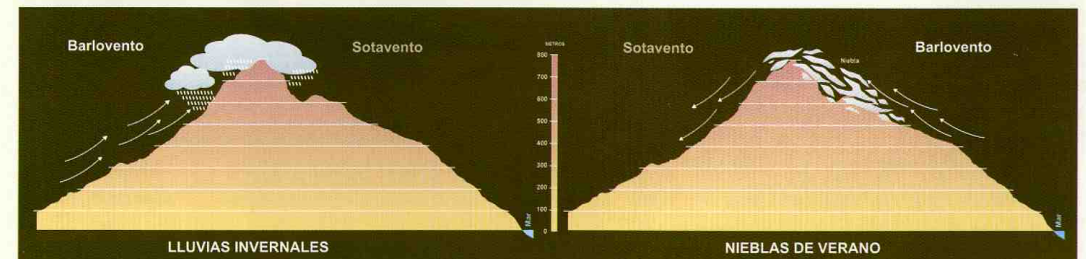
The Fog Woods

The fog woods are a refuge for rare vegetation that is in danger of extinction, where one can find Algerian oaks colonized by ferns and moss, and different climbing plants. The rhododendrons are mixed with hawthorns, small oleanders, butcher's brooms, *Quercus fruticosa*, holly, common oak... creating a strange, overgrown atmosphere.



The mountaintops of Algeciras and Rif in Morocco form a funnel for the Eastern winds that concentrate humidity even in summertime. The frequency and persistence of the fog in the Straits has led to the development of singular vegetation that offers secure shelter to fauna.

In the windiest areas, there is abundant rockrose and heather, together with thick rhododendron and holly bushes. In the lower part, there is a profusion of hawthorn and gall oak groves. They make up a highly developed low-density forest, among rocks and streams, where ferns and grasslands grow.



Ecosystems

The main patio is an important element of the Visitor's Centre. It has been a reference point during your visit of the exhibition; so it is worth making a few observations about it.

In each square bed, several species have been planted to show a sample of the main vegetation found in the woods described in the exhibition. They all come from a tree nursery located in Majarro-maque (Jerez), which belongs to the Regional Ministry of the Environment.

There are four main specimens of the natural vegetation prevailing in the mountains and valleys of this region:

- The gall oaks have been planted in the most sheltered, shady area, in soil enriched with a great deal of organic material, together with singular species, such as rhododendron and laurel.
- Mature cork oaks have been planted in one of the sunniest place, after plastering their roots, together with gorse, arbutus and heather, and always in sandy soil and among sandstone.
- The wild olive trees, also located in a very sunny corner in rocky limestone soil, have been planted next to palmettos, myrtle and mastic trees.
- Lastly, there is an ash tree and a willow next to rosebays and brambles, representing the riverside woods, which are so frequent and so important.

