

DEHESAS & MONTADOS

(IBERIAN PENINSULA)

© Concha Salguero

DEHESAS (IN SPANISH) OR MONTADOS (IN PORTUGUESE) ARE A VERY DIVERSIFIED SYSTEM, CHARACTERISED BY THE MULTIFUNCTIONALITY BETWEEN TREES, ANIMALS AND PASTURES.

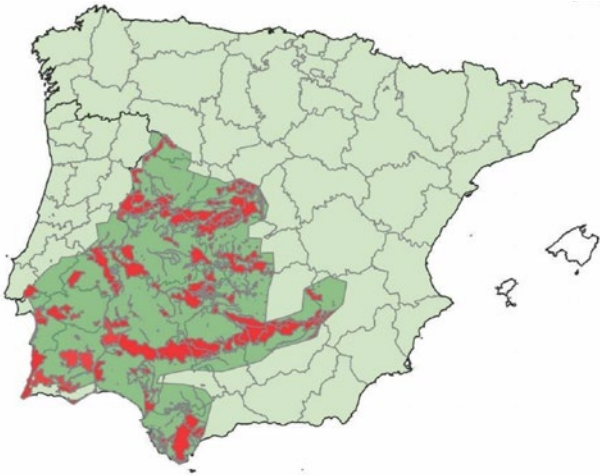
These forests of more or less scattered trees and herbaceous layer have a great diversity of the tree stratum. The surface of dehesas/montados is around 4 million hectares in Spain and 1 million hectares in Portugal. This semi-natural system shaped by human activity to maximise its productivity without compromising its sustainability, conditioned to a large extent by the dispersed arrangement of the trees, offers suitable habitats for a large number of species some of them emblematic like the Iberian lynx (*Lynx pardinus*) or the Black stork (*Ciconia nigra*).

Among the most common practices in these systems are the harvesting of cork & the feeding of livestock with acorns from the oak trees. Pigs and sheep are the animals most raised in this pastoral system. This project works on a local scale with producers and owners of three pilot areas: the Los Pedroches valley in Córdoba, several Extremadura counties of Cáceres and Badajoz, and the municipalities of Coruche, Mora and Montermor-o-Novo in Portugal. Additionally, the focus is on changing policies that affect the dehesas and montados at regional, national and European level and to develop a State Strategy for Extensive Livestock.

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Tour
du
ValatCork Oak
(*Quercus suber*)



Dehasas and montados in the Iberian Peninsula. Source: © WWF España

CURRENT CHALLENGES

For centuries, the dehasas and montados have existed as a perfect balance, producing food and employment for the local population and offering important environmental services. Not any longer. Nowadays, the main driver of change is the abandonment of traditional grazing, either through abandonment or intensification. The former leads to scrub encroachment and higher fire risk and the latter leads either to overgrazing and loss of species (tree species being very significant) or directly to the loss of all vegetation and soil life.

Another driver of change has been the intensification of agriculture made possible by chemical fertilisers and huge tractors and other agriculture machinery. This has led to a loss of fallow and set aside land and a decline in pastures

in favour of arable land (arable crops) with soil ploughing and loss of biodiversity and fertility and an increase in desertification and emissions that contribute to climate change. Due to the loss of profitability and the lack of public support/market conditions, many owners and farmers have intensified management. Herds are expanding due to market pressure and threaten the regeneration of trees and grasslands. Agricultural policies such as the CAP are considered unsuitable for promoting this extensive system.

Many traditional practices, such as transhumance, are no longer undertaken and are on the verge of extinction. The results are problems of regeneration and ageing of the trees, loss of soil, pests and diseases. Among the most widely recognized problems of these grazing lands is the absence of natural regeneration, which leads to an ageing of the tree cover due to the abandonment of transhumance practice that led to the increased stocking rates, the increased periods the animals are kept in the farms and to an inappropriate handling. Unless decisive action is taken, we could be facing a massive loss of the wood pastures of grazing lands in the coming years.



Traditional shepherd shelter and beehives in the dehesa
© Concha Salguero



Traditional cork extraction in the montado © Concha Salguero

In recent decades, the intensification of livestock production is leading to an ecological decline of the grazing lands, compromising the long-term production and threatening the continuity of this unique system. In other cases, the crisis of livestock production has led to the abandonment of grazing, with a similar negative impact. Extensive grazing and well-managed grazing lands are an example of High Nature Value Systems (HNVS).

NEGATIVE IMPACTS ON BIODIVERSITY

Well-managed dehasas and montados systems show a balance between biodiversity and sustainable agriculture that benefits the rural economy, with the local communities obtaining high-quality products and materials, such as meat, milk, cheese, wool, wood, cork, mushrooms. Sustainable practices prevent disasters such as wildfires and the destruction of the land through soil erosion, while providing a continuing legacy for future generations.

The heterogeneity of the ecosystem and human infrastructures such as stone walls, huts, ponds by generating a vertical landscape of vegetation and variation in surfaces and areas, allow for high floral diversity to flourish in the dehasas and montados. The wild fauna includes around 60 species of birds, more than 20 mammals and equally as many reptiles and amphibians. They are the wildlife habitats for endangered species, including the Spanish imperial eagle (*Aquila adalberti*), Eurasian black vulture (*Aegypius monachus*) and Iberian lynx (*Lynx pardinus*).

The emblematic holm and cork oaks of these ecosystems have experienced a high mortality rate since the beginning of the 1990s. The primary responsible for the phenomenon called "la seca" is root rot caused by the *Phytophthora cinnamomi* pathogen. A combination of other factors are also highly threatening the ecosystem and its biodiversity, including depopulation, overgrazing, lack of biological regeneration, habitat simplification, fragmentation, soil erosion and climate change. The current agrarian policies are not considering the environmental and socio-economic benefits provided by extensive producers, turning the countryside into an unsustainable production system.

CULTURAL SUSTAINABLE LAND-USE PRACTICES

Transhumance is a circa 7000-year-old practice of seasonal movement of herds to summer pastures in the mountains when water becomes scarce in the plains and their return to wintering areas in late autumn. Until the middle of the 20th century, transhumance was still very common throughout the Iberian Peninsula. The drovers roads that run throughout the territory were created and protected in the 13th century.

Besides the preservation of ancient traditions, transhumance favours biodiversity. The livestock act as natural dispersers on their journey, as they ingest seeds of various floral species that are then dispersed along the way. These seeds are more likely to sprout because they are already pre-digested, fertilised and protected with the excrements of the herd. The absence of livestock from grazing areas for long periods of the year allows regeneration of the vegetation and the survival of wild plant species.

The ecological impact of the gradual abandonment of this practice has resulted in overgrazing, loss of trees and grasslands, species extinction and wildfires. The life of transhumants has become increasingly difficult, with migration routes becoming fragmented by roads and urban development and the effects of climate change making water scarcer and difficult to find. It is imperative to engage with national, local and European governments on the rights of transhumant shepherds, the conservation of the drovers' roads, infrastructure, water points, signposting and the creation of a national registry.



Iberian pigs in dehasas © Ofelia de Pablo y Javier Zurita WWF España

Penning or *majadeo*, used by farmers around the world, is a practice characteristic of dehasas and montados, consisting in enclosing livestock in the evening in a small space, resulting in the soil being fertilised with manure. It is used to control scrub recovery and unproductive soils, the improvement of ecosystem processes and the increase of pasture productivity. Nowadays in decline, the redileo was complementary to transhumance activities that are slowly disappearing. This is causing a loss in pasture production, as well as other environmental services, such as less water retention, higher risk of erosion and increased risk of fires.

Tree regeneration and diversification is a dynamic process through which new individuals are recruited, offsetting mortality losses. In the case of *Quercus*, the incorporation of new individuals is a complex process, due to the slow growth of these species and the multiple obstacles that can arise over time, from the production of flowers and seeds to the rooting and viability of the new plant. In addition, in the dehesa, the difficulty increases because the renewal process must be made compatible with grazing and with other activities related to the agricultural use of the land. WWF Spain, Universidad de Córdoba (UCO) and farmers are working to develop best protocols to guarantee the regeneration and renewal of trees, maintaining diverse dehasas more resilient to possible impacts (fires, pests, diseases, etc.)."

BENEFITS OF DEHASAS & MONTADOS AS A CULTURAL LANDSCAPE

Transhumance and pastoralism provides a fundamental role as a carbon sink, by promoting microbial activity through the incorporation of nutrients, improving its structure and productivity, reducing erosion and increasing the retention of water in depth. It is an effective wildfire prevention tool, and can contribute to the mitigation of climate change.

The dehasas and montados are unique to the Iberian Peninsula and they have great value offering a high variety of resources. They offer many uses such as agriculture, forestry, beekeeping, mushroom growing or tourism. Iberian pigs, *Merino* sheep and other autochthonous breeds are raised in these areas, conserving these breeds and improving pasture and soil fertilisation. Rural entrepreneurs produce high quality goods, such as Iberian ham, cork, wool, milk and cheese.

Plant nurseries are maintained to promote biodiversity and the sustainability for forest and food production. Furthermore, these ecosystems support the water cycle regulation and avoidance of soil erosion. By installing nest boxes on the farms, planting shrubs and maintaining stone walls for insects, there is a natural system to combat pests and diseases and support for the ecological cycles of birds and small mammals, important for the dispersal and seedling of acorns.

Madrid Transhumance Festival © Concha Salguero

