

# Connectivity and the Spanish network of Protected Areas

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Habitat fragmentation in cultural landscapes should be understood as the abandonment of traditional practices that facilitate species survival and ecosystem processes. Fragmentation is also promoted by the intensification and development of infrastructures. Additionally, landscape fragmentation can be considered as a more complex concept which includes the loss of aesthetic, visual, cultural and socio-economic values. In this case, both the concept of fragmentation and its prevention become extremely complex issues. This presentation deals with Ecological connectivity at a large scale, considering larger regions and their protected areas networks. At this scale, the maintenance of connectivity involves the preservation of large areas with homogenous administration criteria.

There are a number of economic and social reasons that explain the evolution of endangered traditional agricultural landscapes in Spain throughout the last century. At the same time, new land management systems aimed at maintaining and restoring ecosystem values and services are emerging.

A large part of the most valuable cultural landscapes in Europe has been legally designated as Protected Areas. Among the different categories we can highlight the “Nature Park” and the “Protected Landscape” designations (IUCN category V), given their orientation towards the conservation of agro-eco-systems and their associated natural heritage and biodiversity. In Spain, over six million hectares are under legal protection (EUROPARC, 2008). The international system for Protected Areas adopted by the International Union for Conservation of Nature (IUCN) includes some specific categories for seminatural ecosystems. In Spain these categories represent around 90% of the PA system.

The most recent year-book of Protected Areas in Spain (EUROPARC-Spain, 2008) shows that the area of socio-economic influence of Spanish Parks includes 1081 municipalities (13% of Spanish municipalities). 17,5 million people (39% of the Spanish population) live in these areas. 73% of these municipalities are officially classified as rural. 87% have fewer than 20 inhabitants/ km<sup>2</sup>. Most land in these municipalities is devoted to pastures and woodland.

Nature Park areas are sparsely populated and maintain high levels of traditional land management. Population density in rural municipalities inside Parks is around 20 inhabitants/ km<sup>2</sup>. Among them, 87% have less than 5.000 inhabitants. These areas are classified as “Rural priority Areas” following the new Law for Sustainable Development in Rural Areas (Ley 45/2007 para el Desarrollo Sostenible del Medio Rural).

The following table compares land uses in rural municipalities within Parks with rural municipalities outside parks. We can see that municipalities inside parks have more pastures and woodland, and fewer arable land. Parks are more mountainous and have a higher cover of forested areas, and this highlights the importance of extensive livestock and forestry.

Land cover types in Municipalities totally or partially inside parks versus outside parks.  
Source EUROPARC-Spain 2008.

<b>Land cover (%)</b>	<b>Municipalities inside Parks</b>	<b>Municipalities outside parks</b>
Arable land	11,0	36,6
Permanent crops	8,5	8,3
Pastures/Grassland	47,1	34,4
Woodland	25,0	14,3
Other non-agricultural	5,8	5,7

After the 2007 year-book of Protected Areas in Spain, 51 % of Parks have a management plan. There are over 4.000 employees in Spanish Parks and 35 €/ha are invested in Park management. These figures show that there has been an active and widespread investment which can be very effective in preventing the effects of land abandonment and fragmentation. Protected Areas management has spurred a new, collaborative, social method of land governance. The concept of management in Protected Areas includes a set of innovative tools that should be taken into account when developing future systems of natural networks. Specific management plans with specific goals are a keystone of the Protected Areas system.

From the original idea of an isolated island to the current vision of systems and networks, the concept of Protected Area management has rapidly evolved during the last few years. The system is usually coordinated by starting with a bottom-up approach and then working top-down, ensuring that local priorities are addressed and integrated with wider social aspirations. Participation councils (“Patronatos” and “Juntas Rectoras”) play an important role at this point.

In spite of these recent advances, Protected Areas in Spain still rely on limited budgets and insufficient human resources.

In our presentation we will show how the Protected Areas System in Spain is moving towards a more efficient and multifaceted system of land administration. The integration with other land-demanding activities such as infrastructures and urban activities is becoming relevant in metropolitan and suburban areas.

## References

EUROPARC-España. 2008. Anuario EUROPARC-España del estado de los espacios naturales protegidos 2007. Ed. Fundación Fernando González Bernáldez. Madrid. 224 páginas