

## **ECOTOURISM IN SOUTHERN PORTUGAL. CASE STUDY: CASTRO VERDE BIOSPHERE RESERVE**

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Ecotourism, understood in the strict sense, is an activity that aims to harmonize the interaction of people with well-preserved ecosystems that present great value of naturalness, providing direct financial benefits for the conservation of indigenous biodiversity and promoting the well-being of the visited community. Minimizing negative environmental impacts, planning and management actions must necessarily be geared towards nature conservation and, at the same time, to provide benefits to the local population, such as job creation, the recovery of historical heritage and the enhancement of intangible cultural heritage. Thus understood and practiced, ecotourism will be able to favor a healthy relationship with the environment, natural and cultural, and exclude the impacts of mass tourism. According to this concept of ecotourism, the hotel services offered must be based on sustainable practices, transport obey extreme care with the environment and gastronomy favor local products and flavors. Finding sustainable development alternatives that favor the preservation of natural and cultural heritage and, at the same time, improve the quality of life of local populations is always the great challenge for all those involved in an authentic ecotourism project. In Portugal, Decree-Law No. 69/2000 provides a legal framework for a sustainable development model that promotes the balanced management of natural and cultural resources, ensuring the protection of the quality of the environment and the improvement of the quality of life of man. On the other hand, Decree-Law 108/2009 redefines the concept of nature tourism, understanding this as activities practiced in classified or other areas, with natural values that are recognized as such by the Institute of Nature Conservation and Forests. The Castro Verde Biosphere Reserve, having natural and cultural heritage values of great significance and integrating the national system of classified areas, seems susceptible to an ecotourism appreciation that, through nature tourism, can constitute a pole of balanced development and thus counteract the tendency of desertification of the interior of the territory. These unique potentialities determined the election of the Castro Verde Biosphere Reserve for Case Study. The Castro Verde Biosphere Reserve is located in southern Mainland Portugal, in the interior of the Lower Alentejo, in the central area of Campo Branco. This name, inspired by the light hue of shale soils, designates a vast expanse of low-relief plains, almost deforested and presenting a high degree of similarity to soil occupation. It is a territory of a peculiar landscape, biological and cultural biodiversity, whose tourist attractions are related to the countryside and nature. The Castro Verde Biosphere Reserve was the 11th in Portugal recognized by UNESCO, being the first south of the Tagus River, and had as promoters: the Municipality of Castro Verde (MCV), a local authority with

competences in spatial planning, in the correct promotion of the use of natural and cultural resources and administrative authority in several areas; the League for the Protection of Nature (LPN), a national non-governmental Environmental Organization (NGO) for non-profit and public utility status; the Campo Branco Farmers Association (AACB), a Public Utility Association, which provides technical, economic, scientific and environmental support to associates to improve their quality of life, the sustainability of agricultural and livestock activity, and the management of environmental resources in the region. With an area of 569.4 km<sup>2</sup> which corresponds to the entire geographical area of the municipality of Castro Verde, it has an approximate population of 7,276 inhabitants, a low population density of 12.8 inhabitants/km<sup>2</sup>. A large part of the population is concentrated in the village of Castro Verde (4,199 inhabitants) and the rest is distributed in villages and towns of small and very small size, with an essentially rural character. Being classified as a biosphere reserve, this area is associated with three functions: the conservation of species, ecosystems and landscapes; social, cultural and ecologically sustainable development; monitoring, dissemination and environmental awareness. The soft relief, the dominant soil (shale and slender) and the Mediterranean climate of hot summer (Csa), were determining factors so that the exploitation of the land in the region was always associated with cattle breeding and the cereal crop of dryland (without recourse to irrigation). The agricultural practices follow a traditional scheme of rotation of plots, in which after two years of cereal cultivation (wheat and oats), the land is pousium, to recover fertility and serve as pastures for cattle and sheep. This traditional land use system meets the requirements to be classified as High Nature Value Farmland Type 2. That is, it forms a mosaic where plots occupied by extensive crops combine with plots dominated by herbaceous and spontaneous shrubs. These agricultural fields are a favourable habitat for birds which, in Europe, have an unfavorable conservation status. The millenary relationship of Man-Nature in Campo Branco resulted, therefore, in a process of evolution of occupation and land use that has been contributing to an agroecosystem of high conservation value. As a result, a large part of the territory of the municipality of Castro Verde is part of the Natura 2000 Network of the European Union and, because of its importance for the conservation of the bird life it houses, about 77% of the area of the Biosphere Reserve is classified as the Special Protection Zone (SPA) for wild birds under the Birds Community Directive (Directive No 2009/147/European Community). This Directive was established with a view to the conservation of wild birds within the territory of the European Union, laying down rules on their protection, management and control. It aims to safeguard bird species and their habitats, especially those listed in Annex I to this Directive and migratory birds not mentioned in the Annex but the occurrence of which is regular on European territory. The Castro Verde SPA is also part of the Fundamental Network for Nature Conservation (RFCN), being recognized by Birdlife International as an important area for birds and biodiversity, which reinforces the importance of the reserve for the conservation of bird populations and their habitats that support them, on a global scale. Today, the extensive plains of Castro Verde form a unique seminatural landscape unit, dominated by open fields with fields, pousios and natural pastures. The agricultural network is punctually interrupted by olive groves (*Olea europaea* L.), vineyards (*Vitis vinifera* L.), patches of natural shrubby

and/or arboreal vegetation and freshwater wetlands, constituting a mosaic of semi-natural and natural biotopes, representative of the Mediterranean Region, which combines biodiversity conservation with sustainable use. The mosaic of biotopes offers, in space and time, water, food and shelter to about two hundred species of birds. The sedentary, the invernants and the nesting and passing migrators use the matrix of agricultural fields of the cereal steppe in various ways and at different times of the year. Among the birds that make up flag species of the reserve, stand out the steppes and daytime preys, which depend on the action of man by the cultivation of cereals and the existence of fallows / pastures. Among the steppe birds, with status of "Vulnerable" globally and "In Danger" in Portugal, there is the fir tree (*Otis tarda*) here with the largest number of individuals in the country, being the fourth largest population in the world of the species; (*Tetrax tetrax*), with higher male density during the breeding season, is classified as "Vulnerable" in the country and "Almost Threatened" at global level, currently has a regressive population trend; the royal kite (*Milvus milvus*), which is "Almost Threatened" globally, has in Castro Verde one of the most important dormitories in Portugal during the winter; and the endemic Iberian imperial eagle (*Aquila adalberti*), one of the most endangered birds of prey in the world, classified as 'Critically Endangered' in Portugal and 'Vulnerable' worldwide. The reserve is also, at the national level, the main breeding area of the rolieiro (*Coracias garrulus*), the calhandra-real (*Melanocorypha caandra*) (about 85% of the national population) and one of the highest concentrations of black-bellied tenement (*Pterocles orientalis*), three species that present worldwide regressive population trends. The Castro Verde Biosphere Reserve stands out for being an important place for the conservation of this type of birds in Europe and the Mediterranean Region, due to the good conservation status of the habitats, the number of staff and the diverse structure of the bird community. At national, Iberian, European or global level, Castro Verde plays an essential role in the conservation of this unique biodiversity, associated with traditional agro-pastoral practices. Due to its geographical location, the reserve area is also an important resting place for many birds in migratory passage, especially between Northern Europe and the African continent. The small dams, dams and ponds, artificial water mirrors with about 1 to 2 ha, are the most sought after places for rest and feeding, as well as nesting place of many riparian and aquatic birds. They also play an important role in supporting agricultural activity by providing water to livestock during the summer, as well as wildlife. As for flora and vegetation, and in accordance with the Habitats Directive which aims to ensure biodiversity on the territory of the European Union through the conservation of natural habitats, several habitats have been identified, among which are the mounts of holly (*Quercus rotundifolia* Lam.) – Habitat 6310 Montados de *Quercus* spp. of perennial leaf, the under-covered of which is used for extensive grazing or cultivation of dry land cereals, rotational; the grass and annual subsmetpes of Thero-Brachypodieta – Habitat 6220 Semi natural dry herbaceous formations and shrubby facies; the ponds – Habitat 3170 Mediterranean temporary ponds and, in the main waterways, the riparian galleries with loendro (*Nerium oleander* L.), tamargueira (*Tamarix* sp.) and tamujo (*Flueggea tinctoria* (L.) G. L. Webster) – Habitat 92D0 Galleries and southern riparian bushes and punctually ash (*Fraxinus angustifolia* Vahl), the black poplar (*Populus nigra* L.) and various types of willows

(*Salix* spp.). In general, tourism activity in Castro Verde is still at an early stage, but there is a good growth potential that will allow it to be a medium-term vector of sustainable development. Among the types of demand currently with importance in local tourism stand out the cultural and landscape tour, aiming at the discovery of the region; tourism focused on intangible cultural heritage (traditional uses and customs); and tourism oriented to the delight and knowledge of the natural heritage, based on nature routes and bird watching. The municipality has numerous potentialities for ornithological tourism and is currently already a reference for national and foreign bird watchers. Birdwatching, perhaps the greatest element of ecotourism attractiveness, is a rising activity entirely compatible with the conservation of the different heritage values that characterize the region. But Castro Verde has also been a prominent pilot area demonstrating the relationship between traditional agriculture and biodiversity conservation, in particular stepbirds. Indeed, since 1995 there has been monetary support analyzed through Agri-Environmental Measures, to which farmers can voluntarily adhere, aimed at maintaining a traditional cereal-fallow rotation system and which imply the implementation of practices that favor the protection of birds. The commitments made by the adherent farmers involve a set of actions that make it possible to make agricultural activities compatible with the biological cycle of stepbirds, fostering feeding areas and watering sites for the avifauna. For this environmental service, farmers receive economic compensation corresponding to the missed opportunity cost, i.e. farmers are compensated for income losses and/or increased costs compared to other possible land use systems. In parallel with the offer of ecotourism products, potentially certified with the nature tourism seal, the classified areas can also assume a pedagogical vocation constituting a new school with relevance for the formation of new audiences and also offering the possibility of complementing conventional teaching with eminently practical classes. In this chapter, the Gonçalves Valley Environmental Education Center (CEAVG) has been developing a major activity in the Castro Verde region since 1993. It is located in the Herdade Gonçalves valley, in an old Alentejo hill (set of the villa and the owner's premises, usually situated in an elevated area) that was recovered keeping the traditional Alentejo moth. It is a self-sustaining building, powered by renewable energy sources (solar and wind), composting waste and has a wastewater treatment plant using plants. CEAVG, in addition to offering logistical support to several projects of the League for the Protection of Nature (LPN) in the Lower Alentejo, receives hundreds of visitors annually, many of whom are interested in the stepped bird life of Castro Verde. It receives volunteers and participants in various activities promoted by LPN or other institutions that request their collaboration. But the center is strongly focused on environmental awareness, offering thematic visits available to students of various levels, from basic to higher education. Within the scope of the Ecotourism curricular unit, which is included in the Study Plan of several training offers of the University of Évora, study visits have been carried out with annual periodicity to CEAVE. We have thus provided our students with the opportunity to witness firsthand how, in practice, fundamental principles of ecotourism apply to outdoor tourism developments and activities.

**Keywords:** Nature Tourism; Natura 2000 Network; Birdwatching; Environmental Education; Alentejo.

Consulted bibliography:

ALFA. Tipos de Habitat Naturais e Semi-Naturais do Anexo I da Directiva 92/43/CEE (Portugal continental): Fichas de Caracterização Ecológica e de Gestão para o Plano Sectorial da Rede Natura 2000. Associação Lusitana de Fitossociologia, 2004. <http://www.icnf.pt/portal/naturaclas/rn2000/plan-set/hab-1a9>.

GUERREIRO, P.S. A Agricultura no Campo Branco – Passado, Presente... e Futuro? Associação de Agricultores do Campo Branco. Castro Verde, 2009.

ICNB. Plano Sectorial da Rede Natura 2000 (PSRN2000). Fichas de Sítios da Lista Nacional (SIC) e Zonas de Protecção Especial (ZPE). Instituto da Conservação da Natureza e da Biodiversidade. Lisboa, 2006.

<http://www2.icnf.pt/portal/pn/biodiversidade/rn2000/rn-pt/rn-contin/sic-pt>

MCV, LPN & AACB. Candidatura Castro Verde Reserva da Biosfera da UNESCO, 2016.

Rivas-Martínez S., Lousã M., Díaz T.E., Fernandez-González F. & Costa J.C. La vegetación del sur de Portugal (Sado, Alentejo y Algarve) “. *Itinera Geobotanica*. 3: 5-126, 1990.

Rocha, P. A Abetarda e o Campo Branco. Liga para a Protecção da Natureza. Lisboa, 2005.

<http://www2.icnf.pt/portal/pn/biodiversidade/ei/MaB>