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**STEERING COMMITTEE FOR THE PROTECTION AND MANAGEMENT  
OF THE ENVIRONMENT AND NATURAL HABITATS  
(CDPE)**

**Group of Specialists on Protected Areas  
(PE-S-ZP)**

**Doñana National Park  
(Spain)**

**Category A**

**Renewal of the European Diploma**

**Appraisal report**

*by*

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(France)**

## **A. Expert's Report**

### **1. TERMS OF REFERENCE**

In 1985, the Council of Europe recognised the Guadalquivir delta in Spain as an important heritage area, with the award of its Diploma to the Doñana National Park. The Diploma was last renewed in 1989 and is therefore due to come up for renewal for a further five-year period in 1995. I was accordingly commissioned by the Secretary General of the Council of Europe to carry out an on-the-spot appraisal. The results of this appraisal, which I carried out in conjunction with Mr Hector HACOURT, Principal Administrative Officer, are set out below.

### **2. CONDUCT OF THE EXPERT VISIT**

The visit took place on 3, 4 and 5 May 1994. On the evening of 2 May, we were met at Seville airport and taken first to El Rocio and then to our lodgings in the Park's guesthouse. The following three days were devoted alternately to on-site visits to various parts of the National Park and its immediate surroundings and to meetings at the Park offices and in Seville, at the Ministry of Agriculture of the Regional Government of Andalusia.

We spoke, in turn, to Mr A DIAZ BUSTOS, Director General of Agrarian Administration in Andalusia, Mr PALANCAR, Chief Water Officer with the Guadalquivir Hydrographic Confederation, Mr A. RODRIGUEZ, Director and Commissioner of the Nature Park bordering on Doñana, and Mr A. RAMIREZ, representative of the Andalusia Tourist Board.

These interviews were organised by Mr J. CASAS GRANDE, the Director of the Doñana National Park, who had welcomed us the previous evening together with his principal colleagues. Mr CASAS GRANDE took an active part in the discussions and accompanied us during our on-site visits. Our guides for the latter were, in turn, the park's public relations officer, Mr J.M. PEREZ DE AYALA SANCHEZ and Mr C. URDIALES, a biologist with the Park Management.

On 4 May, following the interviews in Seville, we were given lunch by Mr G.GARCIA, the Secretary of the Doñana Steering Committee (Patronato). Mr M. DELIBES, the Director of the Doñana Biological Reserves and Head of the Luis Bolin Laboratory, was also invited and provided us with useful additional information.

We were accompanied throughout the visit by our interpreter, Ms Guadalupe PEREZ de AYALA SANCHEZ. We should like to thank everybody for their kindness and consideration and for their helpfulness in replying to our questions.

Our appraisal is based on the information thus provided, the documents made available to us and what we observed in the course of the on-site visits. The knowledge of the area which I acquired during the 1988 appraisal - and during an earlier visit in 1962 - was also a useful basis for comparison.

### **3. EUROPEAN IMPORTANCE OF THE DIPLOMA-HOLDING AREA**

The European importance of the area is no longer in doubt. Doñana is one of the largest wetland areas in Spain and, given its exceptional ecological richness, one of the most important in Europe. Moreover, the range of conservation measures which have been

introduced puts it at the forefront of European nature conservation. It has considerable importance from a heritage point of view and is famous in Spain and throughout the world. It has been classified as a Ramsar Site and Biosphere Reserve and recognised as a World Heritage Site by UNESCO. Consequently, there is considerable public and media interest in any steps taken to protect the Park and threats to the Park arouse strong reactions. This was demonstrated several years ago, when there was a strong and unanimous outcry against proposals for tourist development along the neighbouring coast and for a golf course in the adjoining dunes.

#### 4. CURRENT SITUATION OF THE AREA - COMPLIANCE WITH THE SECRETARIAT'S RECOMMENDATIONS

Since the renewal of the Diploma in 1989, marked progress has been made both from the point of view of the internal running and management of the Doñana National Park (henceforth referred to as the DNP) and from the point of view of limiting public pressure on the surrounding areas, in line with the recommendations made five years ago, namely:

- to reduce intensive agriculture around the park;
- to strengthen quantitative and qualitative controls on water use;
- to pursue the land-ownership and ecological restructuring policy .

The latter issue is the only one over which ICONA, the body in charge of the management of the DNP, has sole and direct control. The other two relate to problems originating outside the park and are therefore the responsibility of the regional authorities. Their resolution has required active co-operation between ICONA, the agriculture services of the Andalusian Regional Government and the Guadalquivir Basin Agency.

##### 4.1 Reduction of intensive agriculture

In 1992, an international committee of experts appointed by the President of Andalusia's Regional Council (Junta), drew up an assessment of the economic viability and ecological compatibility of activities around Doñana. It considered issues such as the various types of agricultural production, tourist development along the coast, the hydrological situation and the ecological impact of soil use. A development strategy was proposed for neighbouring communities, taking account of the conservation of the Doñana ecosystems. The committee's report was adopted by the Regional Council and the threat of the above-mentioned agricultural and tourist development projects was therefore averted (para. 3). The Almonte-Marismas Plan was amended: the area scheduled for intensive agriculture was reduced from 14,000 to 4,000 hectares. In actual fact, economic conditions (cost of water, slump in fruit sales due to the glut on the European market) meant that only 2,000 hectares were actually under cultivation this year. These crops are to be moved outside the borders of the Park. Farmers will be compensated under the terms of the GATT agreement. The land will be reforested with native species or converted to pasture for extensive livestock farming - both end-uses compatible with environmental protection in the area. It therefore seems logical for this area to be incorporated into the newly founded Doñana Nature Park (cf. below, para. 5).

## 4.2 Monitoring of water resources

Both surface and groundwater levels and quality are monitored. Checks are carried out under the authority of the Guadalquivir Hydrographic Confederation (Guadalquivir Basin Agency), whose chief engineer accorded us a two-hour interview.

### 4.2.1 Quantitative aspects

The seasonal flooding of the *marismas* requires 25 million cubic metres of water. None of this is contributed by the Guadalquivir river, which only flows into the Park at the end of its course, very close to its mouth, where the water is already salt. Two sluice gates regulate the entry of this sea water into the downstream system of the Park. They are generally only opened to drain excess water from the swamps when their level is too high.

The flooding is entirely dependent on the small water courses in the north-west of the Park, which conjoin to form the *Madre de las Marismas*. The Guadiamar, another tributary on the right bank, no longer contributes to the flooding since its water is diverted for the irrigation of the rice-fields upstream. However, some of its flood water could be restored to the marismas, if its former hydrographic system were reintroduced.

Monitoring devices have been installed at all the points at which water enters the park. The data are recorded on computer, and a programme automatically transforms water-levels into rate of flow. The automated system makes this the most thoroughly studied area in the whole of Spain from a hydrographic point of view.

Underground water represents only a tiny fraction (1%) of the total volume of water entering the DNP, but it is vital for ecotonal life and to feed the peri-dunar lagoons. A piezometric monitoring system is to be set up, consisting of 30 automatic measuring points, each operating at three different depths.

### 4.2.2 Pollution risks

With the reduction of intensive agriculture in the north-west of the park, there has been a decrease in the use of pesticides. Elsewhere, in the catchment basin there is virtually no risk of pollution since the land is mostly wooded. Consequently, these areas are not only exempt from agro-chemical treatments, they also act as a natural water filter. The only possible source of pollution in this sector is sewage from the villages, which is now either already treated, as in Almonte or is soon to be so.

Rice is the crop which requires the most pesticides but the rice fields do not drain into the Park and its catchment basin.

### 4.2.3 Qualitative aspect

The water flowing into Doñana must not only be clean. It must also have the same physio-chemical characteristics as in the past. A programme for monitoring the quality of surface water has been operating since 1990, on the basis of 19 stations,

6 of them automated. The main monitoring station, on the Rocina stream, monitors 50 different parameters.

#### 4.2.4 Surveillance of Water Use

The most monitored wetland area in the whole of Spain, Doñana is also the area where water use issues are followed most strictly. The 1978 Act on the National Park stipulates that the Steering Committee must be informed about any activities which might affect water quantity or quality in the area, no matter how small. One could go so far as to say that not a single drop of water is used without the approval of the Steering Committee. As an advisory body, it does not have any legal power, but it does have considerable moral authority. In most instances, the Guadalquivir Basin Agency, the decision-making body, follows its recommendations. A surveillance network ensures that irrigation abuses do not take place.

As in any other Mediterranean-type wetland area, flooding is irregular and unpredictable. The instability of the *marismas* eco-system, which is often disconcerting to northern Europeans, is fundamental to its functioning and a condition for biodiversity. Attempts to compensate for the effects of the summer dry period, in order, for example, to maintain habitats favourable to aquatic birds, were a disaster: in overheated marshes, water is low in oxygen and botulism develops. The role of Doñana is not primarily to protect birds or particular habitats, but to ensure the continuation of natural processes, including periodic flooding and dry periods.

#### 4.3 Land ownership and ecological restoration

The policy on the consolidation of land-ownership is advancing. In 1992, an area of 800 hectares was acquired by compulsory purchase after three years of proceedings. Proceedings are under way with a view to acquiring five other properties. It is thought that in two years only 10% of land within the park will remain in private hands.

Work is also progressing on habitat restoration, including the removal of eucalyptus and replanting with native species, the thinning out of young pine groves and mechanical clearing of heather to create conditions for rabbits, which are the main prey of the iberian lynx.

Measures are being taken to control the wild ungulate population, which had become too dense. Around 100 red and fallow deer and boar are captured each year and sold to the surrounding hunting reserves. It is questionable whether capture on this scale reduces numbers sufficiently to permit regeneration of the woody vegetation. A more suitable option, which might be worth considering, is selective culling for each age cohort.

Under this heading, reference must also be made to the captive breeding programmes for strengthening the populations of important threatened species such as the iberian lynx and the white-headed duck.

The captive breeding programme for the lynx is only in its initial stages - the first birth was expected during our visit. However, the facilities built for this project are a model

of their kind and unique in Europe. The programme draws on the latest advances in the United States, with sound scientific and technical back-up.

The white-headed duck breeding programme is working successfully, with around one hundred ducklings born per year. There is now an additional justification for the programme, namely the maintenance of pure genetic stocks, since the American red-headed duck which cross-breeds with the palaeartic species has spread to Western Europe and Morocco.

## 5. The Doñana Natural Park

Moves to create a Regional Nature Park (henceforth referred to as the RNP) around the National Park came to fruition in 1992. The nature park covers 54,000 hectares, comprises four sections spread over three provinces (Huelva, Seville and Cadiz) and encompasses nine municipalities. It has a mixed system of land ownership, with 19,000 hectares under public (State or municipality) ownership and the rest under multiple private ownership. It is intended to act as a buffer zone around the DNP by encouraging activities which are compatible with its requirements and restricting or banning any other, incompatible activities. The major activities are forestry, rice-farming and low impact livestock farming. There are also 8,000 hectares of saltworks and aquafarming (prawns) on the left bank of the Guadalquivir. The activities carried out on private landholdings, which can be as large as 1,000 hectares, are monitored by the Nature Park wardens. Approval must be sought from the authorities before any changes are introduced. Landowners may find that the pursuit of non-approved activities is prohibited.

Certain types of activity are governed by specific regulations. With regard to hunting, for example, each reserve has to submit a hunting plan to the Environmental Agency which then passes it on to the wardens and the police. To take the example of wild geese, a protocol establishes a number of cartridges and specimens per gun, per day. Quotas can be reduced according to circumstances and hunting may even be suspended during a dry period or when excessively high water levels force the water birds to take refuge outside the National Park.

The aims of the RNP are different, but complementary, from those of the DNP. Activities are sometimes carried out in parallel. This applies, for example, to a restoration programme for marshland in a state-owned wooded area of 14,400 hectares. After the removal of the Eucalyptus trees, the land will be reforested with native species and the ditches will be left to fill with water by means of a natural or semi-natural hydraulic system. This programme is funded by the EEC.

The RNP forms a protective arc around the DNP and is a manifest improvement over the previous situation, in that it allows coordinated management of the entire eco-geographical area. The situation would be still better if the arc extended to the sector north of El Rocio and to the remaining areas of intensive farming west of the Matalascanas road. In my view, such an extension would now be possible and I strongly recommend it.

## 6. Integrated socio-economic development

The creation of the RNP was accompanied by another measure of major importance for the future of the area, namely the implementation of an integrated development plan with the

general aim of promoting the growth of the local economy with the least possible cost to the environment.

The development plan, which was drawn up by the Andalusia Tourist Board, responsible to Regional Government, was approved by the EC Commission in Brussels and funding is provided by the EC. It involves 12 municipalities around Doñana and covers vocational training for the area's inhabitants and the development of three economic activities: tourism, agro-industry and "clean" industries.

Tourism includes both rural and eco-tourism. The plan supports sporting, recreational and discovery activities in nature, such as horse riding. One of its provisions was to make El Rocio an international horse-riding centre at European level.

Agro-industry is centred around the villages and has a minimal impact on the DNP. Of the thirty projects envisaged for improving the area's major products, ten are already under way. As far as irrigated crops are concerned, the plan provides for the use of groundwater to be phased out in three years time, when water will be canalised from independent hydrographic systems. The term "clean industries" refers to the development of industries involved in processing local produce with minimal or no environmental impact. It is too soon to say whether these solutions, which are intended to balance economic and conservation demands, will have the desired results.

## 7. Other achievements

The Director of the DNP informed us that external business took up 90% of his time. This demonstrates the importance of these questions to the life of the national park, but does not, in any way, indicate that internal affairs are neglected. Indeed, there is a whole series of actions to prove the contrary. To cite just a few:

- changes in regulations: the approval in 1991 of a new use and management guiding plan;
- land ownership measures;
- policing measures/staff: the park employs 140 permanent staff including 60 rangers (as opposed to 47 in 1988). It also takes on 400 seasonal workers. As the largest enterprise in the region, it wields considerable socio-economic power;
- fire prevention: introduction of a new fire-watch scheme. During the high-risk period, two fire-watchers are posted permanently, round the clock. There have been no major fires anywhere in the area since 1985, despite periods of extreme drought;
- facilities: move of the administrative centre of the DNP in 1989 to much larger premises, construction of the lynx breeding centre, acquisition of additional vehicles;
- arrangements for visitors: the opening of the Acebron building after its conversion into a museum of traditional life brought the number of visitor centres in the Western sector of the park to three. Some 250,000 people pass through these centres every year, whilst the number of visitors who follow the guided tour within the park has been held at 50,000. Contained in this way, tourist pressure has virtually no impact on the environment. In the northern sector, the Interpretive Centre for

the Cerrado Garrido Marshes has been completed, but is not yet open. There will be direct access to the Centre from Seville.

In the eastern sector, a new centre is being built at Sanlucar de Barrameda. The southern part of the Doñana peninsula is already accessible by boat from Sanlucar. Raised walkways take visitors to the former saltworks.

## 8. Conclusions and recommendations

The concerns that were expressed about the conservation of the DNP at the beginning of the decade, as a result of external threats, no longer apply. Coastal tourist development and golf courses are no longer on the agenda. The seaside development at Matalascañas, originally intended to cover 7 km, has been restricted to 4 km and a hydro-agricultural development zone of 14,000 hectares has been reduced to 4,000 hectares pending its transfer to a more distant sector. On the other hand, the protected area has been steadily expanded: the original core of three biological reserves covering 10,000 hectares has grown into a national park of 50,500 hectares, which is now surrounded by a regional nature park of 54,000 hectares. The addition of this protective buffer zone, where activities are restricted so as to bring them into line with the aims of the DNP, means that the Doñana National Park has now become the "Doñana Area". The expropriation of privately-owned land is nearing completion, as is the ecological reconstruction of habitats. Conservation measures continue to be taken for flora and fauna and demonstrate that genuine expertise has been developed. The problems connected with water supply to the marshes, which caused so much concern, are unlikely to worsen, and could be resolved by reconstituting the old hydrographic system of the Guadiamar.

Lastly, an effective channel of communication has been set up between the Park management and the regional authorities responsible for the Nature Park, which means that conflicts can be resolved satisfactorily.

For all the above reasons, I propose that the European Diploma, Category A, be renewed.

However, I should like to make two recommendations to the Government of Andalusia, which would both involve measures in its field of competence, namely:

1. to re-establish the historic hydrographic system by which the Guadiamar river supplied water to the marismas and also to seek to re-establish the historic quality of the water itself;
2. to extend the natural park towards the north-west in order to close the protective buffer zone around the national park.



### Secretariat Note

The Secretariat wishes to thank the Director of the Doñana National Park and his colleagues for the excellent organisation of the visit which greatly facilitated our task. It would also like to thank the expert for his valuable collaboration.

The Secretariat agrees with the expert's observations and conclusions.

However, in addition, it would like to draw attention to the work carried out by the Park authorities since the last appraisal in January 1988.

On re-reading Resolution (90) 12 of the Committee of Ministers renewing the Park's European Diploma, the seriousness with which the Park authorities have taken the recommendations into account is striking: with regard to monitoring of water quantity and quality, there are now 19 monitoring stations in the Park; with regard to the reduction of intensive agriculture, over the next few years, several thousand hectares of intensive crops will be transferred outside the park boundary, meaning that the Park will be completely surrounded by the protective buffer zone formed by the regional nature park.

Lastly, one of the major concerns, the expansion of the tourist development at Matalascañas, seems to have disappeared, as a result of agreements with the municipalities, who own land with tourism potential.

To conclude, we would draw the attention of the park management to the banks of the Guadalquivir river which form the eastern boundary of the Park. There is a certain danger of erosion, principally due to the passage of boats going from or to the port of Seville. Work has begun and must be continued if more serious dangers are to be avoided.

In view of these observations, the Secretariat feels that the Doñana National Park's European Diploma should be renewed for a further five-year period.

Resolution (90) 12 is at Appendix I and the draft resolution for renewal, at Appendix II.

**Appendix I**

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RESOLUTION (90) 12

**ON THE RENEWAL OF THE EUROPEAN DIPLOMA  
AWARDED TO THE DOÑANA NATIONAL PARK (SPAIN)**

*(Adopted by the Committee of Ministers on 18 June 1990  
at the 442nd meeting of the Ministers' Deputies)*

The Committee of Ministers, under the terms of Article 15.a of the Statute of the Council of Europe,

Having regard to Resolution (65) 6 instituting the European Diploma;

Having regard to Resolution (85) 13 on the award of the European Diploma to the Doñana National Park;

Having regard to the proposals of the Steering Committee for the Conservation and Management of the Environment and Natural Habitats (CDPE),

Renews the European Diploma awarded to the Doñana National Park in category A until 21 September 1995;

Addresses the following recommendations to the authorities which are responsible for the management of the site:

1. a buffer zone should be created around the park in order to give the area maximum protection;
2. the pressure of intensive farming around the park should be lessened, so that the park's ecological working is not disturbed by excessive water pumping or by the infiltration of undesirable substances (biocides, chemical fertilisers, etc);
3. a permanent system of consultation with the bodies responsible for managing the surrounding areas should be set up in order to reinforce quantitative and qualitative monitoring or water use;
4. a research programme should be developed on the effects of agrochemical products inside and outside the park;
5. the policy of purchasing land and of restoring its ecological balance (felling eucalyptuses, planting cork oaks, etc) should be continued.

## Appendix II

### Draft Resolution (95) ...

#### CONCERNING THE RENEWAL OF THE EUROPEAN DIPLOMA AWARDED TO THE DOÑANA NATIONAL PARK (SPAIN)

The Committee of Ministers, by virtue of Article 15a of the Regulations of the Council of Europe,

Having regard to Resolution (65) 6 instituting the European Diploma;

Having regard to Resolution (85) 13 concerning the award of the European Diploma to the Doñana National Park;

Having regard to the proposals of the Steering Committee for the Conservation and Management of the Environment and Natural Habitats (CDPE),

Renews, until 21 September 2000, the European Diploma awarded to the Doñana National Park in Category A;

#### **Attaches the following recommendations to the renewal:**

1. to re-establish the historic hydrographic system by which the Guadiamar river supplied water to the marismas and also to seek to re-establish the historic quality of the water itself;
2. to extend the nature park north-westwards in order to close the protective buffer zone around the national park.
3. to pursue, indeed step up, work on the bank of the Guadalquivir River bordering the Park, in order to stop erosion of the bank within a relatively short space of time.

