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STEERING COMMITTEE FOR THE CONSERVATION
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Committee of Experts on Protected Areas

Renewal of the European Diploma awarded
to Doñana National Park
(Spain)

On-the-spot appraisal

(21-23 January 1988)

by

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A. Report by Mr Francis Roux

Following the decision by the Committee of experts on protected areas to consider renewing the European Diploma awarded to Doñana National Park (Spain), I was instructed to carry out an on-the-spot appraisal in order to compare conditions in the area today with those prevailing at the time of the award. This report presents the findings of that appraisal which I conducted in the company of Mr Jean-Pierre Ribaut, Head of the Environment Conservation and Management Division of the Council of Europe.

1. Conduct of the on-the-spot appraisal

The appraisal was conducted on 21 and 22 January 1988. During the evening of 20 January, a delegation of ICONA (National Institute for Nature Conservation) welcomed us at Seville airport and immediately drove us to El Rocio, and then to our hosts' house near Rocina. The next two days were taken up with a tour of the National Park including the visitors' reception and information centre at El Acebuche; the 80 km track available to tourists wishing to visit Doñana's most representative ecosystems (seashore, pinewood, dunes, moorland, marshland and the sand-marsh transitional zone); Cerro de los Ansares, the culminating point of the dune system; the improvements made for visitors and the facilities designed for specific projects in the peripheral zone (rehabilitation of birds of prey, breeding of white-headed duck); la Rocina visitors' centre, and ending with a reconnaissance tour of the northernmost part of the park, crossing the northern peripheral zone and returning to Madrid during the evening of 22 January.

Throughout the two days we were accompanied by our guides, Mr Lorenzo Aguilera, Head of the National Parks section of ICONA, who had come down from Madrid for the purpose, Mr Jesus Casas, Director-Commissioner of the Doñana national Park, MM Eduardo Crespo and Pablo Murilla, Deputy-Directors, and Mr Jose Maria Perez de Ayala, who is responsible for public relations, We would like to take this opportunity to thank them for their cordial welcome and hospitality, as well as for the information and excellent documents with which they were kind enough to provide us.

On 23 January we were taken to th Palacio de Doñana to visit the nearby biological station (Luis Bolin Laboratory) and talk to its director, Dr. Javier Castroviejo, who also received us most cordially.

Our judgments rest on the information provided by our guides, the impressions we formed and the observations we recorded while visiting the site. Although the undersigned have not visited the Doñana region since 1962 - that is to say before the National Park was established and even before the biological reserve existed - such prior knowledge as we had of the area was a great help to us when assessing certain aspects.

2. European importance of the site

The award of the European Diploma to Doñana National Park (referred to hereafter as the Park) in 1985 signified that the European importance of the Guadalquivir Delta was finally recognised. This Delta, which covers 250,000 hectares, is Spain's largest wetland area and one of the most important in Europe from a zoological and botanical standpoint. Most of the land on the right bank of the river that is still in its natural state is included in the Park, as well as the tongue of land that separates the lower delta from the sea, that is to say about 73,000 hectares in all. The site has been listed under the Ramsar Convention since 1982.

Situated at the gateway between Europe and Africa, with the climate that combines the Atlantic and the Mediterranean influences, the region comprises landscapes of unusual beauty harbouring remarkably diversified and well-preserved ecosystems and an exceptionally rich fauna unequalled in the Mediterranean world; these features account for its prestige and justify the attention accorded by the Council of Europe to its value as part of the European heritage.

3. The present state of the natural systems

The marismas (marshes) make up the dominant ecosystem. High autumn and winter rainfall levels this year caused flooding on an almost unprecedented scale. In January 1988, the waters rose to the highest levels on record; the water table has risen considerably. This situation is extremely favourable to wintering geese (80,000) and ducks (over 150,000) and suggests that in the forthcoming season the habitats will function totally to the benefit of the flora and fauna, especailly the waterfowl. In the opinion of Dr. Castroviejo, it may well be that a colony of breeding flamingos will settle here as in 1984.

The problems with the water, rendered particularly critical by the drought in the early 1980s seemed to have receded for the time being. However it would be wrong to put them entirely out of their minds, as we shall see.

The state of conservation of the other natural systems, and the associated fauna, seems by and large satisfactory despite what may well be an excessive density of wild Ungulata (stags, deer and boar). This phenomenon gives the impression of an area teeming with animal life on a scale that is unparalleled anywhere in our continent, but this is not without adverse consequences for the regeneration of the ligneous vegetation. Saplings need to be fenced round wherever it is intendedto reconstitute copses for the colonies of large arboreal waders to which the Coto Doñana largely owes its image.

4. Legal and land status

The boundaries of the Park and the outer areas subject to special protection have remained unchanged since 1985. The protected territories fall into three categories according to their legal basis:

1. A biological reserve (10,000 hectares), the first "hardcore" element, it is managed independently of the Park.

2. The National Park proper, covering almost 40,000 hectares.

3. The northern and eastern peripheral pre-parks and the areas under special protection: La Rocina, El Acebuche and the Atlantic seaboard, adding a further 25,000 hectares to the total area.

Management of territories 2 and 3 is the responsibility of ICONA, as the Park's supervisory authority.

There will soon be a fourth type of protected area when the regional park now in the planning stage is finally established, to one side of the northern pre-park; this will be managed by the regional authorities in conjunction with ICONA.

The consolidation policy continues as the private estates within its perimeter come under the Park's control. For example, 70,000 hectares of pinewood were purchased in 1987. This fine forest of stone pine is strategically placed at the southern extremity of the Park, at the mouth of Guadalquivir.

5. Management and implementation of the conservation plan

One of ICONA's priority objectives is to obtain a regional development plan consistent with the upkeep needs of the Park. In fact the only real problems the manageers encounter are of a peripheral kind: they are associated with farming methods and the monitoring of the waters in the surrounding sectors, as well as with the expansion of crop farming and human pressures: these are all matters that come within the purview of the regional authorities, and there is little that ICONA can do about them.

Within th Park itself, technical conservation campaigns are apparently being carried out with considerable skill. We shall mention only the main ones, some of which are exemplary.

5.1 Upkeep of habitats, restoration of degraded habitats, surveillance

This campaign includes the work done to supply water to certain ponds during the dry period and to divert a tributary of the Guadalquivir, the cano de Guadiamar, to make it flow into the marshes. This operation seems, from our observations, to have been carried out successfully, so much so that the seanson's high rainfall has made it necessary to run off some of the water so as to lower the level in the marismas.

Reforestation with native species (15,000 cork-oak saplings replanted over the past two years) is another part of the programme, as is the clearing of eucalyptus and the thinning of other woodlands of recent origin in order to restore the initial ecological conditions and thus reconstitute habitats favourable to the lynx and its main prey, the wild rabbit.

Another objective is to lay all electrical transmission lines underground, and this has almost been achieved. Since the 1978 Act defining the park's objectives came into force, all new transmission lines have been buried. The work of putting the pre-existing overhead lines underground is currently nearing completion. Inside the biological reserve only one such line remains and this will soon disappear. These medium-voltage lines with their metal pylons are not merely a blot on the landscape, but also a permanent danger to large gliding birds, mainly swans and birds of prey. Their abolition thus removes a cause of mortality to which species as valuable as the imperial eagle were particularly vulnerable, especially in the northern part of the Park. As it is impossible to bury all the electrical networks, they are being replaced in the northern pre-park by preassembled cable lines mounted on concrete posts, which do no harm to the bird life.

We mentioned earlier that the abundance of wild Ungulata was having a very visible effect on the environment; this is a cause of concern to the managers. A hunting plan has been submitted to the Steering Committee, and should be applicable in a year's time.

Policing arrangements for the Park inspire greater confidence now that the staff has been increased (47 wardens) and supplied with equipment (amphibian vehicles, radio) suited to the job of keeping territory like this under proper supervision).

5.2 Water volume and quality control

This is a crucial aspect of conservation in the Park since the functioning of the main ecosystem depends on it. The catastrophic drought in the 1980s, and its effects on the flora and fauna (trees, bees and birds dying; 10,000 greylag geese starving to death, etc) is still present in all our minds. Today, with the new equipment on the cano de Guadiamar to regulate the flow of water, ICONA is better equipped to alleviate the effects of a phenomenon of this kind, should it recur.

But climate is not the only hasard: a further threat is now posed by the increasing use of the groundwater for agriculture and domestic consumption in the area surrounding the Park. The IUCN has been making inquiries about a vast irrigation and hotel-building project that seems likely to jeopardise the ecotone near to El Rocio, and the worry this was causing was reported in the Spanish press last November. Since then, ICONA has secured the regional authorities' agreement to reduce the irrigated areas from 14,000 hectares initially planned to 7,000, thus halving the volume of water pumped out of the hydrographic system and the groundwater bodies.

The farming methods employed in the areas under cultivation upstream of the Park represent a further risk factor because of their effects on water quality. Evidence of this came to light in 1986 when organophosphates were sprayed from the air in a drive to control the crayfish (Procambarus clarkii) that were causing damage to the ricefields and dikes. Between 20,000 and 25,000 birds, mainly ducks and coots, died during this campaign which was, incidentally, illegal. Those responsible have been prosecuted.

Conflicts of another kind have arisen since the introduction of this North American crayfish into the Guadalquivir in 1973, from experimental breeding stations near Seville. Crayfish fanciers fishing in the neighbourhood have caused considerable disruption in the Park: during the summer of 1987, 6,000 hoop nets had to be confiscated by the Park wardens aided by the rural police.

To conclude this chapter, we think it important for ICONA to be, if possible, better equipped to monitor the consumption of water resources in the peripheral zones, in active co-operation with the managers of these areas and the regional authorities.

5.3 Specific programmes for valuable or endangered species

Apart from the research projects conducted under the auspices of the Doñana biological station, additional specific programmes are conducted in and around the Park at the initiative of ICONA. They concern the conservation of rare and threatened species.

The Iberian lynx is probably the most endangered carnivorous animal in Europe. Its status is as precarious as that of the Imperial eagle, another major predator of the Park's ecosystems. At present it is estimated that some 50 to 75 individuals inhabit the Park. A management plan has been drawn up in conjunction with the research team of the biological station and the technical team of the National Park administration. Action has been taken:

- to increase the food supplies available to the lynx by developing the density and distribution of the wild rabbit, its basic prey;

- to restore favourable habitats (see 5.1);

- to reduce the non-natural mortality due partly to motor traffic (underground passages have been provided for animals underneath the El Rocio to Matalascañas highway), and partly to the traps and snares set outside the Park to catch rabbits and carnivores.

For birds of prey, a treatment and rehabilitation centre has been installed inside the El Acebuche protection zone. This is a model of its kind, taking in 250 to 300 birds every year. On our visit we saw short-toed eagles, booted eagles and an eagle owl. Such a centre is not, of course, intended only for wounded and disabled birds collected within the perimeter of the park. It serves the whole region, and similar installations exist in other parts of Spain.

A third campaign has been mounted to safeguard the white-headed duck, whose European population is extremely small. In 1981, only 30 specimens survived in the natural state in the whole of Spain. Today, the population is of the order of 200 birds. They are being bred in captivity in the Park, primarily for the purpose of supplying a gene bank to counter the risk of extinction of one or other of the very small surviving groups.

6. Visitor contact, educative action and rules of conduct

ICONA has been making considerable efforts in this field, as the reports concerning the award of the European Diploma have shown. We should like in our turn to emphasise the outstanding quality of that organisation's work.

This judgement applies both to the design of reception and information centres, all fine examples of Andalusian rural architecture, and to the organisation of the guided tours, the public observation posts outside the Park and the cultural and educational activities aimed chiefly at young people.

The main information centre at El Acebuche is on the route of all those who visit the Park in organised groups, including school groups. This and Doñana's other information centres receive 100,000 visitors to the Park every year. There will soon be an addition to the facilities: a marshland study centre at the very heart of the Park upstream of the cano de Guadiamar, designed like a traditional marismas hut in club-rush thatch.

We have also seen a drawing of the new administrative block which is to be built next year to replace the present cramped quarters. Provision has therefore been made in the Park's overall budget for

considerable further expenditure (37,500,000 French francs, broken down as follows: 25,000,000F for the structures and fire-fighting equipment, 10,000,000F for staff and 2,500,000F for operating costs) in order to display the Park to visitors.

Educational and training activities account for approximately a quarter of the budget. For 1988, this item includes the renovation of the present exhibition on wetlands: it is planned to build a model to simulate the annual water cycle in the marismas, illustrating the alternation of periods of drought and flood, and their biological consequences.

The European Year of the Environment provided ICONA with an opportunity to organise seminars at El Rocio to young people of the European Community to discover and interpret the natural environment within the National Park.

For school groups, the educative programme includes "a day at Doñana" in which participants are taught country lore, instructed in the value of the National Park and alerted to the need for conservation. The remarkable tape/slide presentation shown in the auditorium of the El Acebuche centre (over 100 seats), is ideally suited to the purpose of helping the local populations understand how this area serves their interests and awakening in them "admiration and respect, amounting almost to love". But the Park guidebook designed for people of all ages, should achieve the same result with a more durable effect: the quality of documentary material and the delightful illustrations will ensure that this small masterpeice captures the reader's imagination, like the books one reads at the age of seven and never forgets.

For completeness, we should add that the guided tour inside the Park, which lasts four hours, offers a series of viewpoints and opportunities for contact with wildlife which cannot fail to impress even the most seasoned of nature lovers.

7. Human pressures and risk factors

The most significant risk factors have been mentioned in paragraph 5.2 above. It is clear that the scheme to develop Matalascañas into a resort catering for 200,000 visitors is in itself a considerable source of pressure, so is the road between Matalascañas and El Rocio, along the northern side of the Park. However, the danger of urban development spreading outside the 6 x 2 kilometre perimeter originally conceded now seems to have been averted. The same is true of the highway that was to have linked Matalascañas to Sanlucar de Barrameda, cutting through the Park and continuing via a bridge over the Guadalquivir. Although these schemes have not been abandoned for good, it is certain that public opinion would react vigourously if they were to be revived.

Inside the Park, the pressure of tourism is kept within bounds and has no impact on the habitats and natural processes.

8. Conclusions and recommendations

In managing a protected area as rich, diversified - and as fragile - as Doñana National Park, a balance must be constantly sought between the creeping artificiality of the peripheral zones and the ability of the natural environment to withstand it. Even if nothing interferes with the legal and land status of the Park, its managers

must still be vigilant. They must appreciate the scale of change and the impact of all the different activities in the neighbouring areas. Development in the latter is consuming and denaturing the land on an increasing scale, particularly affecting the level of marshes, where the water regime, being modified to suit the demands of agriculture, is likely to disturb the whole ecosystem. Priority in conservation must therefore go to regulating water volumes and quality.

For a National Park of this value, whose management is in so many ways exemplary, renewal of the European Diploma would seem to be fully deserved. Doñana really is one of the last surviving regions of Europe that still gives the visitor the feeling of being in the promised land. In extending the period of the Diploma, however, a number of recommendations should be made:

1. There should be ongoing consultation with the managers of the neighbouring habitats so that the work of monitoring water volumes, quality and use can be stepped up;

2. A research programme should be put in hand - if this has not been done already - to look into the effects of agricultural chemicals

   a. inside the Park,
   b. in the peripheral zones;

3. Substances entering the marshes from outside should be trapped at the main discharge points so as to ensure the Park's continued natural development, particularly in sectors where waterfowl habitually take refuge.

B. Comments by Mr Jean-Pierre Ribaut

The Secretariat wishes to make the following points by way of further information or emphasis:

1. Administration and finance

Doñana National Park continues to have considerable financial resources at its disposal and this improves its ability to serve the purposes for which it was created. Apart from their salaries, the officials responsible for the Park have 600 million pesetas at their disposal for the purchase of land, building, information and education (75 million pesetas for this last item). A new adminstrative block is being built near to the main Acebuche information centre, but it will be out of sight.

In 1989, work will begin on the building of a new information centre for the marismas; it will be built to a typically local design chosen by competition (like the administrative block). So far, 105 million pesetas have been spent on putting the electrical transmission lines underground.

2. Information

As mentioned in the previous report, information is given top priority at Doñana, to make the local and regional population aware of the usefulness of the National Park.

Information continues to be provided in a form that does not interfere with the natural processes of the Park's ecosystems.

The three exhibitions, at El Acebuche, Rocina and Acebron, are to be modernised. El Acebuche has an exciting new audio-visual presentation, a really outstanding achievement both technically (there are about 20 projectors) and artistically.

The nature trail starting at El Acebuche ends at two lakes which, although artificial, are remarkably well arranged. Three huts are provided so that visitors can watch the birds without being seen. One of the lagoons is fenced off and the birds living there have had their wings clipped so that a wide variety of species can be displayed. The birds using the second lagoon are completely wild.

Seven amphibian vehicles (small buses with room for 11-18 passengers) are on hand to take interested visitors on half-day trips through the Park. 108 people use this service in the morning and another 108 in the afternoon. It is fully booked months in advance. The seven buses travel all together in single file over a route which never varies, so as to avoid causing constant disturbance. The tours are organised by a co-operative formed by a group of local people. The fare is 1,500 pesetas, which brings in a good income. The Park offers the drivers (who are also guides) a training course to enable them to give correct information.

3. Management

It is quite right to emphasise that the Park's problems are all of external origin.

Water is undoubtedly the most important of these, as the land adjacent to the site is over-intensively farmed. This has two consequences:

- excessive volumes of water are pumped up from underground in periods of drought. The responsible authorities have reduced the area under cultivation from 14,000 to 7,000 hectares, with the result that less water now needs to be pumped (the present volume is 52.1 cubic metres per year);

- adverse effects on water quality owing to the use of chemical fertilisers and all manner of biocides (the effects which the destruction of American crayfish has had on birdlife is an illustration of this).

It is hoped that the important problems, those with major socio-economic implications, will be solved when the regional nature park planned in this sector comes into being as part of an integrated plan, and that the demands of the National Park will be better encompassed.

The extension of the Matalascañas resort zone seems to have been kept well under control by the authorities who have managed to implement some stringent measures.

4. The biological station

The legal and administrative situation of the three nature reserves managed by the Doñana biological station which existed before the Park was created and comes under the authority of the Ministry of Education and Science (whereas the Park comes under the Ministry of Agriculture) does not always make for good co-ordinated management, because the reserves form part of the Park but are in many respects autonomous. A change in the station's management (Miguel Delibes is to take over from Javier Castroviejo) will perhaps make co-operation easier.

CONCLUSION

The Secretariat joins the expert in proposing that the Diploma awarded to Doñana National Park be renewed, with the following recommendations:

1. that the pressure of intensive farming practised around the Park be diminished so as to ensure that the Park's ecological processes are not disrupted by the pumping of excessive quantities of water or the ingress of undesirable substances (pesticides, chemical fertilisers, etc);

2. that a research programme be instituted to look into the effects of agricultural chemicals inside and outside the Park;

3. that the policy of land purchase and ecological habitat reconstitution be continued (this would involve cutting down the eucalyptus, planting cork-oak, etc).