WORLD HERITAGE NOMINATION - IUCN SUMMARY

DONANA NATIONAL PARK (SPAIN)

Summary prepared by IUCN/WCMC (April 1994) based on the original nomination supplied by the Government of Spain. This original and all documents in support of this nomination will be available for consultation at the meetings of the Bureau and the Committee.

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1. LOCATION

Situated in the south-west corner of Spain, south-west of the town of Sevilla.

2. JURIDICAL DATA

Gazetted as a national park in 1969 and extended in size in 1978. The park and its buffer zones were accepted as a Biosphere reserve in 1980. It was declared a Ramsar site in 1982.

3. IDENTIFICATION

The park and its buffer zones occupy the right bank of the Guadalquivir River at its estuary with the Atlantic Ocean. Major habitats consist of lagoons, marsh, fixed and mobile dune fields, scrub woodland and "maquis". The faunal inventory includes 8 fishes, 10 amphibians, 19 reptiles, 30 mammals and 360 species of birds.

The park supports important resident populations of the following threatened species: Spanish lynx *Lynx pardinus* (E); Adalbert's eagle *Aquila adalberti* (E), marbled teal *Marmaronetta angustirostris* (V), and white-headed duck *Oxyura leucocephala* (V). Black vulture *Aegypius monachus* (V) and red kites *Milvus milvus* (K) are also present, as are large breeding colonies of waterfowl, herons, egrets and waders. It is the most important wintering site for waterfowl in Spain, receiving hundreds of thousands of visitors annually, and is a major stop-over on the route to and from Africa for migrating Palearctic migrants.

4. STATE OF PRESERVATION/CONSERVATION

In general the state of conservation of the park is satisfactory, but it does face numerous threats including its increasing isolation by agricultural development, tourism, poaching, over-grazing and illegal exploitation of crayfish. The former has been partly allayed by the declaration of Doñana's surroundings as a Natural Park, managed by the regional government of Andalusia.

A total of 116 staff were employed at Doñana in 1993, including a Director of Conservation and 60 guards. Despite this high staffing level and a generous budget (17 million $US in 1993) numerous small-scale management problems remain. The greatest threat, which may be outside the control of the authorities, is the exploitation of ground water and tourist development in the surrounding areas. There is a management plan and the park has an organized visitor education programme.

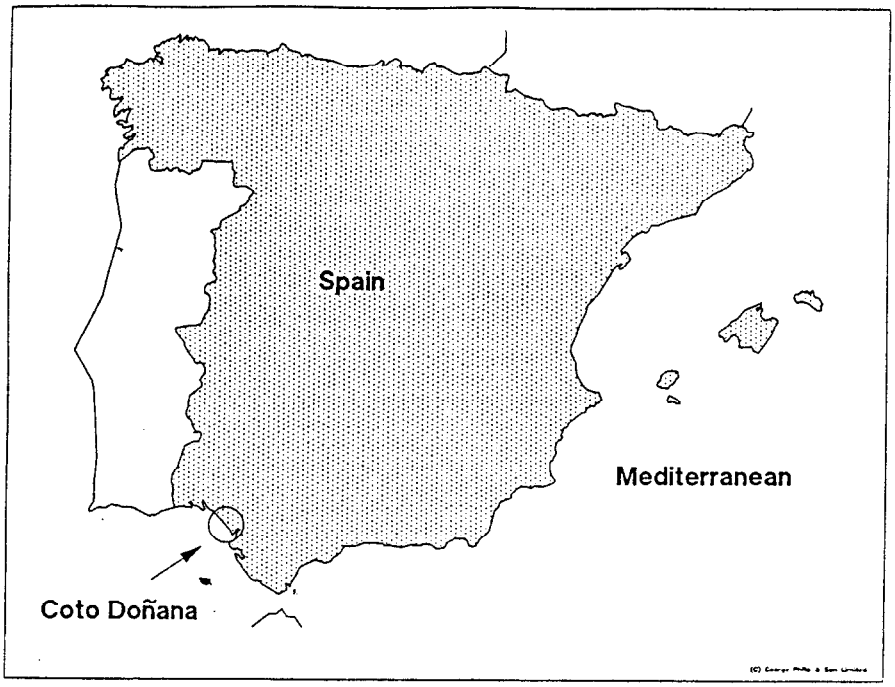
5. JUSTIFICATION FOR INCLUSION ON THE WORLD HERITAGE LIST

The Doñana National Park nomination, as prepared by the Government of Spain, provides the following justification for designation as a World Heritage natural property:

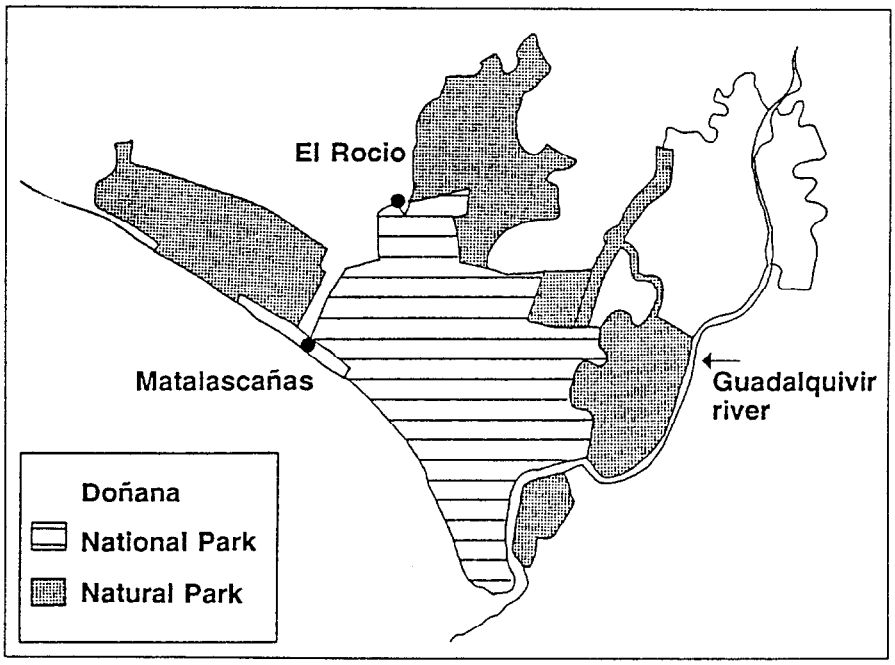
ii) **Contain examples of on-going ecological and biological processes** The marshes of the Guadalquivir River constitute an example of geological processes during the Pleistocene. Doñana contains the last marshes of the Guadalquivir unaltered by agriculture or development. The marshes result from a subsidence of the continental plate in the Upper Miocene and Lower Pliocene, which caused a depression later filled by fluvial and aeolic deposits. Deposition of a coastal sand bar and mobile dunes continue today. These dunes, among the largest in continental Europe, advance at speeds of 4-6m per year. Primary and secondary successional stages are evident in the vegetation of the area.

iii) **Contain superlative natural phenomena, formation or features or areas of exceptional natural beauty** Numerous authors have commented on the exceptional beauty, solitude and un-spoilt nature of Doñana, particularly its vast flat expanses of wilderness containing diverse habitats (marshes, forests, beaches, dunes, lagoons). Its 38 km long beach is completely pristine, and it possesses spectacular colonies of nesting birds.

iv) **Contain the most important and significant natural habitats for threatened species** The park has high faunal diversity, notably an avifauna consisting of 360 species of breeding and migratory birds. It contains breeding populations of several globally-threatened animal (marbled teal, white-headed duck, Adalbert's eagle, Spanish lynx) and plant species. It is an important wintering site for wildfowl, receiving hundreds of thousands of migratory duck and geese every year. Doñana includes one of the last large stretches of undeveloped pristine coastline in Spain, and its largest wetland.



Doñana lies on the Atlantic coast of southern Spain.



The Doñana Natural Park ("Entorno de Doñana") and National Park

WORLD HERITAGE NOMINATION - IUCN TECHNICAL EVALUATION

DONANA NATIONAL PARK (SPAIN)

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1. DOCUMENTATION

i) IUCN/WCMC Data Sheet (9 references)

ii) Additional Literature Consulted: Junta de Andalucia. 1993. Plan de Desarrollo Sostenible del Entorno de Doñana. 34 p.; Estacion Biologica de Doñana. 1992. Publicationes Cientificas de la Estacion Biologica de Doñana. 44 p.; Garcia Novo F. 1993. Informe Sobre el Estado de la Reserva de la Biosfera de Doñana. MAB Spain. 73 p.; Smart M. 1992. Doñana - The Remaining Wilderness. Coastline. 1 (2); Nowell K. and P. Jackson. 1994. Wild Cats Action Plan. IUCN; ICONA. 1990. Doñana National Park - Nature in Spain. 249 p.; Finlayson M. and M. Moser. eds. 1991. Wetlands. Facts on File. 223.

iii) Consultations: Seven external reviewers, ICONA and Andalusian Government officials, staff of Doñana Biological Station and University of Seville.

iv) Field Visit: June 1994. J. Thorsell and M. Smart (Ramsar Bureau)

2. COMPARISON WITH OTHER AREAS

Doñana National Park is one of 218 protected areas in the Mediterranean Sclerophyll Biogeographic Province. Other World Heritage sites found in this Province are Plitvice Lakes, Scandola and Ichkeul. Doñana is more than just a wetland but, of these, the most comparable is Ichkeul. Its wetlands support about one-half the population of wintering palearctic waterfowl of Doñana (maximum of 200,000 birds compared to a maximum of 420,000 in Doñana). There are a large number of shared species but Doñana is four times the size of Ichkeul and has twice the diversity of bird species (366 cf. 185 for Ichkeul). By contrast, Ichkeul is in the Maghreb region and on a different flyway. It also has a different hydrology with a large permanent lake and salt marshes surrounded by a range of hills (511 m in elevation cf. a maximum relief in Doñana of 40 m). Both areas share a similar past, being hunting reserves up until the late 1960's. They also have similar management problems common to Mediterranean wetlands. Doñana's wildlife component (lynx, rabbits, deer) however, is absent from Ichkeul as are its sand dune ecosystems. In sum, although Doñana has certain similarities with Ichkeul in terms of bird species, it is distinctive in terms of their abundance and its physiography, hydrology and faunal composition.

Doñana also invites comparisons with other World Heritage wetlands sites at Djoudj, Banc d'Arguin, Srebarna and the Danube Delta. Certainly the former two are critical African wetlands that would provide habitat for many of the same birds that would also use Doñana (as would the Waddensea). In all other aspects, however, no parallels can be drawn. The Danube Delta is comparable as another European wetland. The World Heritage site here is seven times larger than Doñana and both have a similar number of species although the Danube hosts much higher numbers of migratory birds. Doñana again, is on a different flyway, it has a much different faunal composition and it has a strong Afrotropical influence. Compared to the 600 ha Srebarna World Heritage site, Doñana is of vastly greater conservation importance in terms of diversity, abundance and ecosystem values.

Within Europe, Doñana is by far the most natural and valuable site when compared to the estuaries of the rivers Po, Evros, Rhine, Rhône, Meuse, Scheldt, Seine, Loire and Garonne. All these are intensively cultivated and industrialized. The nearby Camargue is now an artificial system and supports far fewer numbers of birds and less diverse natural features.

The dune systems in Doñana are another aspect of its natural value. They are not, however, as significant as many other coastal sand masses found along the coasts of Oregon, Oman, Kenya, Namibia, Peru, South Africa or Australia (particularly Fraser Island). In terms of height they are much lower than those found at Arcachon in France and less extensive than those found on the Baltic Sea in Poland's Slowinski Reserve. Doñana's remnant Mediterranean-forest of cork oak, wild olive and pistachio are an additional attraction but data does not exist to allow comparisons to be made.

The closest parallels to Doñana are found in two other areas which have a Mediterranean climate. These are the St. Lucia reserve in South Africa and the Coorong National Park in South Australia. Both of these are also Ramsar sites and contain marsh/dune/inland habitats. The species assemblages have almost no affinities but the type of ecological system is much the same.

In terms of threatened species of wildlife, Doñana has significant populations but there exist more important sites elsewhere. For instance, the largest population nuclei for Iberian lynx are found in the eastern Sierra Morena and the Toledo Mountains. Adalbert's eagle, marbled teal, white-headed duck and black vulture (all threatened) also all exist in greater numbers in other sites around the Mediterranean.

A distinctive feature of Doñana is the relatively high density of lagomorphs (rabbits) which are the basis of a predation system on which 43 species in part depend. Although there are other parts of the world (especially North America) which support high lagomorph densities, Doñana probably has the highest predator to prey ratio for this species than anywhere else.

The conclusions reached after this comparative overview of the natural values of Doñana are:

- Within Spain, Doñana is by far the largest and best known of the National Parks. It is also one of the most natural protected areas remaining in all of Europe and the one with the greatest influence from the Afrotropics;

- Along with the World Heritage sites of Ichkeul, and the Danube Delta, Doñana is one of the top three wetlands in the Western Palearctic in terms of diversity and abundance (Waddensea would be the fourth). It is of vastly higher natural value than the fourth European World Heritage wetland site at Srebarna;

- Doñana contains not only wetland habitats but also sand dune and dry forest ecosystems. There are better examples elsewhere of each of these individual three components but, when taken together, there are few other sites like it. Those that compare are found on other continents and have a totally different species composition than Doñana;

- Although Doñana is an important stronghold for five threatened wildlife species, there are other sites that are more important for each individual species. There is no site, however, that combines all five in one area as does Doñana.

Finally, in terms of its importance to science, there are no sites within Europe and few sites elsewhere in the world that have had such a productive series of research studies on natural Mediterranean ecosystems. It is also rare to find an area where documentation on ecological history goes back 700 years.

3. INTEGRITY

Three issues are addressed: human impact, management, and boundaries.

3.1 Human Impact

All Mediterranean wetland sites including Doñana have been exploited by humans since the beginning of civilization. Among the uses experienced in and around Doñana have been drainage of marshes and conversion to agriculture, grazing, fisheries, mineral and salt exploitation, hunting, harvesting of wetland vegetation, forestry plantations, use of pesticides, urban development, road construction and tourism. Cumulatively, all of these have taken their toll on Doñana and it has been a system under stress, especially since the 1950's. Bears and wolves, as well as some bird species, no longer occur in the area. Doñana has been the scene of a number of conservation confrontations over the past two decades and has managed to divert the threats from nuclear plant construction at Almonte, expansion of coastal tourism at Matalascañas, construction of the San Lucar/Huelva road and further diversions of water. In 1991, in light of proposals for further expansion of tourism and agriculture, the regional Government of Andalucia established a Commission to examine the prospects for sustainable development of Doñana and its surrounding region. The Commission reported in 1992 and made a number of proposals that should lead to better protection of Doñana in the long run. The European Union is funding 75% of the US$ 500 million five year project that is now underway to implement the Commission's recommendations.

Although there has been a positive change towards conservation of Doñana since the Commission's report, IUCN would still register a strong concern over the question of water supply. The aquifer that Doñana depends on has already been depleted by drawdowns from tourism uses and intensive strawberry cultivation upstream. Experience at other Spanish wetland sites (eg. Damiel) has shown that heavy pressure on water supplies outside the area protected, have had disastrous results on wildlife inside the area. The hydrological integrity of Doñana has already been partially compromised and further artificial reductions (eg. from the proposed dam upstream on the Guadiamer) must be discouraged.

3.2 Management

The current management of Doñana is of a high standard and is aware of the external issues that affect the park. The park has a strong cadre of trained staff and an adequate budget. Its activities are reinforced on the scientific side by the Estacion Biologica de Doñana which has been operating since 1964. The park has a management plan which is up-dated every four years. It has excellent visitor education centers and carefully controls tourism access. It is undertaking an ambitious effort at restoration of natural maquis forest by removing eucalypt and pine plantations and has buried electricity lines underground to reduce bird mortality. Relations with local communities are improving and the creation of "natural parks" around Doñana are acting as de facto buffer zones. The one main concern at this time is the impact of widening the Almonte-Matalascañas road along the western boundary of the park which will likely lead to increased wildlife (especially lynx) mortality.

3.3. Boundaries

The Doñana National Park covers less than a third of the wetlands of the Guadalquivir. As evident from the map, Doñana is effectively surrounded by several natural parks, which are administered by the regional Government of Andalucia. The possibility of incorporating appropriate portions of these in the proposed World Heritage site in future should be considered. Similarly, adjacent ICONA-owned lands (eg. Rocina area) might also be eventually included.

4. ADDITIONAL COMMENTS

Doñana National Park has been a testing ground for conservation in Spain and has become very well known throughout Europe due to the controversies faced there and the innovative management approaches that have been taken. It is the only protected area that is not only a National Park but also a Ramsar site, a Biosphere Reserve as well as an European Community Special Protection Area. In addition it holds the Council of Europe's European Diploma. It is also known as the site which triggered the foundation of WWF in 1961.

Within Spain Doñana is seen as one of only two natural World Heritage site prospects (the other being the Garajonay site on the island of Gomera) that would match and help balance their 16 World Heritage cultural sites.

5. EVALUATION

Although it has been affected by a number of human activities that have reduced its integrity, Doñana National Park is a resilient system and nature is still the dominant force. As the main threats have been averted and as restoration activities are underway, the future of the park seems assured. In the context of a crowded and long-inhabited continent, Doñana is one of the few national parks in Europe that can match the international significance met by parks in other parts of the world. In sum, its outstanding universal values are based on two features:

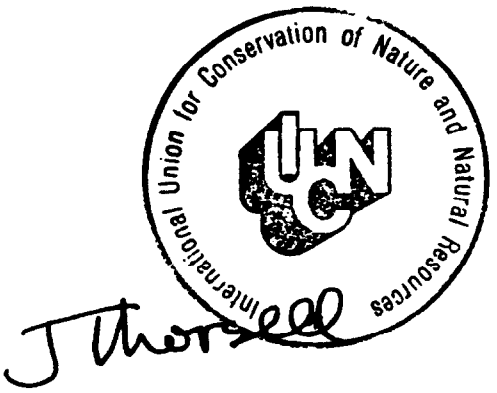
- its high diversity of habitats: beaches, coastal dunes, marshes, water courses, ponds, Mediterranean scrub, pine, juniper, and cork oak/olive woodlands, and the interactions among them; (criterion *ii*)

- its high ornithological values with habitat for five endangered breeding species, as one of the largest heronries in the Mediterranean, for supporting over one half million wintering waterfowl, and as a critical link in the migration route for palearctic waders; (criterion *iii* and *iv*)

The conditions of integrity for all three of these criteria are met although the prospect of adding appropriate additional areas of natural parks in future years would further improve the property. The main concern would be the maintenance of long-term hydrological integrity which, hopefully, will be assured if the regional sustainable development project is effectively implemented.

6. RECOMMENDATIONS

Doñana National Park meets criteria *ii*, *iii* and *iv* and should be inscribed on the World Heritage List. The Spanish authorities should be complemented in their attempts to maintain the integrity of the site, especially over the past decade. They should also be encouraged in their on-going efforts to restore disturbed portions of the park to more natural conditions. A follow-up report on the results of the European Union project, especially with regards to regulation of the water supply, should be requested from the Spanish authorities in 1998.



COUNTRY Spain

NAME Doñana National Park

IUCN MANAGEMENT CATEGORY II (National Park)

BIOGEOGRAPHICAL PROVINCE 2.17.06 (Mediterranean Sclerophyll)

GEOGRAPHICAL LOCATION On the south coast of Spain, in the area delimited by the towns of Sevilla, Huelva and Cadiz; between the right bank of the Guadalquivir River and the Atlantic Ocean; the provinces of Huelva and Sevilla. Lies between 36°48' - 37°08'N, and 6°16' - 6°34'W. Central point 37°00N, 06°38'W.

DATE AND HISTORY OF ESTABLISHMENT Doñana received legal protection as a Biological Reserve in 1965, and 34,625 ha were gazetted as a National Park by Decree 2.412 in 1969. Decree 3.101 declared a zone of Complete Refuge in the park (1973). Law 91 of 28 December 1978 reclassified the park and increased its area. The site was accepted in 1982 as an internationally important wetland under the Ramsar Convention, and designated in 1988 as a zone for the special protection of birds by the EEC under Directive 79/409 (Gil, 1993). The park was accepted as a Biosphere Reserve in 1980.

AREA National Park 50,720 ha; peripheral buffer zone 26,540ha; total (inscribed as Biosphere Reserve) 77,260ha (Gil, 1993).

LAND TENURE State 23,941ha; municipal 11,836ha; private 14,943ha (Gil, 1993). The pre-park (peripheral buffer zone) is private property.

ALTITUDE From 0-40m.

PHYSICAL FEATURES Situated on quaternary deposits: mainly sand dunes and groups of shifting dunes, some of which move very rapidly. Vegetation cover has stabilized some dunes and there are lagoons and marshy areas in the dune slacks. The water table is fairly high. Almost half the reserve area comprises swamps on flat clay soil filled with muddy sediments (marismas) with features including: canals with slight elevations ("vetas" and "paciles") that have been carved by natural drainage; closed hollows "lucios" which hold still water; and "ojos" - points at which ground water reaches the surface. The clay sediments of the marshes are rich in calcium and magnesium and the marismas form a diverse mosaic of microhabitats: pools, banks, streams, reedbeds and mudflats. The marismas flood in winter creating ideal conditions for large flocks of migrating birds (Gil, 1993).

CLIMATE Mean annual temperature is 17°C and mean annual precipitation 600mm. The climate is Mediterranean with warm dry summers and cool wet winters. July and August are the hottest months. Rainfall is concentrated in the winter, peaking at around 90mm per month in December (Llamas, 1988).

VEGETATION Plant communities on the dunes have Atlantic - North African affinities and a notable degree of endemism. *Rhamno-Juniperetum macrocarpas* communities occur on the outer dunes with *Rhamno-Juniperetum sophora* on the dry, inland (established) dunes. Cold sand (*Pseudoglei* type) vegetation includes *Oleo-Quercetum suberis* (plantations of cork oak, olive trees and capers), *Ficario-Fraxinetum angustifoliae* and *Viti-Salicetum atrocinerae*. The heathland (matorral) vegetation varies with water availability. In the damp hollows *Erica scoparia* and *E. ciliaris* occur and on the drier ridges *Rosmarinus officinalis*, *Lavandula stoechas* and scattered trees such as *Pinus pinea* (introduced species), cork oak *Quercus suber* and *Arbutus unedo* (occidental Mediterranean communities). In the mobile dune system, there are species such as marram grass *Ammophila arenaria*, and camarina *Corema album*. The covering vegetation of the marsh depends on the conditions of the pools and the salt content of the soil (Moore *et al.*, 1982). In the highest zones, species of seablite and glasswort *Suaeda* sp., *Salicornia* sp., *Arthrocnemum* sp., are found. The depressed zones of seasonal inundation are covered by sea club rush *Scirpus maritimus*, bulrush

Schoenoplectus lacustris, rushes *Juncus* sp. and brackish water crowfoot *Ranunculus baudotii*. Freshwater lake communities are similar to classes *Phragmitea*, *Littorelletea* and *Potametea* of Atlantic-European type. Brackish water swamp have communities similar to *Spartinetea*, *Artrocnemetea* and *Ruppietea* of an arid North African type. Some 750 species of plants have been identified including two species new to science and at least 45 new to Europe. Four globally-threatened species (all national endemics) are present (Gil, 1993): *Linaria tursica* (V), *Micropyropsis tuberosa* (V), *Gaudinia hispanica* (V), and *Vulpia fontquerana* (E).

FAUNA Contains mostly Mediterranean fauna with a few elements from North Africa and northern Europe. Identified vertebrate species include eight fishes, 10 amphibians, 19 reptiles, and 30 mammals. *Valencia hispanica*, *Aphanius iberos*, spur-thighed tortoise *Testudo graeca*, Latastes viper *Vipera lastastie gaditana*, and spiny-footed lizard *Acanthdactylus erythrurus* are among the species present. Carp *Cyprinus carpio* and eels *Anguilla anguilla* are common. Mammals include wild boar *Sus scrofa*, fallow deer *Dama dama*, red deer *Cervus elaphus*, otter *Lutra lutra*, small-spotted genet *Genetta genetta*, red fox *Vulpes vulpes*, wild cat *Felis silvestris*, Egyptian mongoose *Herpestes ichneumon* and common rabbit *Oryctolagus cuniculus* (Gil, 1993). The Park contains a significant population of the threatened Spanish lynx *Lynx pardinus* (E), numbering approximately 40 individuals (Palomares *et al.*, 1991).

Doñana has a very rich and diverse avifauna, with a total of 365 recorded species of resident and migratory birds. The marsh lies on the west Europe to west Africa migration route and is indispensable as a winter habitat for species such as the greylag goose *Anser anser* (flocks of up to 70,000), teal *Anas crecca* (200,000), wigeon *Anas penelope* (100,000) and avocet *Recurvirostra avosetta* (10,000). It is also a spring nesting area for Mediterranean and African birds including spoonbill *Platalea leucorodia* and greater flamingo *Phoenicopterus ruber*. Numbers of the latter have increased in recent years to around 20,000. Important breeding wetland species include 400 marbled teal *Marmaronetta angustirostris* (V), 70 white-headed duck *Oxyura leucocephala* (V), and purple gallinule *Porphyrio porphyrio*. Other species recorded include Adalbert's eagle *Aquila adalberti* (E) - the population numbers up to 15 breeding pairs, about one third of those known to survive in Spain - cinereous (or black) vulture *Aegypius monachus* (V), ferruginous pochard *Aythya nyroca*, slender-billed gull *Larus genei*, stone-curlew *Burhinus oedicnemus*, squacco heron *Ardeola ralloides*, short-toed eagle *Circaetus gallicus*, booted eagle *Hieraaetus pennatus*, buzzard *Buteo buteo*, black *Milvus migrans* and red kites *M. milvus* (K), and hobby *Falco subbuteo* (Gil, 1993; Grimmett and Jones, 1989).

CULTURAL HERITAGE Doñana has a known history of over 700 years. It was the favorite hunting reserve of Spanish kings such as Philip IV, Philip V and Alfonso XIII. It was owned by the Duchess of Alba and formed the backdrop of her portrait by Goya. The palace of Doñana remains as a testimony to this exalted past.

LOCAL HUMAN POPULATION Regional agricultural interests present a constant problem, as do tourist developments in the vicinity of the park. Twenty-five families, mostly retired park staff, live inside the park.

VISITORS AND VISITOR FACILITIES Entrance is free, but visitors must be accompanied by a local guide. There is a well-developed system of professional guides, accompanied tours, visitor centres, observation points, bird hides and marked trails. Education materials include student and teachers' guides, displays, and specially trained teachers who are available to visiting school parties (Grunfeld, 1988). The visitor centres receive 250,000 visitors each year. Two excursions in 4-wheel drive vehicles, with a maximum of 125 people per trip, are allowed each day.

SCIENTIFIC RESEARCH AND FACILITIES Research is being carried out on certain endangered species, ecological interactions and population dynamics, contamination of water which drains into the park and studies on the regeneration of the park's water system. Doñana Biological Station is dependent on the Consejo Superior de Investigaciones Cientificas.

CONSERVATION VALUE The site is one of the largest and best-known wetlands in Europe. It is particularly remarkable for the large breeding colonies of many bird species, and is the most

important wetland for wintering ducks in Spain. It represents the last tract of relatively undisturbed marsh in the Guadalquivir delta, contains a large stretch of undeveloped coastline, and protects one of the few mobile dune systems found on the Iberian peninsula.

CONSERVATION MANAGEMENT 12,000ha core zone which constitutes a scientific reserve and 26,540ha buffer zone. Divided into scientific reserve area, managed nature reserve, intermediate nature area, reception and interpreters area, area for special use, historic-cultural area, restoration area. Protected under state ownership from hunting, drainage, forestry plantation and excessive tourist exploitation. Management plans exist and are being implemented for the park as a whole (the most recent dated 1991), and for the Spanish lynx and Adalbert's eagle. Exotic plantations are gradually being converted to indigenous habitats (Gil, 1993).

MANAGEMENT CONSTRAINTS The seasonal wet and dry cycle is vulnerable to the failure of winter rains (as occurred in 1980/81) which severely affects the ecosystem. Agricultural activities have caused numerous problems, including poisoning due to uncontrolled use of pesticides - massive poisoning occurred in 1986, when an estimated 30,000 birds died in and around the park (Grunfeld, 1986); contamination by agricultural runoff; and perhaps most seriously, modification of the hydraulic regime of Doñana by drainage and irrigation schemes (Llamas, 1988; Hollis *et al.* 1988). In the long term, Doñana may be in danger of drying up unless steps are taken to replenish over-exploited aquifers (Luke, 1992). River pollution, increased tourist development in the vicinity of the park, poaching, illegal fishing (particularly for crayfish), and over-grazing by domestic livestock are also management problems (Gil, 1993). In the late 1980s / early 1990s the park was threatened by the proposed construction of a 32,000-bed holiday resort "Costa Doñana" on its borders, but the development was successfully contested and suspended by environmentalists (Egger, 1991).

STAFF A total of 116 staff in 1993, managed by a Director of Conservation (Gil, 1993). Fifty staff are permanent employees, the rest seasonal workers. Staff are deployed in 5 departments: conservation (8 technical staff and 4 assistants), works (4 technical staff and 4 assistants), public services (4 technical staff and 22 guides), surveillance (60 guards), and administration (10 staff).

BUDGET Annual budget 1,800,000,000 pesetas (17,000,000 US$) in 1993 (Gil, 1993).

LOCAL ADDRESSES

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28005 Madrid

Park Headquarters:
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DATE 1982, revised July 1986, April 1994 and July 1994.