

# Monfragüe: a conservation success in Spain

Paul R. Bangs

**In 1978, Bernd-Ulrich and Christiane Meyburg reported in *Oryx* the efforts to safeguard a very special area of Extremadura in Western Spain. On 4 April 1979, 17,582 hectares was designated as a *Parque Natural* (a nature park or reserve) by the Government. Perhaps readers of the Meyburgs' article, especially those who responded to its appeal for moral and financial support, would hail this as a great success for conservation in Spain: but there is much more to the story than that . . .**

Monfragüe, situated at the confluence of the rivers Tajo (Tagus) and Tiétar, has had a chequered history, having been occupied by Celts, Romans, Moors and an Order of Crusaders (Garzon Heydt, 1982a,b). In spite of these occupations, and the fact that here was one of the few river crossings of the Tagus (more navigable in those days than it is today), it has always been a somewhat remote area, so much so that travellers were regularly robbed by bandits until King Carlos III ordered the building of a settlement, Villarreal de San Carlos, which is now at the centre of the new reserve and is scheduled for development as an interpretative and reception centre.

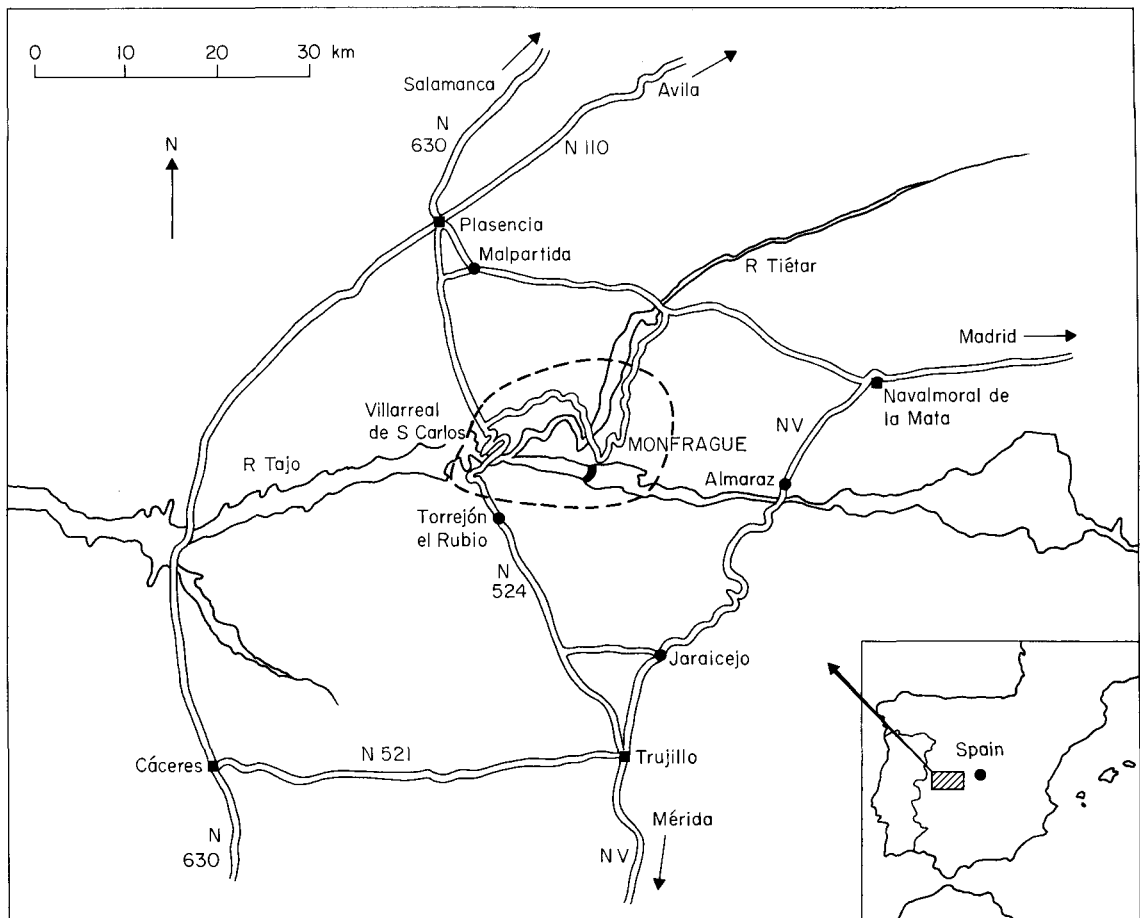
However, these events left little mark on the landscape of the area, apart from the impressive Arab tower overlooking the reserve. Traditional agriculture in this part of Extremadura consists largely of extensive groves of evergreen oaks *Quercus ilex*, relics of the ancient forests rather than plantations in most cases, with pasture beneath, known as *dehesas*. This region differs from many others in Spain, in that enclosures were allowed from early times, so cattle, sheep and goats could

be left almost unattended and in much larger flocks than elsewhere, having a considerable effect on the provision of carrion for the birds of prey. The relative lack of human activity in the area has had two interrelated effects: many residents have joined the rural exodus to the cities or abroad (many of Spain's most famous conquistadors came from this region), and the evergreen-oak groves have been left as a haven for a high density population of birds. The variety of species in the oak groves is not enormous, but those to be found there include azure-winged magpie\*, common roller, European bee-eater, common crane, great bustard, great grey shrike and woodchat shrike. The oak woods are a favourite grazing ground for red deer, and the mammalian population includes brown hares, weasels and a range of small rodents.

Set amidst this vast landscape are areas of land such as Monfragüe itself, the vegetation of its hills and valleys virtually untouched by human activity—at least until recently. While the area has typical Mediterranean flora and fauna, Extremadura is, for the most part, an extension of the great Castilian upland plateau or steppe known as the *meseta*; the influence of the continental climate is slight, but it has nevertheless affected man's ability to exploit the land as fully as in some areas of the country. The thick natural vegetation has afforded protection for mammals such as the lynx, Egyptian mongoose and wild boar, and the area has been used for centuries for grazing domestic cows, sheep and goats. In fact, one of the paths through the new reserve has been, and is still, a principal transhumance track for sheep

\*Scientific names of animals are given in Table 1.

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and goats. This traditional activity has often been criticised in Spain for the destructive effect it has had in denuding areas through which the flocks have passed, but in Monfragüe the effect has been a positive one, since the carcasses of dead animals are a principal source of carrion for the very large population of raptors. These are present in numbers that will astound most visitors, but those who have known the area for many years, such as Jesús Garzón, are dismayed at the decline in populations. Now there is some optimism that most populations have stabilised, with the notable exception of those affected by the decline in the rabbit population due to myxomatosis, such as the Spanish imperial eagle, common buzzard, Bonelli's eagle, some other eagles and the lynx. Current populations of raptors in the reserve are shown in Table 2. Also *Monfragüe: a conservation success in Spain*

to be found are the great eagle-owl, tawny owl, long-eared owl and little owl.

This area remained unchanged, even in quite recent years, because of protection, mainly for reasons of hunting boar and deer, by the owners of the large estates, such as the Duke of Arión until his death in 1975. This great horse-lover resisted the advent of the motor-car on his land for all his life. However, in spite of this concern for the area, the early 1960s saw the beginning of the great changes that were to hit the region. The construction of the dam at Torrejón, while having irreversible consequences for the river fish, especially in the case of species such as the allis shad, eel, barbel and nase, had some beneficial results, since the flooding of the banks provided better conditions for the black stork, and the consequent inaccessibility of the banks helped

many of the breeding populations of raptors. Additionally, plans to build a bridge and associated roads were dropped—but the real problems for Monfragüe’s wildlife were still to come.

In the 1970s, plans were drawn up for two major developments in the area. The first of these was the building of a paper mill upstream of what is now the reserve. Although this was never built, thus sparing the river from inevitable pollution, the plans encouraged the beginning of the extensive plantings of pines and, especially, eucalyptus species such as *Eucalyptus rostrata* and *E. globulus*.

The opposition to this project was the stimulus to an intensive campaign to protect the area, mounted on a national and international scale, and involving the World Wildlife Fund. However, this intense activity was taking place against a background of attempts to persuade the very body that was working with the paper industry—the *Instituto para la Conservación de la Naturaleza* (ICONA), a branch of the Ministry of Agriculture—to fulfil its responsibilities towards nature conservation. The reasons for the ambiguous role of ICONA make fascinating reading, but there is not space here to set them in their historical and socio-political context. Suffice to say that it has traditionally been controlled by forestry technocrats for whom the equations known best were:

flora = timber for industry  
fauna = hunting.

Indeed, at one stage, the head of the Parks and Reserves section was a director of one of the country’s leading timber companies.

Replanting with eucalyptus species involves bringing in large machinery on specially built access roads, and then everything is cleared to ground level over a large area. While the new trees are growing, the soil erodes on an enormous scale and wildlife desert the area, especially in places like Monfragüe, which have well-developed scrub under the trees (Castroviejo, 1978).

Jesús Garzón discovered that these clearances were about to begin in 1974, and proposed the creation of a biological reserve. Monfragüe’s values had been appreciated as early as 1931

Table 1. Scientific names of animals mentioned in the text

Fish	
Allis shad	<i>Alosa alosa</i>
Barbel	<i>Barbus meridionalis</i>
Eel	<i>Anguilla anguilla</i>
Nase	<i>Chondrostoma polylepis</i>
Birds	
Azure-winged magpie	<i>Cyanopica cyanus</i>
Black stork	<i>Ciconia nigra</i>
Bonelli’s eagle	<i>Hieraetus fasciatus</i>
Common buzzard	<i>Buteo buteo</i>
Common crane	<i>Grus grus</i>
Common roller	<i>Coracias garrulus</i>
European bee-eater	<i>Merops apiaster</i>
Great bustard	<i>Otis tarda</i>
Great eagle-owl	<i>Bubo bubo</i>
Great grey shrike	<i>Lanius excubitor</i>
Little owl	<i>Athene noctua</i>
Long-eared owl	<i>Asio otus</i>
Raven	<i>Corvus corax</i>
Spanish imperial eagle	<i>Aquila heliaca adalberti</i>
Woodchat shrike	<i>Lanius senator</i>
Mammals	
Brown hare	<i>Lepus capensis</i>
Lynx	<i>Felis lynx</i>
Egyptian mongoose	<i>Herpestes ichneumon</i>
Red deer	<i>Cervus elaphus</i>
Weasel	<i>Mustela nivalis</i>
Wild boar	<i>Sus scrofa</i>

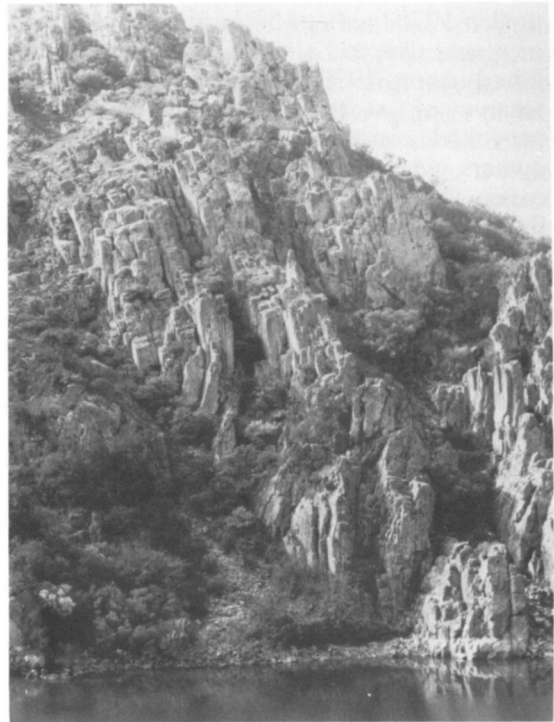
(Rivas Mateos, 1931) and the area had been suggested as a reserve in the 1960s. In fact, Garzón’s proposals for a reserve and for a wider area to be a *Parque Natural*, which were put to the Government through the WWF representative in Spain, met with general approval

Table 2. Populations of raptors in Monfragüe (1984)

	Approximate number of pairs
Griffon vulture <i>Gyps fulvus</i>	250
Egyptian vulture <i>Neophron percnopterus</i>	15
European black vulture <i>Aegypius monachus</i>	70
(over 20 per cent of the European population)	
Spanish imperial eagle <i>Aquila heliaca adalberti</i>	
	7
Golden eagle <i>Aquila chrysaetos</i>	6
Booted eagle <i>Hieraetus pennatus</i>	20
Short-toed eagle <i>Circaetus gallicus</i>	15
Bonelli’s eagle <i>Hieraetus fasciatus</i>	4
Black kite <i>Milvus migrans</i>	100+
Red kite <i>Milvus milvus</i>	20
Black-winged kite <i>Elanus caeruleus</i>	5
Peregrine falcon <i>Falco peregrinus</i>	Unknown
Montagu’s harrier <i>Circus pygargus</i>	Unknown

almost everywhere in government circles—except in the one place where one might expect them to be welcomed—inside ICONA! Here, a counter-proposal was made for the creation of a *Paraje Natural de Interés Nacional*—something of a cross between a British Site of Special Scientific Interest and an Area of Outstanding Natural Beauty. At that time, the new law on the protection of open spaces was still in gestation, and so things moved slowly. Meanwhile, many of the estates changed hands and some more damage was done by creating new forest tracks in sensitive breeding areas, by more replanting and, to a lesser extent, by building fences and introducing non-native species such as the mouflon. This went on from 1975 to 1977, and the only progress made in persuading the landowners to make some changes amounted to little more than replanting with pines instead of eucalyptus. Another branch of the Ministry of Agriculture was busy grant-aiding the owners to clear and replant in some of the best and richest areas. Then, any confidence which may have remained in the usefulness of a quiet, behind-the-scenes approach, trusting in recourse to law, was shattered when it became apparent that really extensive clearances were about to begin, which would irremediably alter the character of the area. An additional factor was the proposal for a nuclear power station upstream at Almaraz on the banks of the Tagus. This was scheduled to pump large quantities of cooling water into the river at a higher temperature than the normal and with a relatively high degree of impurities such as suspended matter, thus causing particular dangers of pollution during the summer months.

When ICONA ignored appeals from many quarters, a public campaign was mounted, aided by the media, which, fortuitously, coincided with a general election campaign. This campaign bore fruit, and the large machines were withdrawn, but Spanish conservationists were taking no chances. Garzón realised that time was not on their side and so leased some of the most sensitive areas immediately, only afterwards launching an appeal for the necessary funds in order to afford a measure of protection for some of the threatened habitats. This appeal drew support and contributions internationally from many individuals and organisations (including the then Fauna *Monfragüe: a conservation success in Spain*



Rising water behind the dam at Torrejón has isolated rocky outcrops where large numbers of birds of prey nest (Paul R. Bangs).

Preservation Society). The leasing not only safeguarded those areas, but also drew the attention of the Spanish public to the failure of ICONA to carry out the duties ascribed to it (Anon., 1971).

One of the first tasks of those interested in the prospective reserve, in particular the conservation group *Asociación para la Defensa de la Naturaleza en Extremadura* (ADENEX), formed in the wake of this polemic (Blanco Coronado, 1983), was to divide theoretically the area into sectors, into some of which access would be allowed for photography and research, since it was realised that future conservation would depend on public awareness and involvement. Until this time, conservationists had been reluctant to reveal the exact site of the proposed reserve, but now the days for secrecy as to the area's whereabouts were over. Thought also had to be given as to how to cope with the pressure of visitors.

Meanwhile, negotiations dragged on at ICONA,

until in 1978, perhaps because of the installation of a new director, a ministerial order was published (Anon, 1978) proposing the creation of a reserve of, at that stage, 23,800 ha. This provoked considerable resistance from land-owners, who argued, not without some justification, that if the area was of such special interest, then it was due in no small measure to their custodianship over the years. ADENEX and others countered these arguments, pointing out the positive benefits that would accrue from the creation of the park, and that plans had been made for the reserve based on compatibility with the traditional activities of the region. In fact, the creation of the reserve was later shown to have created many thousands of man-days of work for the local people, who have expressed their contentment with the cessation of eucalyptus planting, which threatened their traditional occupations of grazing and bee-keeping. Many more jobs will be created when money is provided for the construction of the infrastructure to cope with visitors.

After considerable discussion concerning boundaries, which led to compromises in order to hasten the legal protection of the reserve before another general election in April 1979, the inter-ministerial committee for the environment (CIMA) approved the draft decree at the end of January that year. The final seal was given with the approval of the royal decree on 4 April (Anon., 1979). Increased protection could have been gained by holding out for full national park status, but it would have involved passing an act in the Spanish parliament; since this was most unlikely to have been considered a priority item, protection would have been retarded.

There is still the problem of pollution to be overcome on three fronts. The nuclear power station at Almaraz is currently on reduced power due to technical problems in the PWR reactor, but is still discharging effluent. Welcome news is that sewage effluent from Madrid is likely to be better treated in the near future when an extensive scheme is completed, though this still leaves the problem of effluent from other areas, such as Toledo, where the beauty of this great city is spoiled by the sight and smell of the Tagus. The third problem will be the possible pollution created by

the visitors to the reserve itself. There is an urgent need for more finance to help construct proper water supplies and effluent disposal arrangements.

A few signboards are virtually all one will see to prove the existence of a reserve of international importance, and little or no finance has been provided for conservation or development plans, which are well advanced for the reception of a large number of visitors.

The management committee first set up to run the park was heavily weighted in favour of land-owners and local authority representatives. The one seat that the rules said had to be given to a conservation expert was in fact granted to someone with close connections with the timber industry and who never sat on the board! (Anon., 1981). However, after the elections in 1982, things changed and Jesús Garzón was elected to represent the best interests of conservation on this body.

A further problem was the continuing 'improvement' of tracks in some sensitive areas until stopped by officials pointing out the illegality of this. These tracks often went quite near the nest sites of black vultures. Hunting has also been carried out in sensitive areas and at sensitive times of the year, sometimes with the knowledge of the management committee, although this has recently improved. However, Garzón is optimistic for the future. The growth of support for regional conservation groups is encouraging, and their activities are becoming ever more important and productive. Another fruitful new development is the transfer of responsibilities for conservation from central to the new regional government, the *Junta de Extremadura*, of which Jesús Garzón has recently been appointed Director General for the Environment.

As for the reserve itself, there are plans to replant with evergreen or cork oaks all areas reafforested earlier (this amounts to about one-fifth of the entire reserve area). Small streams will be dammed to provide more ideal feeding conditions for the black storks. Some floating islands are to be built and some suitable areas kept clear of scrub as a meadow habitat. One interesting concept is that of a zoological trail, where visitors will be able to see at close quarters, on small

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islands, a selection of the reserve's fauna. These will not be in cages, although some thought is being given to an aviary which will house some of the many sick or injured birds which regularly appear, but only until they recover.

The park is so big that, even with the zoning envisaged, it is thought that the number of visitors that can be dealt with will run into the hundreds daily. While these visitors are unlikely to see any of the lynxes that can be heard near Garzón's garden in the evening, wild boar and deer might well be glimpsed, since they are so common that hunting for the former is allowed even during the normal close season. In fact hunting, an occupation deeply rooted in Spanish society, does not present a great problem when well controlled, except in the most sensitive areas and at the most sensitive times.

Perhaps the most interesting feature of all is the way in which Spanish conservationists have linked the arguments for nature conservation with the preservation of traditional regional activities and are seeking to involve the local community. This is certainly true of Monfragüe, where the remote and dispersed local communities have a new focus of a development which is in harmony with the environment and familiar ways of life. The replantings were destroying the very fabric of their environment—soil, water sources, even changing the climate locally because of the huge evaporation rates of the eucalyptus trees. This is already having a 'washover' effect in other areas of Extremadura, thus ensuring that Monfragüe will not exist just as a museum, but will have an important bearing on future developments in a region already declared by the United Nations in 1977 to be in greater danger of desertification than anywhere else in Europe. The future of the *dehesa*, an agricultural habitat ideally suited to the soil and climate of Extremadura, looks rather more secure with so much interest being shown in its survival, and with the possibility of a regional law being introduced for its protection in the near future.

Perhaps the greatest attraction of the reserve for visitors is the amazing density of nesting raptors and the ease with which they may be viewed without risking disturbance. The skies above Monfragüe present a never-ending procession of

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birds of prey, but for me there has been no sight to equal the famous cliffs studded with nesting sites for griffon, Egyptian vultures and ravens, and with the glorious sight of several pairs of the graceful black stork nest-building on the lower ledges. However, there is, in addition, a wide variety of other habitats supporting a diversity of species.

The next few years will be crucial for Monfragüe. If future damage can be avoided, if public access can be successfully managed, and if the reserve can be seen as of great importance for the local community in a newly decentralised Spain, then this *Parque Natural* will provide one of Europe's most important reserves for birds of prey and for the preservation of an all too rarely unspoilt example of a typical Mediterranean habitat—but there are still a few unanswered questions. With Garzón's appointment, it can be hoped that the attitudes of ICONA will change. Will the surrounding agricultural practices change as a result of Spain's impending entry into the European Economic Community? All these could affect Monfragüe's wildlife. The local conservation group ADENEX deserves every support, as does the WWF in Spain, known as the *Asociación para la Defensa de la Naturaleza* (ADENA), and the very active *Coordinadora para la Defensa de las Aves* (CODA), in their continuing efforts to exert pressure for changes urgently required.

#### References

- Anon. 1971. *Decreto Ley*, 17, 28 October 1971.  
Anon. 1978. *Boletín Oficial de la Provincia de Cáceres*, 20 April 1978.  
Anon. 1979. *Boletín Oficial del Estado*, 188, 7 August 1979.  
Anon. 1981. Monfragüe, Parque Natural de Extremadura. *Jara*, 1, 9–13.  
Blanco Coronado, F.R. 1983. Adenex, una asociación nacida para proteger los parajes mejor conservados de Europa. *Quercus*, 12, 40–44.  
Castroviejo, S. 1978. El medio rural y las repoblaciones forestales. In *Ecología y Política en España* (ed. M.A. Murado), pp. 193–223. Madrid, Spain.  
Garzón Heydt, J. 1982a. El parque natural de Monfragüe. *Quercus*, 2, 18–20; 4, 44–45; 5, 40–44; 6, 74–77.  
Garzón Heydt, J. 1982b. Pequeña historia de Monfragüe, *Monfragüe, Revista del Parque Natural y su Comarca*, 1, 3–28.  
Meyburg, B.U. and Meyburg C. 1978. Spanish refuge for Europe's birds of prey. *Oryx*, 14, 337–342.  
Rivas Mateos, M. 1931. *Flora de Cáceres*.  
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