3. THE STATUS AND LEGISLATIVE PROTECTION
OF BIRDS OF PREY AND THEIR HABITATS IN EUROPE

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Summary
1. Compared with other breeding birds, the population sizes of European raptors are small. Indeed, raptor populations comprise a significant proportion of the rarest European birds. These small populations are a consequence not only of naturally low natural densities of these top predators, but also result from widespread persecution, and adverse consequences of land-use changes.
2. Current conservation provision for raptors in Europe derives from two international treaties both entering into force in 1979. The main provisions of the EC Directive on the Conservation of Wild Birds (79/409/EEC) relevant to the conservation of European raptors are outlined. These relate to habitat protection, general species protection, sale of live and dead birds, and means of derogating from some obligations. Within the European Union, the Directive implements the ornithological aspects of the Convention on the Conservation of European Wildlife and Natural Habitats (the Berne Convention), developed by the Council of Europe (CoE). This Convention applies widely to CoE signatories. The habitat conservation provisions of the EEC Directive on the conservation of Habitats and Species will also have general benefits for birds of prey.
3. The main relevant provisions of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Bonn Convention on migratory species are also summarised. There is scope for a better focus of activities under the Bonn Convention that would benefit the conservation of migratory raptors at an international scale.
4. A brief review of issues currently affecting the conservation status of European birds of prey indicates that, despite a sound legislation basis for their protection, many — indeed most — remain adversely affected through interactions with man. Of the 29 most vulnerable European diurnal raptor species, 27 are adversely affected by changes, losses or fragmentation of their habitats. Major issues include the intensification of agricultural habitats, as well as the abandonment of traditional pastoral agriculture. Persecution (shooting, trapping, direct and indirect poisoning, nest destruction) affects most diurnal raptor species, with egg-robbing, disturbance at nest sites, and illegal hunting on migratory routes being significant adverse factors for many species. Contamination with pesticide residues is a significant issue for at least 13 species. The theft of eggs and young for falconry purposes is a major conservation problem for the larger falcons. The high mortality rate following collision with pylons and powerlines and/or electrocution is a significant factor for nearly a third of species, especially in eastern Europe.
5. Despite high levels of legal protection across most of Europe, there remain major challenges in practice to ensure the implementation and enforcement of conservation legislation, so as to reverse the currently unfavourable conservation status and trends of many species.
3.1 Introduction

In Europe, birds of prey have had a long history of interaction with people. In earliest times, the largest raptors were persecuted owing to predation of stock. In contrast, during mediaeval periods, the larger falcons were highly prized for falconry, leading to the provision of strict protective measures in many countries (as described by Ratcliffe, 1993). The advent of game rearing in the 19th century led to widespread persecution and, in Britain, the partial or complete extinction of several species (Anon., 2000). Birds of prey were some of the first bird species to be afforded strict protection under national and international law. They have become totemic species, highly valued by some sectors of society. In part at least this has been because of their importance as wider indicators, not only of chemical pollution in the environment (Newton, 1998; Ratcliffe, Chapter 4), but also because their conservation status tells us something about the wider health of landscapes (Amar et al., Chapter 29; Thompson et al., Chapter 25).

This chapter reviews the current population levels and conservation status of birds of prey in Europe and the principal factors that influence this. It then outlines the main international legislative instruments for birds of prey conservation in Europe, and looks at their domestic implementation, using the United Kingdom as an example. It finally reviews the effect that this legislative provision has had on current European status. Where appropriate a distinction is made between owls (Strigiformes) and other birds of prey (Accipitriformes, Falconiformes; sometimes referred to as non-owl or diurnal birds of prey). All Latin names for birds of prey species are included in Appendix 3.1.

3.2 Current population status of raptors in Europe

3.2.1 Population status

There are 39 species of diurnal birds of prey and 13 species of owl that breed regularly in Europe. Based on population data from the European Breeding Bird Atlas (Hagemeijer & Blair, 1997; Appendix 1) the most abundant diurnal raptor species is the buzzard (371,000-472,000 pairs found across 36 countries), with steppe eagle *Aquila nipalensis* being the rarest (two pairs in Russia). Amongst owls, tawny owl *Strix aluco* is most abundant (416,000-562,000 pairs in 33 countries), with snowy owl *Nyctea scandiaca* being the rarest (33 pairs in four countries).

A comparison between the population sizes (in orders of magnitude) of birds of prey, owls and other European breeding birds (Figure 3.1) shows that the former have relatively small populations. This is clearly a consequence of their ecological position as top predators which will naturally result in occurrence at low densities relative to other bird species, notably their prey. It is also, however, a consequence of centuries of direct persecution and the indirect effects of other anthropogenic impacts — such as negative consequences of land use change or in some cases pesticide use. Many of those raptors with smallest populations are also those which have the greatest number of threats.

Owls are generally more abundant than diurnal raptors. Most species of owl (10 of 13) have populations of more than 10,000 pairs in Europe, whilst for diurnal species only three of 39 species are so abundant (Figure 3.1).

These data also show that a high proportion of the rarest of all European birds are birds of prey. Of all European birds with populations of fewer than 1,000 pairs, 46% are diurnal birds of prey. Indeed, nearly a quarter (24%) of all species with populations of fewer than
10,000 pairs in Europe are diurnal birds of prey. It is not surprising, therefore, that public awareness of raptors links their special and rare appeals.

3.2.2 Conservation status

BirdLife International’s SPEC (Species of European Conservation Concern: Tucker & Heath, 1994) assessments of conservation status provide a biologically based international context for the prioritisation of conservation actions. The categorisation is based on the interaction of two factors – the degree to which the species’ global distribution is concentrated in Europe, and whether or not the species has favourable conservation status in Europe (itself indicated by European Threat Status — Tucker & Heath, 1994).

Table 3.2 summarises relevant categorisations for all birds of prey. It shows that nearly 80% (30 of 38) of non-owl birds of prey are in unfavourable conservation status (SPEC categories 1-3), whilst almost half the owls (six of 13 species) are similarly categorised.

Four raptors categorised as globally threatened occur in Europe — greater spotted eagle *Aquila clanga*, imperial eagle *Aquila heliaca*, Spanish imperial eagle *Aquila adalberti* and lesser kestrel *Falco naumanni*. Two non-owl birds of prey (Levant sparrowhawk *Accipiter brevipes* and Eleonora’s falcon *Falco eleonorae*) and one owl (Scops owl *Otus scops*) are categorised as SPEC 2, that is both with unfavourable conservation status and being globally concentrated in Europe. The remaining 29 species which have unfavourable conservation status in Europe are not globally confined to, or concentrated on, the continent (Appendix 3.1).
Table 3.1. Contracting Parties to international treaties that influence conservation status of birds of prey in Europe (as at January 2001). ✓ indicates Contracting Party to treaty; ⚫ indicates that the country is not a party to CITES but monitors and controls trade in CITES-listed species.

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The status and legislative protection of birds of prey in Europe.

3.3 International conservation treaties

In legislative terms, European birds of prey are arguably one of the most legislated for groups of species anywhere in the world. They benefit from the highest levels of legislative protection under both national and international laws. Typically, this legislation addresses both protection of birds and their nests, as well as requirements to maintain habitats.


3.3.1 Birds Directive

In 1979, the European Community adopted the Birds Directive to provide for the protection, management and control of all species of naturally occurring wild birds in the European territory of Member States. It is the main means by which the European Union has implemented the Berne Convention (below). Accordingly, many of its provisions are similar, if not identical. It provides a key framework for biodiversity conservation in the European Union.

Elements of this 1979 Directive have since been modified with the accession of additional Member States. This has mainly involved revision to the lists of species given in the Directive Annexes. The revisions of 1985 and 1992 (following the expansion of the European Union in those years) were significant, adding a significant number of birds of prey and owl to Annex I (Table 3.3). The Birds Directive seeks to conserve bird populations through several mechanisms (Temple-Lang, 1982). Fundamental aims are set out in Article 2 which requires Member States to “maintain the population of the species referred to in Article 1 [i.e. all wild birds] at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements, or to adapt the population of these species to that level.”

Article 3 requires Member States to preserve, maintain or re-establish a sufficient diversity and area of habitats to meet the obligations in Article 2.
Article 4 requires Member States to classify, in particular, the most suitable territories as special protection areas for the rare or vulnerable species listed in Annex I (Article 4.1), for regularly occurring migratory species (Article 4.2), and for the protection of wetlands, especially wetlands of international importance (the Directive also lists some sub-species (e.g. the Corsican-Sardinian race of goshawk *Accipiter gentilis arrigonii* and the Macaronesian race of sparrowhawk *Accipiter nisus granti* on Annex I). These sites have become known as Special Protection Areas (SPAs). Within SPAs, Member States are obliged to take necessary steps to avoid deterioration of natural habitats and any disturbance of the species, where this disturbance would be significant having regard to the objectives of the Directive. The Directive envisages that the establishment of SPAs, when taken collectively across the EU, will result in a European network of protected sites.

A large proportion of European non-owl birds of prey (33 of 39) and owl (eight of 13) species are currently listed on Annex I (Appendix 3.1). Annex I lists species which “shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution”.

Of the remaining birds of prey, most are regular migrants and thus require (where site-based protection is an appropriate conservation measure – Stroud *et al.*, 2001) the classification of SPAs under Article 4.2. These species include goshawk *Accipiter gentilis* (northern populations only), sparrowhawk *Accipiter nisus* (northern populations only), buzzard *Buteo buteo* (northern and eastern populations), rough-legged buzzard *Buteo lagopus*, kestrel *Falco tinnunculus* (migratory in north and east of Europe, partial migrant or
dispersive elsewhere, red-footed falcon *Falco vespertinus*, hobby *F. columbarius* and saker *F. cherrug*.

The only non-Annex I listed species which are sedentary (and so may not require SPAs under European legislation) are some populations of goshawk (*A. g. buteoides* and *A. g. gentilis*), sedentary populations of sparrowhawk (*A. n. nisus*), island (including the UK) and central mainland Europe races of buzzard, and island (including the UK) races of kestrel (*F. t. alexandri, neglectus, canariensis* and *dacotiae*).

Thus, for virtually all European birds of prey, Member States are required to classify SPAs under Article 4 (where site-based protection is an appropriate conservation measure), either because they are listed on Annex I or because they are migratory. This conservation of important sites is a mandatory action required of Member States by the Directive. Article 4 indicates that a Member State has a degree of discretion as to which are "the most suitable territories" that it will classify. However, European Court of Justice case-law (e.g. ECJ Case C-3/96 — Commission of the European Communities v. The Kingdom of The Netherlands supported by The Federal Republic of Germany (Judgement of the Court). OJ, 25 July 1998, C234/8) indicates that this discretion is strictly limited.

The Directive also establishes a general system of bird species protection under Article 5 (including their eggs and nests), prohibits trade in live or dead birds (Article 6), provides for certain species to be hunted provided it is compatible with the aims of the Directive (Article 7), and bans large-scale or non-selective means of capture or killing (Article 8) in particular those listed in Annex IV(a). It also establishes a system of derogation from some parts of the Directive including for the killing and taking of certain species (Article 9).

The derogation procedures ('exceptions') from the provisions of species protection measures allowed under Article 9 are strictly limited, as follows:

"Member States may derogate from the provisions of Article 5, 6, 7 and 8, where there is no other satisfactory solution, for the following reasons:

- in the interests of public health and safety,
- in the interests of air safety,
- to prevent serious damage to crops, livestock, forests, fisheries and water,
- for the protection of flora and fauna,
- for the purposes of research and teaching, of re-population, of re-introduction and for the breeding necessary for these purposes,
- to permit, under strictly supervised conditions and on a selective basis, the capture, keeping or other judicious use of, certain birds in small numbers."

The Birds Directive also encourages research in support of bird species conservation (Article 10).

3.3.2 Habitats Directive

The 'Habitats Directive' (Council Directive 93/43/EEC on the conservation of natural habitats and of wild fauna and flora) is of significance also. European raptors will benefit indirectly from the habitat protection measures (including the classification of a European network of Special Areas of Conservation). Article 6 of the Directive also has direct
implications for the management and conservation of SPAs identified under Article 4 of the Birds Directive.

3.3.3 Berne Convention
The Berne Convention provides a broad framework for the conservation of fauna and flora within signatory countries (Table 3.1, Figure 3.2) of the Council of Europe. The main provisions with respect to vertebrate species protection and pest management are summarised in Table 3.4.

![Figure 3.2](image_url). The extent of Europe covered by the provisions of either the European Union’s Birds Directive and/or the Berne Convention, and thus the area over which these treaties require strict protection for birds of prey (including control of deleterious changes in land use).

The European Union is a Contracting Party to the Convention. This provides for necessary intra-Community co-ordination in order to fulfil the objectives of the Convention which has a wider geographical scope. One consequence has been the important linkage between the Conventions and its European Union implementation by means of Directives. As they relate to birds of prey, the species protection regime (including derogation measures) of the Berne Convention (Table 3.4) is virtually identical to that of the Birds Directive.

3.3.4 Convention on Trade in Endangered Species (CITES)
CITES entered into force in 1975 and regulates the international trade in specimens of species of wild fauna and flora, i.e. export, re-export and import of live and dead animals and plants and parts and derivatives of these. It is based on a system of permits and certificates which can only be issued if certain conditions are met.
Table 3.4. Main species protection provisions of the 1979 Berne Convention.

**Basic provisions apply to all species through Article 2:** “The Contracting Parties shall take requisite measures to maintain the population of wild flora and fauna, at or adapt it to, a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements and the needs of sub-species, varieties or forms at risk locally.”

**Article 6:** Comprehensive protection of species listed in Appendix II (strictly protected fauna).

**Article 7:** Protection for species listed under Appendix III (protected fauna) "any exploitation of wild fauna specified in Appendix III shall be regulated in order to keep the populations out of danger, taking into account the requirements of Article 2.”. Note that in regulating taking, Contracting Parties must have regard for sub-species and varieties that are at risk locally, without necessarily being threatened at European level.

**Regulation of means of taking through Article 8,** in particular banning the use of large-scale and non-selective means of capture and killing: "In respect of the capture or killing of wild fauna species specified in Appendix III and in cases where, in accordance with Article 9, exceptions are applied to species specified in Appendix II, Contracting Parties shall prohibit the use of all indiscriminate means of capture and killing and the use of all means capable of causing local disappearance to, or serious disturbance to, populations of a species, and in particular, the means specified in Appendix IV.”

**Prohibited means of capture and killing** are listed under Appendix IV.

**Article 9** provides for derogation procedures (‘exceptions’) from the provisions of species protection measures:

1. _Each Contracting Party may make exceptions from the provisions of Articles 4, 5, 6, 7 and from the prohibition of the use of the means mentioned in Article 8 provided that there is no other satisfactory solution and that the exception will not be detrimental to the survival of the population concerned:
   - for the protection of flora and fauna;
   - to prevent serious damage to crops, livestock, forests, fisheries, water and other forms of property;
   - in the interests of public health and safety, air safety or other overriding public interests;
   - for the purposes of research and education, of repopulation, or reintroduction and for the necessary breeding;
   - to permit, under strictly supervised conditions, on a selective basis and to a limited extent, the taking, keeping or other judicious exploitation of certain wild animals and plants in small numbers._

2. _The Contracting Parties shall report every two years to the Standing Committee on the exceptions made under the preceding paragraph. These reports must specify:_
   - the populations which are or have been subject to the exceptions and, when practical, the number of specimens involved;
   - the means authorised for the killing or capture;
   - the conditions of risk and the circumstances of time and place under which such exceptions were granted;
   - the authority empowered to declare that these conditions have been fulfilled, and to take decisions in respect of the means that may be used, their limits and the persons instructed to carry them out;
   - the controls involved._

Species are subject to different degrees of regulation and are listed in three appendices. Appendix I lists species threatened with extinction and for which trade must be subject to strict regulation and authorised only in exceptional circumstances. Appendix II lists species not necessarily threatened with extinction now, but which may become so unless trade is strictly regulated. It also contained so-called ‘look-alike’ species that are controlled
because of their similarity in appearance to other regulated species. Appendix III contains species that are subject to regulation with the jurisdiction of a Party and for which cooperation of other Parties is needed to prevent or restrict their exploitation.

All European birds of prey are listed in Appendix II of CITES with the exceptions of white-tailed eagle *Haliaeetus albicilla*, imperial eagle *Aquila heliaca*, Spanish imperial eagle *A. adalberti*, peregrine *Falco peregrinus* and gyrfalcon *F. rusticolus* which are all listed on Appendix I.

The European Union is not yet a Party to CITES, although has been fully implementing the Convention since 1984 through its own Regulations (which in various regards are actually stricter than those of CITES). The most recent of these is Council Regulation (EC) No. 338/97 on the Protection of Species of Wild Fauna and Flora by regulating Trade therein. This Regulation goes beyond CITES and allows for the inclusion of non-CITES listed species in its Annexes.

Most European countries are signatories to CITES (Table 3.1).

3.3.5 Convention on the Conservation of Migratory Species (Bonn Convention)

The Bonn Convention entered into force in 1983 and provides a framework through which its Contracting Parties may act and co-operate to conserve migratory species and their habitats by:

- adopting strict protection measures for migratory species that have been categorised as endangered;
- concluding Agreements for the conservation and management of migratory species that have an unfavourable conservation status or would benefit significantly from international co-operation; and
- undertaking joint research activities.

There are two appendices to the Convention that list migratory species that would benefit from conservation measures. Appendix I lists species that are in danger of extinction throughout all or a significant proportion of their range. Range States are required to prohibit the taking of these animals, with few exceptions, so as to give them full protection. Appendix II lists migratory species whose conservation status (which need not necessarily be endangered) requires, or would benefit from, the implementation of international co-operative Agreements.

A number of Agreements have been agreed and are in force, including the Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA), the European Bats Agreement (EUROBATS), and the Agreement on the Conservation of Small Cetaceans in the Baltic and North Seas (ASCOBANS). Most recently, an Agreement on the Conservation of Albatrosses and Petrels has been concluded.

A large number of European countries are signatories to the Bonn Convention (Table 3.1), including the European Union.

All European diurnal birds of prey are listed in Appendix II of the Bonn Convention, and the white-tailed eagle is additionally listed in Appendix I. Owls, however, are not currently listed under the Convention – a consequence of the sedentary nature of most owl species.
3.4 Legislation and domestic implementation in the UK: an example

3.4.1 Historic context

In mediaeval times some species were subject to strict protection in England as a consequence of their role in high status sports such as falconry (Yapp, 1982; Ratcliffe, 1993). Indeed, as reviewed by Marchant & Watkins (1897), there were a number of strict Tudor laws relating to the protection of birds of prey. For example, the Act of 11 Henry VII, cap. 17, stated that eggs of any falcon, goshawk, laner, or swan should not be taken out of the nest on pain of imprisonment of a year and a fine at the King’s will. According to Marchant & Watkins (1897):

“The Act 31 Henry VIII, c. 12, made it a felony punishable with death for a person wrongfully to take or cause to be taken any egg or eggs of any “falcon, goshawk, or laner, or the birds (i.e. the young) of any falcon, goshawk, or laner or laneret” out of or from any nest or nests of any “falcon, goshawk, or laner” within any of the King’s honours, castles, manors, lands, tenements, woods or other grounds”.

The rise of Victorian game shooting, however, led to changed attitudes and increased persecution in the 19th century. The resulting major population declines which led to national extinctions for some species in turn resulted in enhanced legal protection from 1880 onwards (Table 3.5), and at least some consequential slow recovery of populations. Initial protection came through local provision (at county and county borough level) for the protection of birds of prey under the 1880 Wild Birds Protection Act (Marchant & Watkins, 1897). The Schedule of the Act listed species for which a national close season was established and the eggs of which were protected. County administrative authorities could apply to the Secretary of State for the establishment of Orders extending protection for named species to specific counties. No birds of prey were nationally listed in the Schedule of the Act, an omission noted at the time. Again, according to Marchant & Watkins (1897):

“Many rare birds, which are in danger of being exterminated, have been left out, e.g. the kite, the osprey, the buzzard, and the hen harrier, and there might well have been added birds such as the kestrel, the golden eagle, the rose-coloured pastor, the heron and the crossbill.”

Although the 1880 Act did not give national protection, in the decade following, local protection in some counties was extended to many birds of prey through subsequent Statutory Instruments. The extent of protection for eggs and the close season for killing hen harrier *Circus cyaneus*, peregrine, osprey *Pandion haliaetus* and buzzard are shown in Figures 3.3-3.6, respectively. Several points can be noted.

- Generally, those areas where protection was given in the 1880s were those where the species concerned had already become extinct (c.f. Parslow, 1973; Holloway, 1996), or indeed, may never have occurred (as in the protection of osprey eggs in southern England).
- Protection of adults extended only to the provision of a close season, extending generally from February or March, until August. Outside of this period, birds could be legally killed in most counties.
Table 3.5. Sequence of national and international legislative developments during the last two centuries, and the changing status of birds of prey in the UK.

<table>
<thead>
<tr>
<th>Decade</th>
<th>Year</th>
<th>Status of birds of prey in UK (Anon., 2000)</th>
<th>Monitoring of status</th>
<th>Developments in UK conservation policy and legislation</th>
<th>European/international (from legislative developments)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1800s</td>
<td></td>
<td>Onset of management of moorlands for red grouse involving rotational burning and intensive predator control.</td>
<td></td>
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<tr>
<td>1810s</td>
<td></td>
<td>Development of driven grouse shooting.</td>
<td></td>
<td></td>
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<tr>
<td>1820s</td>
<td></td>
<td>Widespread adoption of intensive management of heather moorland for red grouse following introduction of rapid fire cartridge in 1848.</td>
<td></td>
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<tr>
<td>1830s</td>
<td></td>
<td>Montagu’s harrier virtually extinct (to 1920s).</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1840s</td>
<td></td>
<td>Increased red grouse shooting as development of railways leads to easier access to uplands: major impacts apparent on most upland raptor species.</td>
<td></td>
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<tr>
<td>1850s</td>
<td></td>
<td>Elimination by persecution of buzzards from most of Britain other than a few western districts.</td>
<td></td>
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</tr>
<tr>
<td>1860s</td>
<td></td>
<td>Wild Birds Protection Act – allows for protection of birds and eggs at county and county borough level. First move towards providing at least partial legal protection, but incomplete geographic and species coverage.</td>
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<td>1870s</td>
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<td>1880s</td>
<td>1880</td>
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<tr>
<td>Decade</td>
<td>Year</td>
<td>Status of birds of prey in UK (Anon., 2000)</td>
<td>Monitoring of status</td>
<td>Developments in UK conservation policy and legislation</td>
<td>European/international (from legislative developments)</td>
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<tr>
<td>1890s</td>
<td></td>
<td>UK extinction of goshawk through persecution.</td>
<td></td>
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<tr>
<td>1900s</td>
<td>1900</td>
<td>UK extinction of marsh harrier through persecution and drainage of reedbed habitat. Hen harrier restricted to Orkneys and Western Isles owing to persecution in mainland Britain. Honey buzzard probably extinct in Britain.</td>
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<tr>
<td>1910s</td>
<td>1910-14</td>
<td>Golden eagle population minimum in Scotland.</td>
<td>1914-18 Reduction of levels of persecution during WWI. 1916 UK extinction of white-tailed eagle and osprey through persecution and egg-collecting.</td>
<td></td>
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<tr>
<td>1920s</td>
<td>1927</td>
<td>Regular breeding of marsh harriers commences in East Anglia.</td>
<td></td>
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<tr>
<td>1930s</td>
<td>1931-35</td>
<td>Red kite population minimum in Wales.</td>
<td></td>
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<tr>
<td>1940s</td>
<td>1939-45</td>
<td>Reduction of levels of persecution during WWII.</td>
<td>late 1940s Introduction of DDT into major agricultural use.</td>
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<tr>
<td>1950s</td>
<td></td>
<td>Major declines in birds of prey owing to accumulation of DDT and other persistent organochlorine pesticides in food chains. By 1960 sparrowhawk virtually extinct in eastern Britain. Unofficial re-establishment of goshawks.</td>
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<tr>
<td>Decade</td>
<td>Year</td>
<td>Status of birds of prey in UK (Anon., 2000)</td>
<td>Monitoring of status</td>
<td>Developments in UK conservation policy and legislation</td>
<td>European/international (from legislative developments)</td>
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<td>------------------------------------------------------</td>
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</tr>
<tr>
<td>1954</td>
<td>Re-colonisation by ospreys.</td>
<td>Protection of Birds Act: UK-wide protection for all birds of prey (other than sparrowhawk).</td>
<td></td>
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<tr>
<td>1975</td>
<td>White-tailed eagle re-establishment commences.</td>
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<tr>
<td>1979</td>
<td>Declining extent of moorland management for red grouse through much of the British uplands.</td>
<td>Development of Raptor Study Groups in Scotland (and later elsewhere) to provide local co-ordination of raptor monitoring.</td>
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<tr>
<td>Decade</td>
<td>Year</td>
<td>Status of birds of prey in UK (Anon., 2000)</td>
<td>Monitoring of status</td>
<td>Developments in UK conservation policy and legislation</td>
<td>European/international (from legislative developments)</td>
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<tr>
<td>1983</td>
<td></td>
<td></td>
<td>National buzzard survey.</td>
<td></td>
<td>European Communities CITES Regulation.</td>
</tr>
<tr>
<td>1984</td>
<td></td>
<td></td>
<td></td>
<td>Wildlife (Northern Ireland) Order implements aspects of Birds Directive in NI.</td>
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<tr>
<td>1985</td>
<td></td>
<td>First white-tailed eagle chick reared since 1916.</td>
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<tr>
<td>1989</td>
<td></td>
<td>red kite re-establishment in England and Scotland commences.</td>
<td></td>
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<tr>
<td>1991</td>
<td></td>
<td></td>
<td>Fifth national peregrine survey.</td>
<td></td>
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<tr>
<td>Decade</td>
<td>Year</td>
<td>Status of birds of prey in UK (Anon., 2000)</td>
<td>Monitoring of status</td>
<td>Developments in UK conservation policy and legislation</td>
<td>European/international (from legislative developments)</td>
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<tr>
<td>1995</td>
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<td>1996</td>
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<td>1997</td>
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<tr>
<td>Decade</td>
<td>Year</td>
<td>Status of birds of prey in UK (Anon., 2000)</td>
<td>Monitoring of status</td>
<td>Developments in UK conservation policy and legislation</td>
<td>European/international (from legislative developments)</td>
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<td>------------------------------------------------------</td>
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<tr>
<td></td>
<td>2001</td>
<td>UK SPA review (Stroud et al., 2001) published by JNCC.</td>
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</tr>
</tbody>
</table>
Figure 3.3. a) Counties that gave protection to hen harriers by means of a summer close season through Orders under the 1880 Protection of Birds Act. b) Counties that gave protection to hen harrier eggs and nests through Orders under the 1880 Protection of Birds Act.

Figure 3.4. a) Counties that gave protection to ospreys by means of a summer close season through Orders under the 1880 Protection of Birds Act. b) Counties that gave protection to osprey eggs and nests through Orders under the 1880 Protection of Birds Act.
Figure 3.5. a) Counties that gave protection to peregrines by means of a summer close season through Orders under the 1880 Protection of Birds Act. b) Counties that gave protection to peregrine eggs and nests through Orders under the 1880 Protection of Birds Act.

Figure 3.6. a) Counties that gave protection to buzzards by means of a summer close season through Orders under the 1880 Protection of Birds Act. b) Counties that gave protection to buzzard eggs and nests through Orders under the 1880 Protection of Birds Act.
• Where counties had chosen to protect birds of prey, protection was generally more extensive for eggs and nests than it was for birds (which typically could still legally be killed outside a closed (breeding) season).

Thus, whilst it started to establish principles and maybe to change opinions, the 1880 Act in itself probably did little to reverse ongoing declines then apparent in many of the British populations of large raptors.

UK-wide protection for all birds of prey (except sparrowhawk, which was given protection by Statutory Order in 1963 following its widespread decline because of the effects of organochlorine pesticides) occurred only following the 1954 Protection of Birds Act (Table 3.5). This Act also established the principle of special penalties for the killing of rarer species.

In 1979, both the Berne Convention and the Birds Directive came into force. As noted above, these established a variety of legal principles regarding the protection of threatened birds, including requirements for site conservation and the regulation of taking and killing. To bring UK domestic legislation into line with these obligations, in 1981 the Wildlife and Countryside Act was passed (for Great Britain), and in 1985 the equivalent provisions came into force in Northern Ireland through the Wildlife (Northern Ireland) Order. In the 1990s, there have been several Statutory Instruments to better reflect the provisions of the Birds Directive in domestic legislation.

There have been problems implementing aspects of the Wildlife and Countryside Act (British Trust for Ornithology et al., 1995, 1997). The introduction of the Countryside and Rights of Way Act 2000 (in England and Wales) significantly enhanced a number of aspects related to legislative enforcement, in particular, it introduced the possibility of custodial sentences for certain offences under the Wildlife and Countryside Act. Similar measures have been proposed for Scotland.

There has been a recent review of the UK network of SPAs (Stroud et al., 2001). The review has derived targeted suites of SPAs for each Annex I and migratory bird in the UK for which site-based conservation measures are appropriate. Provisions for birds of prey are summarised in Table 3.6, whilst Figure 3.7 shows the location of the 47 SPAs that have been individually selected for one or more birds of prey.

In the UK, as probably in other European countries, the fulfilment of international obligations in domestic law can be through a range of different pieces of pre-existing legislation. It is relatively rare that international legislation is sufficiently novel to warrant comprehensive primary legislation to enact its provisions domestically — although this can sometimes occur. The scope of domestic legislation can be both broader in application and more restrictive in detail than corresponding international obligations since a general tenet of all such treaties is that they set minimum standards: Member States are free to establish stricter regulations at national level should this be desired.

Most recently, the process of ongoing political devolution with the UK opens the potential for differing species legislation in different countries. The degree of legislative divergence within the UK, however, will be constrained by the over-arching requirements of international legislation, especially the Birds Directive.
Table 3.6. Population coverage of UK migratory and Annex I birds of prey within SPA suites (from Stroud et al., 2001). This table lists all regularly occurring migratory birds of prey in the UK (and species listed in Annex I of the Directive where these are regularly occurring within the UK). Medium shading indicates that, although the species is present in the UK during the season, no SPAs have been selected (i.e. present but no SPAs). Black indicates that, for some migrants, the species does not regularly occur in the UK during the season concerned (i.e. not present thus no SPAs). Light shading indicates Annex I status. For full explanation of data sources, see Stroud et al. (2001).

<table>
<thead>
<tr>
<th>Name</th>
<th>Number of breeding sites in species’ UK SPA suite</th>
<th>Total numbers in species’ UK SPA suite (pairs)</th>
<th>% British (GB) breeding population</th>
<th>% all-Ireland breeding population in Northern Ireland</th>
<th>% international population</th>
<th>Number of non-breeding sites in species’ UK SPA suite (individuals)</th>
<th>Total numbers in species’ UK non-breeding population</th>
<th>% British (GB) non-breeding population</th>
<th>% all-Ireland non-breeding population in Northern Ireland</th>
<th>% international population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honey Buzzard</td>
<td>1</td>
<td>2</td>
<td>13%</td>
<td></td>
<td>&lt;0.1%</td>
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<td></td>
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<tr>
<td>Red Kite</td>
<td>1</td>
<td>15</td>
<td>9.3%</td>
<td></td>
<td>&lt;0.1%</td>
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<tr>
<td>White-tailed Eagle</td>
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<tr>
<td>Marsh Harrier</td>
<td>10</td>
<td>116</td>
<td>74%</td>
<td></td>
<td>0.4%</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Hen Harrier</td>
<td>14</td>
<td>229</td>
<td>47.4%</td>
<td></td>
<td>2.8%</td>
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<td></td>
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<td></td>
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<tr>
<td>Montagu’s Harrier</td>
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<tr>
<td>Goshawk</td>
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<tr>
<td>Sparrowhawk</td>
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<tr>
<td>Buzzard</td>
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<tr>
<td>Rough-legged Buzzard</td>
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</tr>
<tr>
<td>Golden Eagle</td>
<td>8</td>
<td>60</td>
<td>15%</td>
<td></td>
<td>1.2%</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Osprey</td>
<td>9</td>
<td>39</td>
<td>39%</td>
<td></td>
<td>0.8%</td>
<td></td>
<td></td>
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<tr>
<td>Kestrel</td>
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<td></td>
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<tr>
<td>Red-footed Falcon</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Merlin</td>
<td>14</td>
<td>426</td>
<td>32.8%</td>
<td></td>
<td>4.2%</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Hobby</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>Peregrine</td>
<td>9</td>
<td>93</td>
<td>7.7%</td>
<td></td>
<td>1.6%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.7%</td>
</tr>
<tr>
<td>Snowy Owl</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>Long-eared Owl</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short-eared Owl</td>
<td>6</td>
<td>131</td>
<td>13.1%</td>
<td></td>
<td>1.0%</td>
<td></td>
<td></td>
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</tbody>
</table>

Largely resident on breeding areas
3.5 Conservation status of raptors in Europe: the effect of legislative provision

3.5.1 Threats

The conservation status of most European birds of prey remains poor. For species listed as SPEC 1, SPEC 2 or SPEC 3, main negative factors for each species were identified from the species accounts of BirdLife International’s European review of bird conservation (Tucker & Heath, 1994), and international action plans (Heredia et al., 1996; European Commission, 2000, 2001). These are summarised in Tables 3.7 and 3.8 for diurnal birds of prey and owls, respectively. The assessment made here is far from consistent or systematic. Many of the identified negative factors are not mutually exclusive, and indeed some specifics (for example declines in prey items) are usually consequences of wider issues (such as land use change). The approach does, however, serve to identify the main important conservation issues for European birds of prey.

Threats can be categorised into four groups: a) land use and habitat issues, the effects of b) direct and c) indirect interactions with people, and d) natural (i.e. non-anthropogenic related) issues (also Thompson et al., Chapter 25).

Figure 3.7. The network of the 47 Special Protection Areas identified for breeding raptors in the UK (from Stroud et al., 2001).
Land use changes affect populations through a variety of direct and indirect means (see Donázar et al., 1997), including loss of favoured habitats and nest sites, and decline in availability of prey. Habitat loss, change and fragmentation affects nearly all species (27 of 29 diurnal birds of prey, although not Egyptian vulture *Neophron percnopterus* and peregrine). Major issues include the intensification of forest and agricultural habitats on the one hand, as well as the abandonment of traditional pastoral agriculture on the other.

Direct interactions with man include the widespread effects of persecution (including shooting, trapping, direct and indirect poisoning and nest destruction), egg-robbing, illegal trade in live birds, the effects of pesticide contamination, disturbance at nest sites, and illegal hunting on migration.

The main indirect interaction with man is collisions with powerlines and pylons (especially an issue in Eastern Europe), and for owls in particular, collisions with vehicles along roads.

Adverse natural factors are limited to the effects of inter-specific competition identified as a factor for three species.

It might be supposed that different threats might be faced within different countries in the European Union, not least because of the wide-scale negative impacts of the Common Agricultural Policy on land use patterns. However, the number and type of threats facing birds of prey with distributions that occur largely within the European Union are not significantly different to those whose distributions lie substantially outside the European Union (pallid harrier *Circus macrourus*, Levant sparrowhawk *Accipiter brevipes*, long-legged buzzard *Buteo rufinus*, greater spotted eagle, steppe eagle, imperial eagle, red-footed falcon and saker falcon).

### 3.5.2 International action plans

In response to the continuing decline in numbers and range of many globally threatened bird species in Europe, the Council of Europe and the European Commission have jointly initiated international action plans for several species. Plans have been published jointly for black vulture *Aegypius monachus*, imperial eagle, Spanish imperial eagle and lesser kestrel *Falco naumanni* (Heredia et al., 1996). More recently (2000), the Birds Directive’s Ornis Committee (the main international forum for taking forwards the implementation of the Directive) has agreed international plans for the Corsican-Sardinian race of goshawk *Accipiter gentilis arrigoni*, the Macaronesian race of sparrowhawk *Accipiter nisus granti*, Eleonora’s falcon *Falco eleonorae*, lanner *Falco biarmicus* and gyrfalcon.

Whether these plans are an effective means of delivering improved status for the species concerned has still to be assessed.

### 3.6 Discussion

The governments of Europe have agreed to uniform and strong provisions for the conservation of birds of prey through the Berne Convention and for EU Member States through the Birds Directive. The provisions are among the strongest for any group of species anywhere in the world, and apply over a huge extent of Europe, from North Africa to high Arctic Svalbard, and from the Iberian Peninsula to the shores of the Caspian Sea (Figure 3.2). They include the prohibition of negative influences such as all forms of deliberate capture and keeping, deliberate killing, the collection of eggs, and disturbance at the nest and during the breeding season.
Table 3.7. Factors identified by Tucker & Heath (1994) as negatively influencing European diurnal bird of prey species that have unfavourable conservation status in Europe (i.e. SPEC 1-3).

<table>
<thead>
<tr>
<th>Factor</th>
<th>Black-winged kite</th>
<th>Black kite</th>
<th>White-tailed eagle</th>
<th>Lammergeier</th>
<th>Egyptian vulture</th>
<th>Griffon vulture</th>
<th>Cinereous vulture</th>
<th>Short-toed eagle</th>
<th>Hen harrier</th>
<th>Pallid harrier</th>
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| Natural | Inter-specific competition | 3 | 1 |

| No. of factors/spp. | 5 | 8 | 7 | 8 | 2 | 6 | 7 | 10 | 5 | 2 | 3 | 5 | 7 | 7 | 5 |
Table 3.7 (contd.). Factors identified by Tucker & Heath (1994) as negatively influencing European diurnal bird of prey species that have unfavourable conservation status in Europe (i.e. SPEC 1-3).

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Loss of nest sites
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Both the Birds Directive and the Berne Convention also require strong measures to be taken with regards to the establishment of protected areas and the conservation of appropriate habitats outside of protected sites. The Berne Convention, in particular, requires “Contracting Parties … to ensure the conservation of the habitats of the wild flora and fauna species especially those specified in Appendices I and II” [i.e. all birds of prey].

Why, despite these strong legal measures which have been agreed and should have been implemented by virtually all European governments, is such a high proportion of all of Europe’s birds of prey and owls in unfavourable conservation status? Indeed, the factors identified as negatively affecting most European birds of prey (persecution, including shooting, trapping, direct and indirect poisoning, nest destruction; disturbance at nest sites; egg-robbery; illegal trade in live birds for falconry; habitat change, loss and fragmentation) are exactly those that the Convention and Directive explicitly aims to control. Clearly, there seems to be a widespread failure in the effectiveness of direct conservation action in support of these treaties given the current poor European status of most raptors. This failure is particularly notable in the light of the important aspirations set out in the Preambles of both treaties. As with other international environmental treaties, the effectiveness of implementation by signatories is a fundamental and important issue (Victor et al., 1998).

There are, in addition, needs at international level. Article 4(3) requires the co-ordination of nationally classified SPAs so as to “form a coherent whole which meets the protection requirements of these [= Annex I and migratory] species in the geographical sea and land area where this Directive applies”. This activity has never occurred, although it is necessary to assess the effectiveness of SPA provision at European scale. Indeed, there have been few assessments of species-related requirements for protected area networks at either national or European scales. Whilst BirdLife International have comprehensively identified Important Bird Areas in Europe (Heath & Evans, 2000) they do not address the adequacy of this proposed network for individual bird species. The only such national network assessments have been undertaken by Denmark (Rasmussen, 1999) and by the UK (Stroud et al., 2001). An international assessment of protected area requirements for birds of prey remains a pressing need, as only this will provide a means of assessing the adequacy of national provision.

The Eurogroup Against Bird Crime (2000), an international network of non-governmental organisations, summarises different national systems of legislation for wild birds for 26 European countries. This highlights the wide interpretation of international treaty provisions. Undoubtedly major issues that influence the effectiveness of the two treaties are first, inadequate enforcement measures in many countries, and second, and more fundamentally, inadequate environmental education and public awareness programmes. As with any legislation, for environmental legislation to be effective, it has to have the consent of the broad body of the public. In those cases where individuals deliberately persist in breaking the law, then effective enforcement is needed, with appropriate deterrent penalties.

Major steps in broad environmental awareness have been made in most European countries, yet much more needs to be achieved. This is perhaps highlighted by the example of the UK where, although it has been illegal to kill deliberately or disturb at the nests of some raptors for over 120 years (Marchant & Watkins, 1897; Figures 3.3-3.6 above), the practice persists (RSPB & NCC, 1991a,b; RSPB, 1999a,b; Raptor Roundup, in press). This has been described by Government Ministers as “a national disgrace” (Anon., 2000).

Elimination of illegal persecution is especially difficult in situations where there is real or,
more usually, perceived conflicts with vested interests such as stock-keeping (Marquiss et al., Chapter 36), or game-rearing (Allen & Feare, Chapter 33; Redpath & Thirgood, 1997, Chapter 39; Galbraith et al., Chapter 41). Lessons from the UK indicate that, in such circumstances, the mere passage of legislation protecting species which are considered by some to be causing conflicts is unlikely to be effective in itself in stopping the illegal persecution. Such legislation needs to be actively supported by programmes which address and, where possible, remove or ameliorate the causes of conflict. A milestone in the UK was the publication of the Department of the Environment, Transport and the Regions/Joint Nature Conservation Committee Raptor Working Group’s report (Anon., 2000). This clearly outlined the nature of conflicts with some birds of prey and presented management options that would solve these problems. An essential element of such activity is the working in partnership with those interest groups affected by activities of protected species. In Scotland, at least two such partnerships have been formed since the late 1990s (Galbraith et al., Chapter 41). In contrast to the UK, this seems scarcely to have started in much of Europe.

Such activity can enhance the effectiveness of legislation that seeks to protect species from the direct or indirect effects of persecution. An issue that is more intractable is the negative effects of land use changes on birds of prey — especially those agricultural policies that result in changes from extensive and low-intensity farming systems to more intensive and monocultural forms of agriculture (e.g. Beaufoy et al., 1994; Donázar et al., 1997). Indeed, such influences are not unique to raptors, but are a general cause of declines in a large number of Europe’s birds (Tucker & Heath, 1994; Hagemeijer & Blair, 1997; Pain & Pienkowski, 1997). Indeed, European agricultural policy has degraded not just the wider countryside, but also sites of international importance (Heath & Evans, 2000).

The UK has recently adopted a ‘Skylark Index’ to provide a national ‘headline’ indicator for sustainable agricultural practices and quality of life in the UK. This index is a combined index of the trends of 20 widespread farmland bird species (Department of the Environment, Transport and the Regions, 1999). The index is currently in steep decline, indicating the severe population reductions now being experienced by many formerly common farmland birds (Gregory et al., 2000, 2002). Given the ecological sensitivity of birds of prey, and especially given that their population trends can provide information on land use practices at landscape scales (Donázar et al., 1997; Newton, Chapter 1), there would be merit in adopting a European ‘Eagle Index’.

An ‘Eagle Index’ could, in similar fashion to the UK’s Skylark Index, integrate information on the trends of several birds of prey across many countries. Indeed, it would surely be welcomed as an objective means of allowing the Birds Directive and Berne Convention to monitor their effectiveness in implementing their stated objectives.

3.6.1 An African-Eurasian Raptor Agreement?

The main mode through which the Bonn Convention operates ‘on the ground’ is the formalisation and subsequent implement of international Agreements. Extant Agreements for European white storks Ciconia ciconia, European bats and small cetacea have been highly effective, and the African-Eurasian Waterbird Agreement shows great promise (Boere & Lenten, 1998). This Agreement entered into force in late 1999 and already has been instrumental in the development of a major funding proposal under the Global Environment Facility (potentially raising $12,000,000 over four years on projects related to
the conservation of migratory waterbirds and the conservation of their wetland habitats in Africa and eastern Europe). A major element is the transfer of information on conservation ‘best practice’ between countries – for example in monitoring, habitat and species protection, and conflict resolution. There would be great benefits for such an international focus to birds of prey conservation – both practically and politically.

Given the large number of European raptors which migrate to Africa in the non-breeding season, conservation actions seeking to restore status would be greatly supported by the formulation of an African-Eurasian Raptor Agreement. The development of such an international treaty should be an active international priority.

Acknowledgements
I am grateful to Des Thompson, Colin Galbraith and two anonymous referees for helpful comments on the draft text.

References
European Commission (2001). Action plans for Annex I bird species considered as ‘priority for funding under life’. European Union action plans for eight priority bird species: bittern (Botaurus stellaris), ferruginous duck (Aythya nyroca), Steller’s eider (Polysticta stelleri), lammergeier (Gypaetus barbatus),


### Species

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<th>Legal status</th>
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