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RAPTORS IN THE AFRICAN-EURASIAN REGION

Note by the Secretariat

The CMS Secretariat is circulating herewith, for the information of participants in the eighth meeting of the Conference of the Parties to the Convention, the "Status report on Raptors in the African-Eurasian Region" and the "Assessment of the merits of a CMS Instrument covering Migratory Raptors in the African-Eurasian region" prepared and submitted to the Secretariat by the Department for Environment, Food and Rural Affairs of the United Kingdom. An executive summary of the latter in English, French and Spanish is contained in document UNEP/CM/Conf.8.21. The report is being reproduced in the form and the language in which it was received by the Secretariat.

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Assessment of the merits of a CMS Instrument covering Migratory Raptors in the African-Eurasian Region

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Assessment of the merits of an Instrument under the Convention on Migratory Species (CMS) covering Migratory Raptors in the African-Eurasian Region

Final Report
with Draft MoU and Action Plan

September 2005

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ABBREVIATIONS

AEWA	Agreement on the Conservation of African-Eurasian Migratory Waterbirds.
CITES	Convention on International Trade in Endangered Species
CBD	Convention on Biological Diversity
CMS	(Bonn) Convention on Conservation of Migratory Species of Wild Animals
DEFRA	Department for Environment, Food and Rural Affairs
EC DG	European Commission Directorate General
ETS	European Threat Status, as defined by BirdLife International
EU	European Union
FAO	UN Food and Agriculture Organisation
FCS	Favourable Conservation Status, as defined under CMS
GROMS	Global Register of Migratory Species
IBA	Important Bird Area, as defined by BirdLife International
IGO	Intergovernmental Organisation
IUCN	World Conservation Union (International Union for Conservation of Nature and Natural Resources)
JNCC	Joint Nature Conservation Committee
MEA	Multi-lateral Environmental Agreement
MoU	Memorandum of Understanding
NGO	Non-Governmental Organisation
SPEC	Species of European Conservation Concern, as defined by BirdLife International
UCS	Unfavourable Conservation Status, as defined under the CMS
WWGBP	World Working Group on Birds of Prey and Owls

1 SUMMARY

Of all groups of birds, the predatory species have always attracted man's special attention for their grace of flight and perceived qualities of speed, agility and strength: even today, eagles and falcons, for example, feature in the national regalia of many countries. Collectively known as *raptors*, birds like eagles, buzzards, hawks, falcons, vultures and owls are characterised by their relatively long lifespans, low reproductive rates and general scarcity − all stemming from their high position in the food web. Unfortunately, these elegant evolutionary adaptations also make raptors particularly vulnerable to rapid changes in their environment.

Ever since the mid-1960s, when peregrine falcon numbers across Eurasia and North America were decimated because of the use of persistent agricultural pesticides that, through their prey, accumulated in their bodies, thinned their egg shells and reduced their breeding success, there has been widespread concern over the status of raptors. In Europe, where monitoring schemes have a long history, many raptors have clearly experienced significant (and in some cases, severe) range contractions and population decreases.

Research has shown that raptors face many threats. The most important derive from intensive land use practices that reduce prey availability and suitable breeding habitat. However, other factors alone or in combination can also negatively affect raptors under various circumstances. These factors include: environmental pollution, pest control poisoning, trophy shooting, capture and trade for falconry, collisions with and electrocution by overhead power-lines, general disturbance, and the looming threats from climate change. Moreover, migratory raptors require adequate networks of suitable habitat along their migration paths, and many species tend to congregate at land-bridges, mountain passes and along coastlines where they are especially prone to intensive hunting and trapping.

The cumulative evidence of national or regional declines of raptors, increasing pressures on their populations, and apparent failings in current conservation measures to redress the situation, led the VI World Conference on Birds of Prey and Owls (Budapest, May 2003) to adopt a resolution proposing the establishment of a new multilateral agreement for the conservation of African-Eurasian migratory raptors, under the auspices of the Bonn Convention on the Conservation of Migratory Species of Wild Animals.

This resolution was taken up by the UK Government's Department for Environment, Food and Rural Affairs (DEFRA), which suggested to the CMS Scientific Council that a study of the merits of developing a new instrument on raptors should be undertaken in time for the next Conference of Parties to be held in Nairobi, 16-25 November 2005. The suggestion was endorsed, and this report contains the results from the study commissioned by DEFRA and carried out by the NatureBureau.

The overall aim of the study was to "assess whether or not an international agreement to conserve migratory raptors [including owls] should be established under the auspices of the CMS in the African-Eurasian region". In particular the study should "examine the merits and drawbacks of a CMS agreement in the region and result in a fully reasoned recommendation on whether or not such an agreement should be established."

1.1 Area and Species Covered

The study started by determining which raptors regularly occur in the Palearctic and Afrotropical realms − yielding a total of 211 species. A more detailed assessment was then carried out to identify which of these regularly undertook migratory movements of more than 100 km at some point in their annual cycle within the Afrotropical realm or Western

Palearctic. The aggregate range of these populations was then defined as the African-Eurasian region for the purposes of the study.

1.2 African-Eurasian Migratory Raptor Status Review

Having established the area and species to be covered, the current status of the species concerned and the threats facing them was reviewed in some depth. This involved consulting recently published literature, interrogating the BirdLife International World Bird Database, and correspondence with an expert panel comprising raptor researchers who had extensive direct experience in the African-Eurasian region. The review resulted in the production of a *Status report on raptors in the African-Eurasian region* (Tucker and Goriup, August 2005), referred to as the Raptor Status Report (available separately from DEFRA).

The review revealed that out of 211 raptor species in the African-Eurasian region, 74 are migratory and of these seven are globally threatened and a further three near threatened. The ten species concerned are:

Species	English Name
Milvus milvus	Red Kite
Aegypius monachus	Cinereous Vulture
Circus maurus	Black Harrier
Circus macrourus	Pallid Harrier
Aquila clanga	Greater Spotted Eagle
Aquila adalberti	Spanish Imperial Eagle
Aquila heliaca	Imperial Eagle
Falco naumanni	Lesser Kestrel
Falco vespertinus	Red-footed Falcon
Falco cherrug	Saker Falcon

All these raptors, apart from the black harrier, are intercontinental migrants, breeding primarily within the Western Palearctic. However, this finding might partly reflect inadequate knowledge of the population status of some inter-African migrants and whether or not some threatened species are migratory.

In Europe, analysis of the population trends of migratory raptors indicates that nearly a third are declining rapidly: by more than 1% per annum. Furthermore, 21% have suffered large declines averaging over 3% per year in the last 10 years. Sadly, there is very little accurate knowledge about the status of raptor populations (breeding and wintering) in much of Asia, the Middle East and Africa. Although there are numerous counts of raptors at particular sites, it is difficult to assimilate them and deduce likely population trends for most species. However, it seems that some species other than those listed above, including tawny eagle *Aquila rapax* and African swallow-tailed kite *Chelictinia riocourii,* are less numerous than in the recent past.

Overall, it is clear that at least 32 (53%) of African-Eurasian migratory raptor species have an unfavourable conservation status at a global or regional level. Thus, an undesirably high proportion of migratory raptors are facing situations that warrant conservation intervention. In contrast with some other migratory bird groups already covered by special Bonn Convention instruments (albatrosses, waterfowl, cranes and bustards), migratory raptors as a group have no specific international conservation action plan at present despite all of them being included in Appendix II of the Convention.

1.3 Threats to Migratory Raptor Populations

According to currently available information, it appears that the following are likely to be the key threats to raptor populations over the coming ten years:

- Habitat loss and degradation (which is the most frequent threat to raptor populations, and is probably the root cause of unfavourable conservation status in most species), in particular habitat loss as a result of agricultural expansion, agricultural intensification, overgrazing of remaining natural grasslands (particularly in the Middle-East and Africa) and wetland loss.
- Shooting of migrating raptors, especially in the Middle-East, for sport and trophies.
- Accidental poisoning (e.g. through the use of poison baits to control feral dogs, jackals and wolves).
- Electrocution by power lines.
- Deliberate persecution of raptors (e.g. shooting and destruction of nests to protect game).
- Disturbance of breeding birds (e.g. by tourism, forestry and agricultural activities).

Collisions with wind turbines could become a significant future problem as a rapid expansion of wind farms is occurring within raptor migration routes. In the longer term, climate change will pose an additional major threat to migratory raptors and exacerbate existing human induced changes throughout the region because, as habitats and the timing of biological events change, migration strategies may be disrupted.

Of particular importance to migratory raptors are those places where they (and other soaring birds) congregate, usually to minimise a sea-crossing or avoid a high mountain range. An important site in this regard is one where at least 3,000 raptors regularly pass on spring or autumn migration. BirdLife International has identified at least 100 such sites in the study area as part of their inventory of Important Bird Areas. However, the legal security and conservation of many of these sites could be greatly improved: only just over half the sites have any form of protection status and only 20 sites have a good level of protection.

1.4 Potential for a New CMS Instrument for Migratory Raptors

In parallel with the status review, the current international conservation measures established by relevant multi-lateral environmental agreements (MEAs) were examined with specific regard to migratory raptors, and the potential role for a new instrument under CMS evaluated. The strengths, weaknesses, opportunities for and threats to different types of CMS instrument were also analysed.

There are eleven multilateral environmental agreements (MEAs) that have (or could have) significant relevance for the conservation of raptors (whether migratory or resident) and/or their habitats in the African-Eurasian region, namely:

Broad ecosystem / environmental MEAs	Nature conservation MEAs
European Landscape Conservation	EC Birds Directive
Convention on Biological Diversity	EC Habitats Directive
Climate Change Convention	Bern Convention
Convention to Combat Desertification	African Convention
	Ramsar Convention
	CITES
	Bonn Convention

Our review of these MEAs showed that they provide a panoply of interlocking (if not partially overlapping) legislation that, in principle, covers all the threats faced by migratory raptors in the African-Eurasian region. However, it is also apparent that these arrangements are currently not sufficient to prevent declines in migratory raptor populations in Africa and Eurasia mainly because there is a lack of a unifying international plan of action that leads to concerted efforts for their conservation. Only the Bonn Convention provides a mechanism for

formulating and implementing such an international plan of action that can coordinate and integrate the application of existing MEAs and address and remaining gaps.

1.5 New Bonn Convention Instrument Consultation Exercise

A consultation document was prepared (in English and French) that set out the main options and additional opportunities for improving the conservation status of African-Eurasian migratory raptors. The consultation document, together with the Raptor Status Report, were posted on the study website and distributed among the following interest groups, whose responses were actively solicited:

- Bonn Convention Focal Points (Ministries and government agencies)
- Secretariats of other relevant MEAs
- Researchers
- Non-governmental conservation organisations (NGOs)

This exercise, together with the background documentation, was welcomed by the Bonn Convention Secretariat as an innovative approach for developing new instruments. It elicited 60 responses from a total of 35 range states which, while neither comprehensive nor official, strongly supported the findings of the Raptor Status Report, namely (i) that few migratory owls have an unfavourable conservation status at present; (ii) that a high proportion of migratory African-Eurasian raptors have an unsatisfactory conservation status; and (iii) some 90% of the respondents supported the proposition that migratory raptors would benefit from a new Bonn Convention instrument to improve their conservation status. With regard to the latter finding, the main reasons for not supporting the proposition were based on concerns about diverting attention from implementing existing conventions, and the length of time that it takes to agree new CMS Agreements.

The general preference among respondents (whether official agencies or non-government bodies) on the form of a new instrument was for a non-binding Memorandum of Understanding, accompanied by an Action Plan. The consultation did not seek reasons for preferences but respondents presumably based their judgements on the analysis of strengths, weaknesses, threats and opportunities (SWOT) of different options presented in Table 11. Perhaps the most important advantages of an MoU are its non-binding nature and relatively rapid pace of adoption.

1.6 Conclusions and Recommendations

The Raptor Status Review provides clear evidence for concern about the current status of at least 32 species of migratory raptors in Africa and Eurasia, that for most species the situation is not improving over time, and indeed many other species may also be shown to be in an unfavourable status once more detailed studies are carried out in Asia, the Middle East and Africa.

An assessment of the provisions of existing applicable MEAs showed that despite apparently comprehensive coverage, they were failing to conserve migratory raptors largely owing to a lack of focus, resources and coordination.

The consultation exercise for a possible new instrument under the Bonn Convention indicated an appreciation of the problems faced by migratory raptors in Africa and Eurasia, and the need to take rapid actions. It also demonstrated broad support for the establishment of a non-binding Memorandum of Understanding with an Action Plan in order to facilitate urgent concerted actions among Range States to address these problems.

We therefore recommend that a draft Memorandum of Understanding with an Action Plan should be prepared for further consideration by the next Conference of Parties of the Bonn Convention, and further that it should:

- reiterate and strengthen calls for actions under existing MEAs where appropriate;
- focus on diurnal migratory birds of prey of the African-Eurasian region but also include owls;
- cover all raptors in the Africa-Eurasia region, prioritised according to their conservation status;
- only cover truly migratory raptor species that regularly occur within the African-Eurasian region;
- apply to the aggregate range of all migratory raptors (excluding States that are only visited by migrating Amur falcons *Falco amurensis*) that regularly occur within the Afrotropical or Western Palearctic realms at some point in their annual cycle;
- focus on key transboundary actions that will address the key threats to migratory raptors;
- promote activities that raise awareness of migratory raptors and their problems;
- monitor raptor populations throughout the region;
- identify regions where actions should be taken, and priorities and responsibilities for their implementation.

We consider that the main problems that a new MoU will face in delivering conservation benefits for raptors are as follows:

- obtaining the necessary number and type of signatory range states to make it operational, bearing in mind some have reservations over their existing burdens;
- implementing the MoU given that it has no formal legal standing or budget and therefore depends for effectiveness entirely on the goodwill of the participating states;
- maintaining a high level of coordination and support given the number of species and wide geographic range since the Secretariat is provided by the Convention Secretariat and the level of input will depend on the resources available to them and other programme priorities;
- possible confusion with the existing AEWA.

It is therefore recommended that, if the Conference of Parties supports the establishment of a new MoU and Action Plan for African-Eurasian Migratory Raptors, then an ad hoc consortium of range states should be formed to parent the MoU in consultation with the Convention Secretariat.

Finally, on the assumption that a Memorandum of Understanding and Action Plan along the lines of that proposed in the Attachment to this report is adopted, an estimate of the incremental cost estimation for implementing them over a five year period amounts to US$1,970,000. While this sum is rather higher than for other existing Bonn Convention Memoranda, it should be borne in mind that this one covers by far the greatest number of range states and species. Moreover, in global conservation terms, the amount is quite modest and could be raised through fostering private / public partnerships and by in-kind or offset contributions.

2 INTRODUCTION

2.1 Background

There is widespread concern over the deteriorating status of many bird species, a high proportion of which now face the risk of global extinction (BirdLife International 2004b, c). In Europe, significant regional range contractions and declines have occurred in recent times (BirdLife International 2004a). Raptors[1] may be particularly at risk because they are generally large, long-lived species with low reproductive rates − characteristics that appear to be associated with high extinction risk (Bennett & Owens 1997). Species with low fecundity are particularly susceptible to factors that increase their adult mortality rates (Newton 1979). Furthermore, such species take a long time to recover from losses, which lengthens the time over which reduced populations may be at risk from catastrophic chance events. Furthermore, as predators, many raptor species are naturally scarce, which exacerbates their vulnerability to threats.

And indeed, raptors face many threats. The most important derive from intensive land use practices that reduce prey availability and suitable breeding habitat, but pollution, poisoning, hunting, persecution, illegal taking and trade (e.g. for falconry), collisions with and electrocution by overhead power-lines, and general disturbance all impact on raptors (Thiollay 1994; White *et al.* 1994). Moreover, migratory raptors require adequate networks of suitable habitat along their migration paths, and many species tend to congregate at land-bridges, mountain passes and along coastlines where they are especially prone to intensive hunting and trapping (Zalles & Bildstein 2000).

The cumulative evidence of national or regional declines of raptors, increasing pressures on their populations, and apparent failings in current conservation measures to redress the situation, has led to calls for better conservation action, especially for the migratory species. As a result, the VI World Conference on Birds of Prey and Owls (convened in Budapest, 18-23 May 2003, by the World Working Group on Birds of Prey and Owls) adopted a resolution (see Annex 1) proposing the establishment of a new multilateral agreement for African-Eurasian migratory raptors, under the Convention on Migratory Species of Wild Animals[2] (CMS).

The WWGBP resolution was subsequently considered by the CMS Scientific Council, which endorsed a proposal from the UK Government's Department for Environment, Food and Rural Affairs (DEFRA) to conduct a study of the merits of developing a new instrument on raptors. The results would be presented at the next Conference of Parties to be held in Nairobi, 16-25 November 2005.

In January 2005, the NatureBureau was commissioned to carry out the study, and the results are presented in this report.

[1] In this study "raptor" refers to all birds of prey, including owls, i.e. species in the Orders Falconiformes and Strigiformes.

[2] Also known as the Bonn Convention.

2.2 Study on the merits of a new CMS instrument for raptors

2.2.1 Overall Aims and Objectives

The overall aim of the study was to "assess whether or not an international agreement to conserve migratory raptors [including owls] should be established under the auspices of the CMS in the African-Eurasian region". In particular the study should "examine the merits and drawbacks of a CMS agreement in the region and result in a fully reasoned recommendation on whether or not such an agreement should be established."

The study had the following objectives:

- Identify the threats facing migratory raptors in the region and explain to what extent an international agreement would make a difference in tackling them.
- Assess whether or not there is an appetite within the countries of the region for a new agreement, and how this might affect its implementation should one be established.
- Identify the problems an agreement (should it be established) would initially face in delivering a conservation benefit, and how they might be overcome.
- Advise on the general level of financing needed by the agreement, should it be established, to deliver a conservation benefit.
- Explain how an agreement should dovetail with other international agreements established to conserve raptors to ensure synergistic benefits, should it be established.
- If an agreement is to be recommended, draw up a draft version, with an associated Action Plan, explaining the reasons for:
  - it being either a formal Agreement under Article IV.3 or an informal agreement (a Memorandum of Understanding) under Article IV.4 of CMS;
  - species that should be covered and commenting on whether or not other birds of prey, such as owls, should be included;
  - the geographic boundaries of the region that should be covered; and
  - the contents of the Action Plan, which identifies actions that should be undertaken collectively as well as separately by individual countries.

2.2.2 Study Methods

Area and species covered

The study started by considering all raptors regularly occurring in the Palearctic and Afrotropical realms, as defined in Newton (2003). A more detailed assessment was then carried out of the migratory raptors populations that regularly occur at some point in their annual cycle within the Afrotropical realm[3] or Western Palearctic, as defined by Cramp *et al.* (1977-93). The aggregate range of these populations then define the area of the eventual CMS instrument if adopted (see Attachment: Appendix 1). This range is referred to hereafter in this report as the African-Eurasian region.

It was envisaged that the CMS raptor instrument would be applicable to any raptor species that meets the CMS migratory definition i.e. "… *the entire population or any geographically separate part of the population of any species or lower taxon of wild animals, a significant proportion of whose members cyclically and predictably cross one or more national jurisdictional boundaries*."

However, for practical reasons, the study was restricted to those species defined and listed[4] as "True Migrants" in the Global Register of Migratory Species (GROMS) database. These

[3] Including Madagascar and the archipelagos of Cape Verde, Comores and Seychelles

[4] With a few revisions as documented in the Raptor Status Report

include partial migrants (species in which only part of the population migrates, with the rest remaining in the breeding areas) but omit those exhibiting “nomadising” or “range extension” behaviour. GROMS “True Migrants” also exclude species that technically meet the CMS migratory species definition because they regularly cross one or more national boundaries, but are only short-distance migrants that travel less 100 km.

This study follows the taxonomy, scientific nomenclature and English names used by BirdLife International, which serves as the IUCN Red Data Book authority for birds.

African-Eurasian raptor status review

Having established the area and species to be covered, the current status of the species concerned and the threats facing them was reviewed during March and April 2005. This involved consulting recently published literature, interrogating the BirdLife International World Bird Database, and correspondence with an expert panel with direct experience in the African-Eurasian region (see Acknowledgements). For the purposes of this study, the CMS definition of unfavourable conservation status (see Annex 2) was treated as equivalent to the threat categories used by BirdLife International for assessing the status of birds globally and regionally.

The review resulted in the production of a *Status report on raptors in the African-Eurasian region* (Tucker and Goriup 2005), hereafter referred to as the Raptor Status Report (the final version was completed in August 2005 and is available separately from DEFRA).

Potential for a new CMS instrument for migratory raptors

In parallel with the status review, the current international conservation measures established by relevant multi-lateral environmental agreements (MEAs) were examined with specific regard to migratory raptors, and the potential role for a new instrument under CMS evaluated. The strengths, weaknesses, opportunities for and threats to different types of CMS instrument were also analysed, with the assistance of the Secretariats of the CMS and Agreement on the Conservation of African-Eurasian Waterbirds (AEWA).

New CMS instrument consultation exercise

A consultation document was prepared that set out the main options and additional opportunities for improving the conservation status of African-Eurasian migratory raptors. The consultation document, together with the Raptor Status Report, were posted on the study website (www.naturebureau.co.uk/cmsraptors), and distributed in April 2005 among the following interest groups, whose responses were actively solicited:

- CMS Focal Points (Ministries and government agencies)
- Secretariats of other relevant MEAs
- Researchers
- Non-governmental conservation organisations (NGOs)

The results of the consultation exercise were documented in a consultation report in May 2005 (also posted on the web site).

Final Report

In August 2005, this Final Report was prepared that provides a summary of the main findings of the Raptor Status Report, the results of the consultation exercise, drafts of the recommended CMS MoU and Action Plan for the Conservation of African-Eurasian Migratory Raptors, and a description of the problems to be addressed in order to achieve additional raptor conservation benefits.

STATUS OF AFRICAN-EURASIAN MIGRATORY RAPTORS

2.3 Introduction

This and Chapters 4 and 5 provide an extended summary of the Raptor Status Report; the full document (available from the study website: www.naturebureau.co.uk/cmsraptors) should be consulted for additional information.

Using the area and species criteria set out in 2.2.2, a total of 211 species of raptors occur in the African and Palearctic realms (see Annex 3). Of these, 60 (51 diurnal raptors and 9 owls) are treated here as African-Eurasian migrants.

2.4 Globally Threatened Species

A numerical analysis of the global status of raptors in the African and East / West Palearctic realms is presented in Table 1. This shows that a total of 28 species are Globally Threatened, i.e. classified as Vulnerable (VU), Endangered (EN) or Critical (CR) by BirdLife International (2004c) according to the current IUCN Red List criteria (IUCN 2001). This represents 13.3% of the species complement, and is rather similar to the proportion, namely 12.4%, of all extant bird species listed as Globally Threatened (BirdLife International 2004b). As such, this result seems to run counter to the impression that raptors are more specially threatened globally than other migratory bird groups. For example, 95% of albatrosses and 60% of cranes are threatened. Nevertheless, 13% of raptors classified as Globally Threatened and a further 6.2% as Near Threatened is an undesirably high proportion that warrants conservation intervention. Unlike albatrosses and cranes, migratory raptors as a group have no specific international conservation action plan at present.

It is also apparent from Table 1 that the proportion of Globally Threatened non-migratory species is almost always higher than for migratory species; indeed, none of the ten species of migratory owls occurring in the Afrotropical and Palearctic realms is Globally Threatened (or Near Threatened). Yet, it has often been claimed (e.g. Owen & Black 1991; Salathe 1991) that migratory species are particularly vulnerable as a result of threats they face on migration. However, the relatively high proportions of threatened non-migratory raptors (and especially owls) may be due to a significant number of them having small ranges, because birds with small ranges tend to be more likely to qualify as Globally Threatened (BirdLife International 2004b). It might also be partly due to a high proportion of owls being restricted to primary tropical forest habitats, which are among the most highly threatened habitats (Groombridge & Jenkins 2002). Thus, if one were to compare species with comparable ranges and habitats, it might turn out that the proportion of Globally Threatened species is indeed higher amongst migratory species than non-migratory species. However, such an analysis was beyond the scope of the present study.

Table 1: Numerical analysis of Globally Threatened raptors occurring in the Afrotropical / Palearctic Realms

Group	East Palearctic	Afrotropical / West Palearctic	Afrotropical / Palearctic
All raptors (including owls)			
No. Species	44	167	211
No. Species Globally Threatened	4	25	28
% Species Globally Threatened	9.1%	15.0%	13.3%
Migratory			
No. Species	14	61	74
No. Species Globally Threatened	2	6	7
% Species Globally Threatened	14.3%	9.8%	9.5%
Non-migratory			
No. Species	30	106	137
No. Species Globally Threatened	2	19	21
% Species Globally Threatened	6.7%	17.9%	15.3%
Diurnal raptors			
No. Species	29	113	142
No. Species Globally Threatened	3	14	16
% Species Globally Threatened	10.3%	12.4%	11.3%
Migratory			
No. Species	13	52	64
No. Species Globally Threatened	2	6	7
% Species Globally Threatened	15.44%	11.5%	10.9%
Non-migratory			
No. Species	16	61	78
No. Species Globally Threatened	1	8	9
% Species Globally Threatened	6.3%	13.1%	11.5%
Owls			
No. Species	15	54	69
No. Species Globally Threatened	1	11	12
% Species Globally Threatened	6.7%	20.4%	17.4%
Migratory			
No. Species	1	9	10
No. Species Globally Threatened	0	0	0
% Species Globally Threatened	0%	0%	0%
Non-migratory			
No. Species	14	45	59
No. Species Globally Threatened	1	11	12
% Species Globally Threatened	7.1%	24.4%	20.3%

Source. BirdLife International World Bird Database (www.birdlife.org, accessed March 2005)

Note. Since some species have non-overlapping distributions, Afrotropical / Palearctic totals do not necessarily equal the sum of east Palearctic plus Afrotropical / West Palearctic totals.

Further details of the ten Globally or Near Threatened migratory raptors of the African-Eurasian region are given in Table 2. Countries where these species regularly occur are listed in Annex 4. Examination of the list shows that all migratory raptor species, except only for the black harrier *Circus maurus*, are intercontinental migrants, breeding primarily within the Western Palearctic. This finding might partly reflect inadequate knowledge of the population status of some inter-African migrants and the migratory behaviour of some threatened species.

Table 2: Globally Threatened and Near Threatened migratory raptors of the African-Eurasian region

Note: There are no Globally Threatened or Near Threatened migratory owls in the region

See below for global threat status categories

Species	English Name	Breeding range	Migratory Behaviour	Global Threat Status
Milvus milvus	Red Kite	Nominate race: S Sweden E to Ukraine and S through C Europe to W & C Mediterranean basin, Wales, Caucasus. *M. m. fasciicauda*: Cape Verde Islands.	Mainly migratory in N and C Europe, although increasing tendency to winter in these areas. Populations in S of range and Wales sedentary with varying degree of dispersal of juveniles. The vast majority of migrants winter in S France and especially Iberian Peninsula	NT
Aegypius monachus	Cinereous Vulture	Large Palearctic range from Spain, Balearic Is and Balkans through Turkey, Caucasus, Iran and Afghanistan to S Siberia, Mongolia, N China and extreme N India.	Partial – mainly intercontinental: In S Europe adults non-migratory, in C Asia semi-resident, often following nomads and their domestic herds. Partly migratory in Asia: most birds leave Mongolia and other N breeding areas for winter; migrants winter from NE Africa and Middle East through N India to Korea; some birds reach Arabia and S China.	NT
Circus maurus	Black Harrier	South Africa and N W Namibia, most in S Cape region.	Partial – intracontinental: Most birds migrate N in winter to dry grassland areas of S Namibia, S Botswana and N and C South Africa.	VU
Circus macrourus	Pallid Harrier	E. European Russia, S Asiatic Russia and N. Kazakhstan E to NW China; irregularly breeds farther N and W.	Intercontinental: Migratory, wintering mainly in sub-Saharan Africa, Indian Subcontinent, Sri Lanka and Burma; rare, or much less common, in Mediterranean Basin, Middle East, Arabia, Iran and S & E China; some birds may remain in S of breeding range. Migrates on broad front.	NT
Aquila clanga	Greater Spotted Eagle	EC Europe E through Russia to S far east, isolated populations in N Iran and NC India.	Intercontinental: winters in S Europe, Middle East, NE Africa and S Asia.	VU
Aquila adalberti	Spanish Imperial Eagle	C, W & S Spain, formerly more widespread, occurring in Portugal and Morocco	Partial: Adults sedentary. Young birds, when independent, disperse from natal areas in all directions and up to 350 km, especially to NW Africa.	VU
Aquila heliaca	Imperial Eagle	C Europe and Turkey E through S Russia to Lake Baikal and Mongolia.	Mostly migratory, intercontinental. Birds migrate to S Turkey, Iran, Israel, Syria, Iraq, Egypt, Arabia, and northeast Africa, and to Pakistan, India, Laos and Vietnam.	VU
Falco naumanni	Lesser Kestrel	SW Europe and N Africa E through E Europe, Asia Minor, Caucasus, Iran, Jordan, Israel, Kazakhstan, S Russia to Mongolia and N	Intercontinental: Mainly trans-Saharan migrant, although some birds winter in NW Africa and in various regions of S Europe and S Asia. Most birds migrate to S Africa. Nomadic movements in winter related to local concentrations of	VU

Species	English Name	Breeding range	Migratory Behaviour	Global Threat Status
		China.	insects. Migrates across broad front.	
Falco vespertinus	Red-footed Falcon	E Europe and Hungary, E through NC Asia to extreme NW China and upper R Lena	Intercontinental: Travels great distances from Palearctic breeding areas across the Mediterranean and through Africa to S African wintering areas.	NT
Falco cherrug	Saker Falcon	C and SE Europe, Turkey, Russian Federation, Kazakhstan, Uzbekistan, Turkmenistan, Kyrghistan, Afghanistan, Iran, Iraq, Pakistan, China and Mongolia	Intercontinental: migratory or partially migratory; sedentary or dispersive in S and SW of breeding range. Only occurs in winter in N Pakistan, Arabia, Africa (Sudan, Ethiopia, Niger and N Kenya) and parts of Middle East and China.	EN

Sources. Range: Snow and Perrins (1998). Migration behaviour: adapted from GROMS based on del Hoyo *et al.* (1994). Global Threat: BirdLife International World Bird Database www.birdlife.org (accessed 20 June 2005).

Globally Threatened Status Codes

Code	Category	Definition*
CR	Critically endangered	Considered to be facing an extremely high risk of extinction in the wild
EN	Endangered	Considered to be facing a very high risk of extinction in the wild
VU	Vulnerable	Considered to be facing a high risk of extinction in the wild
NT	Near threatened	Close to qualifying for or is likely to qualify for a threatened category in the near future

*From the IUCN Red List 2004categories: see http://www.redlist.org/info/categories_criteria2001.html#categories

2.5 The regional status of raptors

2.5.1 The status of raptors in Europe

The status of birds in Europe is relatively well known as a result of fairly extensive and detailed atlas surveys and monitoring programmes, and two recent pan-European assessments of available data (BirdLife International 2004a; Tucker & Heath 1994). It is thus possible to review the status of raptor populations in detail and with some confidence, although trends in a few species, such as Levant Sparrowhawk *Accipiter brevipes,* remain relatively poorly known.

On the basis of the 1994 assessment, Stroud (2003) noted that a high proportion of European raptors have an unfavourable status in Europe (defined in the publication as being species that are declining, rare or localised). This showed that nearly 80% (30 of 38) of diurnal raptors were in an unfavourable conservation status, whilst almost half of the owls (six of 13 species) were similarly categorised.

In this study, we have reviewed the BirdLife International 2004 assessment of each raptor species, and compared overall population trends between the periods 1970-90 and 1990-2000. The European conservation status and European Threat Status (ETS) of each raptor species is given in Annex 5 and summarised for the group as a whole in Table 3.

BirdLife International defines three categories of Species of European Conservation Concern (SPEC), as follows:

- SPEC 1 – Species of Global Conservation Concern, i.e. classified as Globally Threatened, Near Threatened or Data Deficient (BirdLife International 2004c; IUCN 2004).
- SPEC 2 – Species that are concentrated[5] in Europe and have an unfavourable conservation status.
- SPEC 3 – Species that are not concentrated in Europe but have an unfavourable conservation status.

We consider that the concept of unfavourable conservation status according to BirdLife International is equivalent to the CMS definition (see Annex 2). Thus, a species has an unfavourable conservation status in Europe if its population has any of the following characteristics:

- small and non-marginal;
- declining by more than 1% per year;
- depleted following earlier declines; or
- highly localised.

Depending on the rate of decline, population size and localisation, BirdLife International defines 10 categories of ETS. Seven of these categories include species in unfavourable status, namely: Critically Endangered, Endangered, Vulnerable, Declining, Rare, Depleted, and Localised. A species may be considered to be in a favourable status in three categories: Secure, Data Deficient or Not Evaluated.

[5] i.e. more than 50% of its global breeding or wintering population or range occurs in Europe.

Table 3: The European conservation status of migratory raptors

SPEC = Species of European Conservation Concern. See Annex 5 for details of the status of individual species.

	Migratory raptors		All European species	
SPEC Category	Number	%	Number	%
1	8	17.0%	40	7.6%
2	5	10.6%	45	8.5%
3	16	31.9%	141	26.8%
Total SPEC	**29**	**61.7%**	**226**	**43.0%**
Non-SPEC	18	38.3%	300	57.0%
TOTAL	47		526	
European Threat Status				
Critical (CR)	1	2.1%	9	1.7%
Endangered (EN)	6	12.8%	20	3.8%
Vulnerable (VU)	5	10.6%	38	7.2%
Declining (D)	4	8.5%	62	11.8%
Rare (R)	9	19.1%	33	6.3%
Depleted (H)	4	8.5%	51	9.7%
Other (localised, data deficient, not evaluated)	0	-	12	2.3%
Secure (S)	18	38.3%	301	57.2%

Source: BirdLife International (2004a)

A comparison of the proportion of European migratory raptors that fall into each SPEC and ETS category with the overall European avifauna clearly indicates that they have a particularly high proportion with an unfavourable status in Europe: some 62% of migratory raptors have an unfavourable conservation status compared to 43% of all 526 regularly occurring European bird species. Furthermore, 12 (25%) of these are in high threat categories, with one Critical (pallid scops-owl *Otus brucei*), six Endangered and five Vulnerable.

An assessment of population trends in the European populations of migratory raptors (Table 4) also indicates that nearly a third are declining by more than 1% per annum. Furthermore, 21% have suffered large declines averaging over 3% per year in the last 10 years. Although this is a slightly lower percentage of species showing large declines than over the 1970-90 period, the proportion of species showing moderate declines has increased, and the overall proportion of species that have undergone moderate or large declines is unchanged. Thus there has been relatively little improvement in the status of European raptor populations since 1990.

Table 4: Population trends in European migratory raptors

	% of raptors (n = 47) in trend class	
Trend[*1]	**1970−1990**	**1990−2000**
Large increase (≥3 % per year)	15%	6%
Moderate increase (1-3% per year)	8%	13%
Small increase[*2] (<1% per year)	na	6%
Stable[*3]	40%	23%
Small decline[*2] (<1% per year)	na	6%
Moderate decline (1-3% per year)	2%	10%
Large decline (≥3 per year)	29%	21%
Fluctuating	0%	8%
Unknown	4%	4%
Total % in moderate or large decline	31%	31%

Sources. 1970-1990 trends: Tucker and Heath (1994). 1990-2000 trends: BirdLife International (2004a).

Notes: *1 Based on worst case scenario calculation taking into account the effects of calculations using minimum and maximum population estimates. *2 This trend category was not distinguished in 1994. *3 Only distinguished if <10% decline and < 10% increase, and worst-case and best-case scenario trends are in opposite directions.

2.5.2 The status of raptors in Asia, the Middle-East and Africa

Unfortunately, our knowledge of the current status of raptors in Asia, the Middle-East and Africa is much less complete and reliable than in Europe. Few countries in these regions have prepared bird atlases or established bird monitoring schemes. Where atlases have been produced they have yet to be repeated, and where monitoring schemes have been established they have not been undertaken for long enough to establish trends over a meaningful period. Further systematic monitoring and research is required over huge areas before reliable assessments of population status can be made for most species.

Intensive surveys and monitoring of diurnal raptor migration has been undertaken in some parts of the Middle-East, especially in Israel for several decades. These surveys have established population counts for several species that are difficult to census on their breeding grounds, such as Levant sparrowhawk *Accipiter brevipes*. They have also built up a considerable amount of data on migrant numbers, which have recently been analysed for trends (e.g. see Shirihai *et al.* 2000 for review). These counts have noted sharp declines in lesser spotted eagle *Aquila pomarina* and steppe eagle *Aquila nipalensis* that accord with observed declines in Europe, and suggest that declines may have also occurred in Asia. Information on numbers and trends of breeding populations elsewhere in the Middle-East is very fragmentary and incomplete, although recoveries have been documented of some species' populations since the widespread reduction of use of persistent pesticides.

There is very little knowledge about the status of raptor populations (breeding and wintering) in much of Asia and Africa. Although there are numerous counts of raptors at particular sites, it is difficult to assimilate them and deduce likely population trends in most species. Detailed studies have been carried out in parts of in South Africa (e.g. Tarboton & Allan 1984), or from atlas surveys (e.g. Harrison *et al.* 1997) or from road counts (e.g. Herremans & Herremans-Tonnoeyr 2001) where population trends have been established for breeding species and some highly aggregated wintering populations, e.g. lesser kestrel *Falco naumanni*. In parts of West Africa, Thiollay (in press-a; in press-b; in press-c) has repeated roadside counts some 30 years later to measure population changes. But care needs to be taken in extrapolating trends from such relatively well studied areas to other parts of Africa. Nevertheless, observed declines are a cause for concern and, in accordance with the precautionary principle, justify

the need for conservation actions now. The results of many of these studies also highlight the need for further monitoring of raptor populations in parts of Africa that are less well known.

In parts of Asia, detailed studies have been carried out on some species of high conservation importance, such as saker falcon *Falco cherrug* (Galushin & Moseikin 2000; Galushin 2004; Gott *et al.* 2000; Levin *et al.* 2000; Shijirmaa *et al.* 2000). But the status of most species is very poorly understood in most areas of the Asian Palearctic.

An overall summary of our status assessments of African-Eurasian migratory raptor populations in Asia, the Middle-East and Africa is provided in Table 5. This analysis confirms that it is not possible within the scope of this study to reliably assess the status of most of the species' breeding populations in these regions using readily available published studies. However, a number of Asian populations are known or suspected to be in an Unfavourable Conservation Status, including some Globally Threatened or Near Threatened species such pallid harrier *Circus macrourus*, saker falcon *Falco cherrug* and probably imperial eagle *Aquila heliaca*. In general, we are unsure of the status of most intra-African migrants, though there is evidence of declines in some, including Tawny eagle (*Aquila rapax*), African swallow-tailed kite (*Chelictinia riocourii*) and the Globally Threatened black harrier (*Circus maurus*) (BirdLife International 2004c; Curtis *et al.* 2004; del Hoyo *et al.* 1994; Ferguson-Lees & Christie 2001; Harrison *et al.* 1997).

Table 5: The status of breeding populations of migratory raptors in Asia, the Middle East and Africa

Conservation Status (CMS definition)	Asia	Middle East	Africa
Unfavourable	1	1	4
Unfavourable (uncertain)	5	1	2
Favourable	2	0	0
Favourable (uncertain)	7	4	8
Unknown	30	11	17
Total	45	18	31

2.6 Conclusion

Despite the data limitations discussed above, it is clear that a very large proportion (53%) of African-Eurasian species of migratory raptor have an unfavourable conservation status at a global or regional level, and 10 of these are Globally Threatened or Near Threatened (see Annex 5). Furthermore, a high proportion of these species are in continued long-term or rapid population declines.

3 ANALYSIS OF THREATS TO AFRICAN−EURASIAN MIGRATORY RAPTORS

3.1 General overview

There are many well-known and documented threats to raptors in the African-Eurasian region (e.g. Chancellor & Meyburg 1998; Meyburg & Chancellor 1989, 1994; Newton & Chancellor 1985; Salathe 1991; Thiollay 1994; Tucker & Evans 1997; Tucker & Heath 1994; White *et al.* 1994; Zalles & Bildstein 2000). These are reviewed in detail in the Raptor Status Report, in order to establish which threats appear to have the most significant detrimental effect on species populations, especially those with an unfavourable conservation status (see previous section). The Raptor Status Report review also attempts to distinguish between threats that apply to species while breeding and during migration / wintering to establish which species are subject to impacts at an international scale, and would therefore benefit from concerted international conservation actions.

Being mostly long-lived species with generally low annual productivity and slow maturity, raptors are particularly vulnerable to any threats that may increase mortality rates. However, although there is much general information on habitat loss and pollution, and many documented cases of persecution e.g. from hunting, there are few demographic studies (e.g. Newton 1979) that have established their effects on mortality and productivity rates, and hence overall population level impacts. Furthermore, where such studies have been carried out, the results may not be widely applicable to other regions and habitats. And in some cases threats may have changed since the studies were carried out. For example, many studies have documented the impacts of toxic pesticides on raptors through egg-shell thinning. But the levels of such pesticides have since declined substantially in most areas, and previous studies may therefore be of little value in predicting future trends.

There is also a paucity of published information on threats to migratory raptors in Asia, the Middle East and Africa. Therefore, the assessment of threats to species in these regions should be treated with caution, because we have only considered documented threats, rather than those that we may suspect occur (e.g. those that could be inferred from habitat change).

In this section, we have coded identified threats described in the Raptor Status Report according to the primary threat categories used by BirdLife International, which is based on the IUCN Authority File for threat types (see www.redlist.org), and defined sub-categories that are relevant to raptors in the region. Table 6 lists for each species the threats that we have identified as probably having a significant population impact, and a summary of their overall importance to raptors is presented in Table 7.

Table 6: Threats to migratory raptors of the African-Eurasian region that have Unfavourable Conservation Status

GS = Global status: see Table 2.1 for codes. **S = Season**: B = breeding; N (shaded) = non-breeding (migration and wintering areas).

Habitat Loss/Degradation: ai = loss to agriculture & agricultural intensification; aa = abandonment; og = over-grazing; fm = forest management and loss; af = afforestation (e.g. Eucalyptus, Poplar and conifer plantations); w = wetland loss and degradation; b = burning / fire; is = Infrastructure development.

Taking = taking of birds i.e. harvesting / hunting: t = trapping and trade (zoos, collections, falconry); e = egg-collection; s = shooting for sport.

Accidental mortality: C = collision; e = electrocution on power lines; p = poisoning; nd = nest destruction by agricultural machinery.

Per = Persecution (i.e. control of predators / pests) including deliberate poisoning.

Pollution (affecting habitat and/or species): l = Land pollution (other than pesticides); w = water pollution (other than pesticides); p = pesticides (i.e. direct and secondary toxicity effects, not indirect effects through food availability).

Dist = Disturbance (human).

Other: av = invasive alien vegetation; ls = lead-shot poisoning through ingestion of prey with high lead content; ns = nest site loss in old buildings; de = desertification from drought and over exploitation of wood; ip = introduced predators (e.g. rats and cats); pd = prey disease, i.e. myxomatosis and other diseases in rabbits.

				Habitat loss / degradation								Taking			Accidents				Per	Pollution			Dist	Other	Refs
Species	**English Name**	**GS**	**S**	**ai**	**aa**	**og**	**fm**	**af**	**w**	**b**	**is**	**t**	**e**	**s**	**c**	**e**	**p**	**nd**		**l**	**w**	**p**			
Chelictinia riocourii	African Swallow-tailed Kite	LC	B	x		x																x		de	
			N	x		x																x		de	
Milvus milvus	Red Kite	NT	B	x	x												x		x			x	x		10, 31
			N	x	x												x		x			x		ls	10, 31
Milvus migrans	Black Kite	LC	B	x	x				x						x	x			x	x		x	x		
			N											*x*			*x*			*x*		*x*			
Haliaeetus albicilla	White-tailed Eagle	LC	B						x				x		x		x		x		x	x	x		3
			N												x						x	x			
Neophron percnopterus	Egyptian Vulture	LC	B														x		x						
			N											x			x								
Aegypius monachus	Cinereous Vulture	NT	B	x	x			x		x	x						x								1b
			N											x			x								16
Circaetus gallicus	Short-toed Snake-eagle	LC	B	x	x			x		x						x			x				x		
			N											x											
Circus maurus	Black Harrier	VU	B	x						x												x	x	av	4,21
			N																						
Circus cyaneus	Northern Harrier	LC	B	x				x	x	x									x						17
			N																						

				Habitat loss / degradation								Taking			Accidents				Per	Pollution			Dist	Other	Refs
Species	**English Name**	**GS**	**S**	**ai**	**aa**	**og**	**fm**	**af**	**w**	**b**	**is**	**t**	**e**	**s**	**c**	**e**	**p**	**nd**		**l**	**w**	**p**			
Circus macrourus	Pallid Harrier	NT	B	x	x	x			x								x		x			x			33,
			N	x		x								x								x		de	5,6, 33
Accipiter brevipes	Levant Sparrowhawk	LC	B	x																					
			N	x																					18
Buteo rufinus	Long-legged Buzzard	LC	B	x												x	x		x				x		
			N											x			x								
Aquila pomarina	Lesser Spotted Eagle	LC	B	x	x		x	x	x					x					x				x		22
			N	x																					16,18, 20,22,23
Aquila clanga	Greater Spotted Eagle	VU	B				x	x	x					x			x		x				x		24
			N											x											24
Aquila nipalensis	Steppe Eagle	LC	B	x												x			x			x	x		8,18,25,26
			N	x													x					x			20
Aquila rapax	Tawny Eagle	LC	B	x		x											x					x		de	5,20
			N	x										x			x					x		de	5,20
Aquila adalberti	Spanish Imperial Eagle	VU	B	x				x								x	x		x	x		x	x	ls,pd	1d,12,13
			N																						
Aquila heliaca	Imperial Eagle	VU	B	x			x	x				x				x	x		x				x		1c
			N											x			x								
Aquila chrysaetos	Golden Eagle	LC	B					x	x				x			x	x		x						11,14,15
			N												x		x								
Hieraaetus pennatus	Booted Eagle	LC	B	x			x			x						x			x			x			
			N											x			x					x			6
Pandion haliaetus	Osprey	LC	B				x		x				x		x				x		x	x	x		32
			N											x	x				x		x	x			
Falco naumanni	Lesser Kestrel	VU	B	x	x			x			x		x	x										ns	1a
			N	x		x																			6,7
Falco tinnunculus	Common Kestrel	LC	B	x										x		x									
			N									x		x										de	
Falco vespertinus	Red-footed Falcon	NT	B	x					x													x			
			N	x					x					x											6
Falco eleonorae	Eleonora's Falcon	LC	B																				x	ip	27
			N																						
Falco biarmicus	Lanner Falcon	LC	B	x								x	x						x				x		28

				Habitat loss / degradation								Taking			Accidents				Per	Pollution			Dist	Other	Refs
Species	**English Name**	**GS**	**S**	**ai**	**aa**	**og**	**fm**	**af**	**w**	**b**	**is**	**t**	**e**	**s**	**c**	**e**	**p**	**nd**		**l**	**w**	**p**			
			N									x					x								16,20
Falco cherrug	Saker Falcon	EN	B	x	x			x				x	x			x			x			x			2a,b,9,19,25, 26,29, 30
			N									x													
Falco rusticolus	Gyrfalcon	LC	B									x	x						x				x		
			N																						
Otus brucei	Pallid Scops-owl	LC	B																						
			N																						
Otus scops	Common Scops-owl	LC	B	x																		x			
			N																						
Nyctea scandiaca	Snowy Owl	LC	B																				x		
			N																						
Asio flammeus	Short-eared Owl	LC	B	x				x	x																
			N																						

Sources.

General: BirdLife International (2004c); Brown, Urban & Newman (1982), del Hoyo *et al.* (1994, 1999), Ferguson-Lees *et al.* (2001); Tucker & Heath (1994); Tucker & Evans (1997).

Specific species references: 1a Biber (1996); 1b Heredia (1996a); 1c Heredia (1996b); 1d Gonzalez (1996); 2a (Barton 2002); 2b BirdLife (2001); 3 Krone (2003); 4 Harrison *et al.* (1997); 5 Barnes (2000); 6 Thiollay (1989); 7 Pepler (1996); 8 Flint *et al.* 1983, Lopushkov 1988; 9 Galushin (2004); 10 Mateo *et al.* (2003); 11 Whitfield *et al.* (2001); 12 Pain *et al.* (2005); 13 Ferrer (2003); 14 Watson (1992); 15 Marquis, Ratcliffe & Roxburgh (1985); 16 Shirihai *et al.* (2000); 17 Tucker (2003); 18 Zalles & Bildstein (2000); 19 Chancellor & Meyburg (1998); 20a Hartley *et al.* (1996); 20b Hartley (1998); 21 Curtis *et al.* (2004); 22 Meyburg *et al.* (1999b); 23 Meyburg *et al.* (1995) 24 Meyburg *et al.* (1999a); 25 Fox (2004); 26 Batdelger & Potapov (2002); 27 Ristow (1999); 28 Gustin *et al.* (1990); 29 Karyakin *et al*. (2004); 30 Gombobaator *et al.* (2004); 31 (Ntampakis & Carter 2005); 32 (Saurola 1997); 33 Galushin *et al.* (2003).

Table 7: Summary of threats to migratory raptors of the African-Eurasian region that have an Unfavourable Conservation Status

Key. Magnitude of impacts: **L**ow = unlikely to cause detectable population impacts in most species; **M**oderate = likely to cause local population impacts in most species, or population declines in some species; **H**igh = likely to cause population declines in most species. Blank = threat currently unknown in region.

Threat type (primary and secondary types)	% of species impacted*1		Magnitude of impacts*2			
	Breeding	Non-breeding	Europe	Asia	Middle-East	Africa
Habitat Loss/Degradation						
• Loss to agriculture & agricultural intensification	72	28	H	M	M?	H
• Abandonment	25	3	M	M	?	-
• Over-grazing	9	9	L	L	M?	H?
• Forest loss & management	16	0	M	L	L	M
• Afforestation	34	0	M	-	-	-
• Wetland loss and degradation	31	3	M	M	H	M
• Burning / fire	16	0	M	-	-	M
• Infrastructure development	6	0	M	-	M	-
Taking of birds (harvesting / hunting)						
• Trade (collections, falconry)	13	9	L	M	M	L
• Egg-collection	22	0	L	L	L	-
• Shooting and trapping	12	41	M	L	H	L
Accidental mortality*3						
• Collision with man-made structures	9	9	L	L	L	L
• Electrocution on power lines	31	0	M	H	L	L
• Poisoning (e.g. by baits for other species)	34	34	L	M	M	L (H in parts)
• Nest destruction	0	0	L	L	-	L
Persecution	59	6	L	M	M	L
Pollution						
• Land pollution*4	6	3	L	L	L	-
• Water pollution*4	6	6	L	L	L	L
• Toxic pesticides	44	28	L	M?	M?	M?
Disturbance (human)	50	0	H	L	M	M
Other						
• Invasive alien vegetation	3	3	L	?	?	?
• Lead-shot poisoning	3	3	L	-	?	-
• Nest site loss in old buildings	3	0	L	-	-	-
• Desertification	6	13	-	-	?	M
• Introduced predators	3	0	L	-	L	L
• Prey disease	3	0	L	-	-	-

Notes:
*1 From Table 6.
*2 A subjective assessment for the next 10 years, taking into account each threat's average extent, severity and predicted trends across all African-Eurasian migratory raptor species listed in Table 6.

[*3] Individuals are killed accidentally (but see Pollution where this may also be the case) rather than intentionally (see Hunting, Persecution).
[*4] Other than pesticides.

Our overall assessment, according to currently available information, is that the following are likely to be the key threats to raptors over the coming ten years:

- Habitat loss and degradation (which is the most frequent threat to raptor populations, and is probably the root cause of unfavourable conservation status in most species), in particular habitat loss as a result of agricultural expansion, agricultural intensification, overgrazing of remaining natural grasslands (in the Middle-East and Africa) and wetland loss.
- Shooting of migrating raptors, especially in the Middle-East, for sport and trophies.
- Accidental poisoning (e.g. through the use of poison baits to control feral dogs, jackals and wolves).
- Electrocution by power lines.
- Deliberate persecution of raptors (e.g. shooting and destruction of nests to protect game).
- Disturbance of breeding birds (e.g. as a result of tourism, forestry and agricultural activities).

Collisions with wind turbines could also be a significant future problem as a rapid expansion of wind farms is occurring and many of these are likely to be situated within raptor migration routes.

In the longer term, climate change will pose an additional major threat to migratory raptors and exacerbate existing human induced changes throughout the region. The Inter-governmental Panel on Climate Change has now stated that there is no significant doubt that the world's climate is changing as a result of human activities (IPCC 2001), and in particular the release of carbon dioxide and other 'greenhouse gases' into the atmosphere. Although the impacts of this climate change on the world's ecosystems and habitats, and associated species are uncertain, it is likely that migratory species may be particularly vulnerable because as habitats and the timing of biological events change these birds' migration strategies and timings may become less adapted to their environment. It is therefore appropriate to take a precautionary approach and assume that their migratory strategies will be detrimentally disrupted.

3.2 Threats to key sites

For over 25 years, BirdLife International has been developing a global programme of identifying Important Bird Areas (IBAs), which are sites of particular importance for birds, that should therefore be subject to some degree of conservation management (including designation as protected areas). The original European criteria for identifying IBAs (Grimmett & Jones 1989) have been updated and expanded for global application. IBAs are now sites that are important for threatened species, congregatory species, assemblages of restricted-range species and assemblages of biome-restricted species.

Sites qualify as IBAs if they meet any of the standard global (Class A) criteria or regionally specific (Class B) criteria (Heath & Evans 2000).

Of particular importance to migratory raptors are those IBAs which are "bottleneck" sites where they (and other soaring birds) congregate to bypass a particular obstacle, often to minimise a sea-crossing or avoid a high mountain range. An IBA bottleneck site where at least 20,000 storks, raptors, or cranes pass during spring or autumn migration qualifies as being of global importance; or it would have European (or regional) importance if over 5,000 storks, or over 3,000 raptors or cranes regularly pass on spring or autumn migration.

Annex 6 contains a list of all IBAs identified by BirdLife International for Europe, the Middle East (including Iran and Afghanistan) and Africa that qualify as bottleneck migration sites of global or regional importance for raptors according to the above criteria. Those that also hold significant numbers of Globally Threatened raptors on passage are also indicated. This list of 100 sites should, however, be treated as a minimum list of internationally important areas requiring protection for migratory raptors. Other sites of equal or greater importance may be discovered with further knowledge, and appropriate protection measures will also be required for nationally and regionally important sites.

However, as the summary of IBA protected status given in Table 8 shows, the legal security and conservation of many of these sites could be greatly improved: only just over half the sites have any form of protection status and only 20 sites have a good level of protection (assuming that where legal protection is apparently afforded, it is actual rather than just a paper designation).

Table 8: Summary of the protection status of IBAs in Europe, the Middle East and Africa that are significant for migratory raptors

(see Annex 6 for individual site data)

Site protection level	**Percentage of 100 sites**	
	National protection	International protection
High (H)	20	9
Partial (P)	29	13
Low (L)	9	2
None (N)	42	76

4 EXISTING INTERNATIONAL CONSERVATION MEASURES APPLICABLE TO AFRICAN-EURASIAN MIGRATORY RAPTORS

4.1 Overview

There are eleven multilateral environmental agreements (MEAs) that have (or could have) significant relevance for the conservation of raptors (whether migratory or resident) and/or their habitats in the African-Eurasian region (see Annex 7 and summary in Table 9). They can be broadly divided into those which deal with broad ecosystem or environmental themes, and those that are more closely focused on conservation of habitats and/or species, as follows:

Broad ecosystem / environmental MEAs	Nature conservation MEAs
European Landscape Conservation	EC Birds Directive
Convention on Biological Diversity	EC Habitats Directive
Climate Change Convention	Bern Convention
Convention to Combat Desertification	African Convention
	Ramsar Convention
	CITES
	Bonn Convention

A detailed review of the provisions of the two EC Directives, the Bern Convention, CITES and the Bonn Convention with respect to European raptors has recently been published by Stroud (2003). This paper, together with the presentation of the provisions of existing MEAs in Annex 7, shows that a panoply of interlocking (if not partially overlapping) legislation already exists that, in principle, covers all the threats faced by migratory raptors in the African-Eurasian region – although the Bonn Convention alone has a provision that can address problems arising from accidental mortality.

Yet clearly, for many species, the current arrangements appear to be either inadequate or simply failing. The reasons for this can be attributed to the widely recognised drawbacks of much international conservation law, including:

- lack of resources (manpower, capacity, information and cash);
- lack of focus;
- absence of key range states;
- difficulties with enforcement;
- poor cross-compliance and coordination; and
- difficulty of undertaking trans-national initiatives.

4.2 Options for Improving Conservation Benefit

Taking the above issues into account, the main strategic approaches to addressing the unfavourable conservation status of migratory raptors in the African-Eurasian region can be determined as:

1. Wait and see whether the situation improves as existing legislation gradually gathers pace in Europe (under the EC Directives as the Natura 2000 network expands and receives management support from the European Agricultural Fund for Rural Development; Bern Convention; and Convention on Biological Diversity), and in Africa

(under the Convention on Biological Diversity; revised African Convention; Convention to Combat Desertification; and Climate Change Convention).

2. Strengthen the existing legislation in terms of the drawbacks mentioned above, especially by acquiring more Parties (particularly Russia, Ukraine, Belarus, Kazakhstan and other Central Asian countries and more African and Middle Eastern members for the Bern Convention), generating higher political commitment for conservation priorities, and seeking ways to improve enforcement of protection under national law.

3. Set up a new instrument under CMS focusing on these species and particular priority actions. Only this option actually provides a mechanism for formulating and implementing a unifying international plan of action for conserving migratory raptors in Africa and Eurasia.

These options were explored in more detail, and the views of key interest groups sought, during the stakeholder consultation exercise, which is described in the following section.

Table 9: Summary of the applicable MEAs compared with the main threats facing African-Eurasian raptors and owls

Applicable MEAs	**Threat Type** (see Table 6 for more details)						
	Habitat loss / degradation (human induced)	**Taking of birds** (harvesting / hunting)	**Accidental mortality**	**Control of predators / persecution** (including deliberate poisoning)	**Pollution** (affecting habitat and/or species)	**Disturbance** (human)	**Climate Change**
Convention on Biological Diversity	National and regional biodiversity strategies and action plans address habitat protection and restoration Signatories must carry out EIAs for projects that may have a significant effect on biodiversity.	Regulates access to genetic resources (e.g. taking falcons for breeding purposes)	EIAs would address some issues, e.g. wind farms.		EIAs would address some issues		
Climate Change Convention (with Kyoto Protocol)	Establishment of carbon "sinks" through forest and grassland expansion		Encourages wind farms that may be sited in areas used by migratory birds				Signatories to Kyoto Protocol aim to cut greenhouse-gas emiss-ions by at least 5% from 1990 levels between 2008 and 2012.
Convention to Combat Desertification	National and sub-regional action plans prepared to prevent desertification, with a focus on Africa						
CITES		Establishes a well-enforced licensing system for all raptors in inter-national trade or transfers					
European Landscape Conservation	When fully operating, could foster landscape-scale habitat protection and restoration in Europe						

Applicable MEAs	**Threat Type** (see Table 6 for more details)						
	Habitat loss / degradation (human induced)	**Taking of birds** (harvesting / hunting)	**Accidental mortality**	**Control of predators / persecution** (including deliberate poisoning)	**Pollution** (affecting habitat and/or species)	**Disturbance** (human)	**Climate Change**
Convention on Migratory Species	Requires Signatories to protect areas important for listed migra-tory species, either directly or under a subsidiary instrument	Prohibits or regulates the taking of listed species	Signatories should prevent, remove, compensate for or mini-mize, as appropriate, the adverse effects of activities that seriously impede or prevent migration	Calls for any necessary emergency procedures that would rapidly reduce significant threats to migratory species	Calls for any necessary emergency procedures that would rapidly reduce significant threats to migratory species	Signatories should prevent, remove, compensate for or mini-mize, as appropriate, the adverse effects of activities that seriously impede or prevent migration	
Ramsar Convention	Provides good protection for wetlands included in the Ramsar List which now form a considerable network in the African-Eurasian flyway and thus benefits raptors that use wetland areas				Ramsar Secretariat to be informed of any deter-ioration of a listed wetland as a result of pollution		
Bern Convention	Urges states to protect areas important for migratory species and is creating an "Emerald Network" of sites across Europe	Strictly protects birds (including their eggs and nests), and prohibits capture, killing and trade in live or dead birds		Deliberate poisoning of raptors prohibited		Signatories should take measures to prevent deliberate disturbance to raptors	
African Convention*	Requires Signatories to set up a system of conserva-tion areas covering the range of ecosystems in the country	Taking permitted only under special licence and any subse-quent export is regulated		Certain methods of killing and taking prohibited	Specific measures to be taken to prevent pollution of waters		

Applicable MEAs	**Threat Type** (see Table 6 for more details)						
	Habitat loss / degradation (human induced)	**Taking of birds** (harvesting / hunting)	**Accidental mortality**	**Control of predators / persecution** (including deliberate poisoning)	**Pollution** (affecting habitat and/or species)	**Disturbance** (human)	**Climate Change**
EC Habitats Directive	EU members are obliged to identify Special Areas of Conserva-tion for key habitat types in proportion to their territory that together form a network known as Natura 2000				Member states should prevent impacts that cause damage to or deterioration of SACs		
EC Birds Directive	EU members are obliged to identify Special Protection Areas for key bird habitats; these are also included in Natura 2000 (see above)	Strictly protects birds (including their eggs and nests), and prohibits capture, killing and trade in live or dead birds		Deliberate poisoning of raptors prohibited	Member states should prevent impacts that cause damage to or deterioration of SPAs	Strictly protects birds (including their eggs and nests) from disturbance especially during breeding season	

*In July 2003, in Mozambique, the members of the African Union adopted a revised text of the African Convention to bring it more in line with recent international conventions such as CBD. It also defines different types of conservation areas. It will enter in to force with the accession of the 15th party − at the time of writing this had not been achieved.

5 CONSULTATION EXERCISE ON A NEW CMS INSTRUMENT FOR AFRICAN-EURASIAN MIGRATORY RAPTORS

5.1 Introduction

In this phase of the study, carried out during April and May 2005, a consultation exercise was undertaken with a wide range of key interest groups in the African-Eurasian region, comprising:

- CMS Focal Points (Ministries and government agencies: see Table 10)
- Secretariats of other relevant MEAs
- Researchers
- Conservation NGOs

Representatives from these groups received a consultation document, together with the draft Raptor Status Report. A French version of the documents was prepared for Francophone countries and all the documentation was also available on the project website for informal responses. The consultation document contained an overview of the study aims, the main conclusions from the draft status review (including a proposal made at the time to exclude owls from any possible new CMS instrument), and a summary of the existing MEAs with provisions applicable to African-Eurasian raptors, together with possible options for improving the conservation actions in particular for migratory raptors (see 5.2).

Given the study was particularly seeking views on the merits and desirability of a possible new CMS instrument for migratory raptors, a description of the various types of CMS instruments was also provided and a Strengths, Weaknesses, Opportunities and Threats (SWOT) analysis of them undertaken (see below).

Responses were collected on a Response Form (Annex 8) for further analysis. The survey sought to obtain at least 50 responses, of which at least 20 came from ministries or government agencies with a good geographic coverage and hosting a significant number of the species covered.

5.2 Types of CMS Instrument and SWOT Analysis

In general, compared with other MEAs, a CMS instrument has a number of distinctive features and advantages, such as:

- focusing attention on a discrete set of migratory species within a given geographic area;
- specifying and engaging the range states most appropriate for these species;
- the management/action plan associated with a CMS instrument can more easily facilitate joint action (including by drawing together the existing legislation), information exchange and integration, and best practice development across the geographical area of the instrument; and
- providing the possibility for better access to other types of assistance, including other biodiversity-related conventions and international organisations, and integration into the entire world of environment and development.

However, there are also disadvantages that have to be borne in mind, including:

- the additional administrative and financial burden for under-resourced environmental ministries, even when actions are closely correlated with obligations under other MEAs;
- the considerable time likely to be needed to negotiate, adopt and ratify a new instrument and for the first meeting of Signatories to convene and actually pursue an agreed action plan; and

- continued reliance on national conservation priorities.

Table 10: Official Organisations Contacted for Consultation Exercise

Albania	Museum of Natural Sciences Muzeu i Shkencave te Natyres
Austria	Amt der NÖ Landesregierung Abteilung BD1-N Naturschutz
Belarus	Ministry of Natural Resources and Environment Protection
Belarus	Zoological Institute National Academy of Sciences
Belgium	Nature Division Ministry of the Flemish Community
Belgium	Institut Royal des Sciences Naturelles de Belgique
Bulgaria	National Nature Protection Service Ministry of Environment and Water
Bulgaria	National Museum of Natural History Bulgarian Academy of Sciences
Chad	Direction de Conservation de la Faune et des Aires Protegées Ministère de l'Environnement et de l'Eau
Congo	Ministère de l'industrie minière et de l'environnement Direction générale de l'environnement
Congo, Democratic Republic of the	l'Institut Congolais pour la Conservation de la Nature ICCN
Cote d'Ivoire	Ministère de l'Environnement et du Cadre de Vie Direction de la Protection de la Nature
Cote d'Ivoire	Ministère d'Etat Ministère de l'Environnement
Croatia	Ministry of Environmental Protection and Physical Planning
Croatia	Institute for Ornithology Croatian Academy of Science and Art
Cyprus	Environment Service Ministry of Agriculture, Natural Resources and Environment
Czech Republic	Krkonose National Park
Czech Republic	Nature Conservation Department Ministry of the Environment
Denmark	Ministry of the Environment The National Forest and Nature Agency
Egypt	Nature Conservation Section Egyptian Environmental Affairs Agency
Eritrea	Department of Environment Ministry for Land, Water and Environment
European Community	Commission of the European Communities DG XI Environment Directorate B: Environmental Quality and Natural Resources
European Community	Institut Royal des Sciences Naturelles de Belgique
Finland	Land Use Department Ministry of the Environment
Finland	Finnish Game and Fisheries Research Institute Joensuu Game and Fisheries Research
France	Ministère de l'Ecologie et du Développement Durable
France	Ministère de l'Ecologie et du Développement Durable Direction de la Nature et des Paysages
Gambia	Department of State for Fisheries, Natural Resources and the Environment
Georgia	Georgia's Protected Areas Development Center
Germany	Bundesamt für Naturschutz
Germany	Ministry for the Environment, Nature Conservation and Nuclear Safety Directorate N I 3
Ghana	Department of Game and Wildlife
Ghana	Department of Wildlife
Greece	Ministry of Environment, Physical Planning and Public Works
Guinea	Direction Nationale des Eaux et Forêts Ministère de l'Agriculture, de l'Elevage et des Forêts
Guinea	Direction Nationale des Eaux et Forêts Ministère de l'Agriculture, de l'Elevage et des Forêts
Hungary	Hungarian Natural History Museum
Hungary	Ministry for Environment
Iran	International Affairs & Public Relations Department of the Environment
Ireland	Department of Environment, Heritage & Local Government National Parks & Wildlife Service
Ireland	National Parks and Wildlife Service
Israel	Nature and National Parks Protection Authority Division of Science and Conservation
Italy	Università di Pisa
Italy	Nature Conservation Service (Div II) Ministry of Environment

Jordan	Ministry of Environment
Kazakhstan	National Environmental Center for Sustainable Development Ministry of Natural Resources and Environment Protection
Kenya	Kenya Wildlife Service
Kenya	Kenya Wildlife Service
Kenya	Kenya Wildlife Service
Kuwait	Environment Public Authority (EPA)
Latvia	Ministry of the Environment
Latvia	Laboratory of Ornithology Institute of Biology
Latvia	Ministry of the Environment
Lebanon	Centre de la Recherche Marine CNRS
Lebanon	Centre de la Recherche Marine CNRS
Lithuania	Ministry of Environmental Protection
Luxembourg	Musée National d'Histoire Naturelle Centre de Recherche Scientifique
Luxembourg	Musée National d'Histoire Naturelle Centre de Recherche Scientifique
Luxembourg	Service de la Conservation de la Nature Administration des Eaux et Forêts
Luxembourg	Service de la Conservation de la Nature Administration des Eaux et Forêts
Macedonia, FYR	Bird Study and Protection Society of Macedonia Zoological Department, Faculty of Sciences
Madagascar	Ambassade de la République de Madagascar
Malawi	Department Environmental Affairs Ministry of Forests and Natural Resources
Mali	Ministère de l'Equippement, de l'Aménagement du Territoire, de l'Environnement et de l'Urbanisme
Mali	Projet Biodiversité du Gourma Direction Nationale de la Conservation de la Nature
Malta	Environment Protection Directorate Malta Environment and Planning Authority
Moldova	Biodiversity Division Ministry of Ecology, Construction and Territorial Development
Monaco	Ministère d'Etat
Monaco	Ministère d'Etat
Morocco	Haut Commissariat aux Eaux et Forêts et à la Lutte contre la Désertification
Morocco	Ministère des Affaires Etrangères et de la Coopération MAEC Direction de la Coopération Multilatérale
Netherlands	Ministry of Agriculture, Nature and Food Quality Directorate for Nature Management
Netherlands	Department of Marine Biology Groningen University
Niger	Ministère de l'Hydraulique, de l'Environnement et de la Lutte Contre la Désertification
Niger	Direction de la faune, pêche et pisciculture Ministère de l'Hydraulique, de l'Environnement et de la Lutte Contre la Désertification
Nigeria	Federal Ministry of Environment
Norway	Directorate of Nature Management
Poland	Institute of Animal Systematics and Evolution Polish Academy of Sciences
Poland	Department of Nature Conservation Ministry of Environment
Portugal	Instituto da Conservaçao da Natureza
Portugal	Instituto da Conservaçao da Natureza
Romania	Ministry of Water and Environmental Protection
Romania	Ministry of Water and Environmental Protection
Romania	Department of Ecology, Faculty of Biology, University of Bucharest
Russian Federation	Ministry of Natural Resources
Saudi Arabia	National Commission for Wildlife Conservation and Development
Saudi Arabia	National Commission for Wildlife Conservation and Development (NCWCD)
Senegal	Direction des Parcs Nationaux Ministère de l'Environnement et de la Protection de la Nature
Slovakia	Ministry for the Environment Dept. of Nature and Landscape Protection
Slovakia	National Park Muránska Planina Administration
Slovenia	Ministry for Environment and Regional Planning
Slovenia	Ministry of the Environment and Spatial Planning
Slovenia	Ministry of the Environment, Spatial Planning and Energy
South Africa	Department of Environmental Affairs and Tourism

Spain	Ministerio de Medio Ambiente Dirección General de Conservación de la Naturaleza
Spain	Ministerio de Medio Ambiente Dirección General de Conservación de la Naturaleza
Sweden	Swedish Biodiversity Centre
Switzerland	Office fédéral de l'environnement, des forêts, et du paysage (OFEFP)
Syria	Directorate of Biodiversity and Protected Areas Ministry of Local Administration and Environment
Tanzania	Ministry of Natural Resources and Tourism Wildlife Division
Tanzania	University of Dar es Salaam Institute of Resource Assessment
Togo	Direction de la Faune et de la Chasse Ministère de l'Environnement et des Ressources Forestière
Togo	Ministere de l'Environnement
Tunisia	Ministère de l'Agriculture, de l'Environnement et des Ressources Hydrauliques Direction Générale des Forêts
Tunisia	Ministère de l'agriculture Direction générale des forêts
Uganda	Wildlife Division Ministry of Tourism, Trade & Industry
Uganda	Institute of Environment and Natural Resources Makerere University
Ukraine	Wildlife Protection Department Ministry of the Environment and Natural Resources
Ukraine	Ministry of the Environment and Natural Resources
Ukraine	Schmalhausen Institute of Zoology
United Arab Emirates	Environmental Research and Wildlife Development Agency National Avian Research Center
United kingdom	Scottish Natural Heritage
United kingdom	Global Wildlife Division Department for Environment, Food and Rural Affairs

There are four types of CMS instruments for cooperative actions. In increasing order of complexity, these are:

(1) stand-alone Action Plans;

(2) Memoranda of Understanding

(3) Article IV(4) agreements that can cover any migratory population in any specified geographic range of one or more species (even ones not listed in Annex II of CMS); and

(4) Article IV(3) Agreements that must cover the whole range of one or more species listed in Annex II of CMS.

A further possibility in respect of this study was:

(5) to expand the coverage of the existing Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA) to cover raptors (or indeed all migratory birds) using this flyway.

Since all migratory raptors are listed on Appendix II of CMS, any of these instruments may be used for developing concerted international actions for their conservation. Indeed, over time, it is possible to start with a relatively simple instrument and gradually increase its legal standing.

Table 11 provides a review of the strengths, weaknesses, opportunities and threats (SWOT analysis) of each type of instrument.

Table 11: Strengths, weaknesses, opportunities and threats (SWOT) of potential CMS instruments for migratory raptors

Type of CMS Instrument	Main Characteristics	Strengths	Weaknesses	Opportunities	Threats
1. Action Plan	A non-binding stand-alone instrument that can be recommended by the Conference of Parties to the Ranges States of a migratory species listed in Appendix I so that they take further measures considered appropriate to benefit the species under Article III(6).	• Can be developed quickly with little formal procedure (no need for signatures by the participating agencies). • Enjoys the international authority of the CMS with its institutional umbrella as a body provided by the United Nations Environment Programme (UNEP). • Provides a stable and long-term legal and/or political framework for initial implementation and later evolution (e.g. to MoU or Agreement). • There are no regular administrative duties or financial contributions to be paid: the administrative work is usually done by the CMS Secretariat.	• No legal standing and therefore depends for effectiveness entirely on the goodwill of the participating states. • No organisational structure created for implementation so the CMS Secretariat has to coordinate it.	• The material for an Action Plan is readily available and any Range State willing to participate could do so quickly. • The Action Plan could serve as a forerunner for an MoU and eventually a new Agreement, or possible adoption under an expanded AEWA.	• Signatories to CMS will not provide the Secretariat with the additional resources needed to service the Action Plan. • Participants in the Action Plan will not give sufficient support because it is not legally binding.

Type of CMS Instrument	Main Characteristics	Strengths	Weaknesses	Opportunities	Threats
2. Memorandum of Understanding	A non-binding instrument that aims to co-ordinate existing short-term measures across the range of one or more seriously endangered migratory species. It initiates immediate concerted action measures until a more elaborate instrument (i.e. an Article IV agreement) is prepared and adopted by the Range States.	• Can be developed and agreed on relatively short notice • Enjoys the international authority of the CMS with its institutional umbrella as a body provided by the United Nations Environment Programme (UNEP). • Provides a stable and long-term legal and/or political framework for initial implementation and later evolution. • There are no regular administrative duties or financial contributions to be paid: the administrative work is usually done by the CMS Secretariat. • Has a higher standing than an Action Plan alone because it requires Ministerial (or equivalent) signatures, and embodies political commitments, but does not need ratification. • Their simplicity allows them (and/or their associated action plans) to be fairly easily re-opened for re-negotiation or amendment.	• No legal standing and therefore depends for effectiveness entirely on the goodwill of the participating states. • No organisational structure created for implementation so the CMS Secretariat has to coordinate it. • Typically has a much less substantive content than an Agreement because it must not create any new commitment for the signatory Range States. • As an MoU does not create any organisational structure of its own, it is arguably not as dynamically implemented as would be an Agreement.	• The material for an MoU and Action Plan is readily available and any Range State willing to participate could do so provided the government signs the MoU. • The MoU could serve as a forerunner a new Agreement, or possibly amalgamation with an expanded AEWA.	• Signatories to CMS will not provide the Secretariat with the additional resources needed to service the MoU and Action Plan. • Signatories to the MoU will not give sufficient support because it is not legally binding. • The MoU itself could provide a poor substitute for a higher level Agreement.

Type of CMS Instrument	Main Characteristics	Strengths*	Weaknesses*	Opportunities	Threats
3. Article IV(4) agreement	Article IV(4) agreements may take the form of legally binding multilateral treaties or Memoranda of Understanding*. They may be concluded for any population, members of which periodically cross one or more national boundaries but their geographical coverage does not need to extend to the entire migratory range of the species concerned. Moreover, the species covered do not have to be listed in Appendix II of CMS.	• A self-standing treaty with its own institutions for implementing an Action Plan. • The legally binding nature of this instrument could unlock resources that would not be released for an Action Plan or MoU. • Decision and policy making bodies, serviced by a Secretariat, meet on a regular basis. • Has the potential to create a dynamic environment to address the particular needs of the species covered, and Range States. • Provides long term legal stability for the Range States, their authorities and scientific bodies, as well as the international community of governmental and non-governmental organisations involved. • Signatories must make regular reports on implementation. • Has flexibility in coverage of species and geographic range, and can develop organically from an MoU.	• Needs to be ratified in accordance with the internal law making or decision making procedures of every Range State. This can take considerable time. • The legal and institutional framework of the Agreement means the Signatories may have to stretch limited resources to a further MEA requiring regular contributions and national personnel for meetings and reporting.	• The material for an agreement and Action Plan is readily available and any Range State willing to become a Party could do so provided it ratifies the Agreement. • The agreement could focus on the most threatened raptors and key range states in order to minimise delays and costs. • The agreement could be amalgamated later with an expanded AEWA if appropriate.	• Signatories to the Agreement might not contribute sufficient resources to make it effective as an independent instrument.

*See previous row for Memorandum of Understanding option

Type of CMS Instrument	Main Characteristics	Strengths	Weaknesses	Opportunities	Threats
4. Article IV(3) Agreement	• Article IV(3) Agreements are viewed as formal, multi-lateral treaties. They may create new conservation or financial obligations for their Contracting Parties. To enter into force these instruments need to be ratified or acceded to by a pre-determined number of Range States. This instrument applies to species listed in Appendix II of CMS. Parties within whose territory Appendix II migratory species occur shall endeavour to conclude Article IV(3) Agreements, following the guidelines set out in Article V.	• A self-standing treaty with its own institutions for implementing an Action Plan. • The legally binding nature of this instrument could unlock resources that would not be released for an Action Plan or MoU. • Decision and policy making bodies, serviced by a Secretariat, meet on a regular basis. • Has the potential to create a dynamic environ-ment to address the particular needs of the species covered, and Range States. • Provides long term legal stability for the Range States, their authorities and scientific bodies, as well as the international community of governmental and non-governmental organisations involved. • Parties must make regular reports on implementation. • Has a high legal standing, especially for CMS Parties, as a requirement for Annex II species (i.e. raptors).	• Needs to be ratified in accordance with the internal law making or decision making procedures of every Range State. This can take consider-able time. • The legal and institutional framework of the Agreement means the Parties may have to stretch limited re-sources to a further MEA requiring regular contributions and national personnel for meetings and reporting. • The Agreement should cover the whole geographic range of the species covered so the number of eligible Parties can grow very large.	• The material for an Agreement and Action Plan is readily available and any Range State willing to become a Party could do so provided it ratifies the Agreement. • The Agreement would enjoy the highest level of legal standing. • The Agreement would embrace all raptors and relevant Range States.	• The large number of Parties involved would mean a considerable period before the Agreement enters in to force. • Parties to the Agreement might not contribute sufficient resources to make it effective as an independ-ent instrument.

5. Expansion of Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA)	This is an Agreement under Article IV(3) of CMS that came into force in 1999. It covers 235 species in 117 Range States, of which 48 are currently Signatories. The Signatories take co-ordinated measures to maintain migratory waterbird species in a favourable conservation status or to restore them to such a status. They apply within the limits of their national jurisdiction a range of prescribed measures as well as specific actions determined in the Action Plan of the Agreement.	• An already existing and operational Agreement, requiring relatively few additional resources to cover raptors. • Covers the same geographic range as needed for African-Eurasian raptors. • No need for Signatories to adopt a new treaty and has economies of scale. • Many threats to waterbirds similar to those faced by raptors e.g. climate change, wind farms, pollution.	• Will potentially require a lengthy process of amendment and ratification by at least two-thirds (i.e. 32) of the existing Signatories. • The first realistic opportunity to propose such an amendment would be for the Fourth Meeting of Signatories in 2008. • Could reduce the focus on waterbirds while not generating strong action for raptors.	• The material for a raptor Action Plan is readily available and could be integrated with the existing AEWA Action Plan. • If the Signatories to AEWA agree to expand its scope then this would fast-track con-certed international action for raptors. • The additional costs for including raptors in an expanded AEWA would be much less than creating a new Agreement.	• An expanded AEWA could attenuate specific actions for particular groups and have to rely on more generic actions.

5.3 Survey results

By the time the consultation exercise closed, on 10 May 2005, 60 responses had been received. Of these, 57 could be attributed to 35 range states (see Table 12), with three others not having sufficient information for categorisation. This result met the survey objectives set out in 6.1.

5.4 Analysis of responses

5.4.1 Status Report conclusions

The first two questions in the response form sought feedback on the conclusions in the status report about the raptor species known to be in unfavourable conservation status. The results were:

Question	Yes (%)
Do you agree with the general conclusion of the status report that few migratory owls have an unfavourable conservation status at present?	89
Do you agree with the general conclusion of the status report that a high proportion of migratory raptors[6] have an unfavourable conservation status at present?	98

Some respondents (most of whom did not agree with the propositions) sent comments to support their views which mainly concerned the lack of data to justify excluding owls from any new CMS instrument, and similarly that other African raptors might also be found to be either migratory and/or have unfavourable status if more recent data were available.

5.4.2 Desirability of a CMS instrument for migratory African-Eurasian raptors

The third question in the response form asked:
Do you believe that a new international instrument under CMS covering migratory raptors would lead to improved conservation action for those species having an unfavourable conservation status?

Some 90% of the respondents supported the proposition. Of the remaining 10% who did not favour a new CMS instrument for migratory raptors, only 3% represented ministries or government agencies. The main reasons for not supporting the proposition concerned problems with implementing existing conventions, and therefore the addition of a further instrument would be of little value and could even deflect actions from existing agreements. Furthermore, the length of time that it takes to agree new CMS Agreements was also a concern for some respondents.

5.4.3 Preferences for a CMS instrument for migratory African-Eurasian raptors

Those respondents who favoured a new CMS instrument were asked to rank the options set out in 6.2 in order of preference. The overall results for first preference for all respondents are given in Table 13. This indicates that an MoU was the overall first choice for a new CMS instrument.

[6] In the consultation exercise the term “raptor” was used to refer to diurnal raptors only.

Table 12: Summary of Responses by Range State and Type of Respondent

	Country / Region	Ministry	Gov. Agency	Research Institute	NGO	Other
1	Botswana				1	
2	Bulgaria	1	1			
3	Burkina		1			
4	Congo DR		1			
5	Congo		1			
6	Croatia			1		
7	Egypt	1				
8	France	1	1			
9	Germany		1	2	1	
10	Gibraltar				1	
11	Hungary	1		1	1	
12	Israel		1	1		
13	Italy			2		
14	Jordan				1	
15	Kenya			1		
16	Monaco	1				
17	Morocco	1				
18	Netherlands	1	1		1	
19	Nigeria				1	
20	Portugal				1	
21	Romania			1		
22	Russia			1		
23	Saudi Arabia		1			
24	Senegal	1				
25	South Africa	1	1	1	1	
26	Spain		1			
27	Sweden	1				
28	Switzerland				1	
29	Tanzania	1				
30	Turkey				1	
31	UAE				1	
32	Uganda					1
33	UK			1	3	1
34	Ukraine	1		1		
35	Zimbabwe				1	
	“Africa”				1	
	“Europe”				2	
	Sub-totals	**12**	**11**	**13**	**19**	**2**
	TOTAL					**57**

Table 13: The number of times each CMS option was ranked of highest importance

Ranking	Action Plan only	MoU	IV(4) Agreement	IV(3) Agreement	AEWA expansion
1st preference	8	15	8	7	11
Only option proposed	0	1	0	3	1
Total	8	16	8	10	12

However, separate examination of the responses from ministries / government agencies on the one hand and NGOs / research organisations / others on the other hand (Table 14) indicated that the preference for an MoU was much stronger amongst the latter group. Amongst the ministries / government agencies an expansion of AEWA was the more frequent first preference, although an MoU was still given first choice by a significant proportion of respondents.

Table 14: The percentage of times each CMS option was ranked of highest importance (i.e. 1st preference or only option proposed) according to organisation type

Organisation type / responses	Action Plan only	MoU	IV(4) Agreement	IV(3) Agreement	AEWA expansion
Ministry / government agency (n = 21)	13.6%	22.7%	13.6%	18.2%	31.8%
NGO, research and other (n = 31)	15.6%	34.4%	15.6%	18.8%	15.6%

Analysis of the overall scores (i.e. taking into account average perceived importance of all options) also indicated a fairly clear preference for an MoU (Table 15). Furthermore, this preference was consistent amongst respondents from ministries / government agencies and NGOs / researchers / others (Table 16). It is notable that there appeared to be particularly low support for the preparation of either a IV(4) or IV(3) Agreement amongst ministry / government agency respondents.

Table 15: Overall scores for each CMS instrument option and ranking

Ranking	Action Plan only	MoU	IV(4) Agreement	IV(3) Agreement	AEWA expansion
1	8	15	8	7	11
2	9	8	7	9	10
3	9	9	11	11	7
4	6	11	10	10	6
5	13	4	11	9	13
Sum (excluding missing scores)	142	122	150	143	141
Valid Responses*1	45	47	47	46	47
Ratio of sum : valid responses	3.16	2.60	3.19	3.11	3.00
Rank (1 = highest preference)	**4**	**1**	**5**	**3**	**2**

*1 Excluding scores from respondents that did not rank all options.

Table 16: Option scores for each CMS instrument according to organisation type

Organisation type	Action Plan only	MoU	IV(4) Agreement	IV(3) Agreement	AEWA expansion
Ministry / government agency	3.18	2.42	3.16	3.28	2.74
Rank (1 = highest preference)	**4**	**1**	**3**	**5**	**2**
NGO, research and other	3.14	2.71	3.21	3.00	3.18
Rank (1 = highest preference)	**3**	**1**	**5**	**2**	**4**

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 The need for conservation action for African-Eurasian migratory raptors

Despite some data limitations, it is clear that at least 32 (53%) of African-Eurasian migratory raptor species have an unfavourable conservation status at a global or regional level. Indeed ten of these are Globally Threatened or Near Threatened (see Annex 5). Furthermore, a high proportion of these species are in continued long-term or rapid population declines.

Analysis of the known threats to raptors in the African-Eurasian region suggest that there are a substantial number and variety of factors causing unfavourable conservation status. However, the principal threats over the next ten years are likely to be habitat loss and degradation (especially as a result of agricultural expansion and intensification, overgrazing of remaining natural grasslands and wetland loss), shooting of migrating raptors (particularly in the Mediterranean region and Middle-East), accidental poisoning, electrocution on power lines, deliberate persecution and disturbance of breeding birds.

In the longer term, climate change is expected to exacerbate these habitat-related problems profoundly across the entire African-Eurasian region.

Analysis of existing MEAs reveals that a wide range of interlocking (if not partially overlapping) legislation already exists that, in principle, covers all the threats faced by migratory raptors in the African-Eurasian region. However, it is also apparent that these are currently not sufficiently to prevent declines in migratory raptor populations mainly because there is a lack of a unifying international plan of action that leads to concerted efforts for conserving migratory raptors in Africa and Eurasia. Only the CMS provides a mechanism that can formulate and implement such an international plan of action that can coordinate and integrate the application of existing MEAs and address and remaining gaps.

Given the continued rapid declines in several species we conclude that there is clear and urgent need for further internationally coordinated action for migratory raptors in the African-Eurasian region.

6.2 Support for a new CMS instrument for African-Eurasian migratory raptors

The responses from the consultation exercise, while neither comprehensive nor official, strongly supported the findings of the Raptor Status Report, namely (i) that few migratory owls have an unfavourable conservation status at present; (ii) that a high proportion of migratory African-Eurasian raptors have an unsatisfactory conservation status; and (iii) they would benefit from a new CMS instrument to improve their conservation status.

However, some strong reservations were expressed about the exclusion of owls from any CMS instrument, and also that the list of raptors identified as most threatened would probably increase if better data on intra-African migrants were available.

The general preference among respondents on the form of CMS instrument is for a new MoU (accompanied by an Action Plan). The second preferences differ among organisation types: governmental bodies tend toward an expansion of AEWA while the research and non-governmental bodies favour an Article 4(3) Agreement. This suggests that there would be some support for moving from an MoU to a stronger stand alone instrument having its own administrative structures (either through AEWA or a new Agreement) if it is found to be necessary in the future.

As a result of these findings, we recommend that a draft MoU with Action Plan should be prepared for further consideration by the CMS Conference of Parties.

The Action Plan should focus on urgent conservation measures for the 32 migratory raptor species identified in the Raptor Status Report as having an unfavourable status. But it should also include actions to maintain and monitor the status of other migratory raptors, and to clarify the migratory status of African raptors.

6.3 Interactions between existing MEAs and a new instrument for African-Eurasian migratory raptors

As discussed in Chapter 5 (and above) a range of instruments already exist that should in principle address most of the key actions required for migratory raptors. Some consultees also raised concerns that their capacity for implementing existing instruments (such as AEWA) was already limited, and therefore a new instrument would add little benefit, and might even interfere with existing actions. We therefore recommend that the MoU should reiterate and strengthen calls for actions under existing MEAs where appropriate, whilst the Action Plan should focus on identifying new priority actions that are not currently included within existing initiatives as well provide a unifying approach for concerted actions.

6.4 Scope of a new instrument for African-Eurasian migratory raptors

On the basis of the above considerations and the results of the Raptor Status Report and consultation, we recommend that the MoU and Action Plan should:

- Focus on diurnal migratory birds of prey of the African-Eurasian region. This is because most owls currently appear to have a favourable conservation status (only one owl appears to require international actions) and there is relatively little overlap between the threats to owls and raptors. However, we conclude that the disadvantages of excluding owls from a CMS instrument is outweighed by the practical benefits of engaging a wider range of interests, and the additional actions are not onerous.
- Cover all raptors in the Africa-Eurasia region, prioritised according to their conservation status. Highest priority should be given to actions for globally threatened species first and foremost, followed by actions for other species with an unfavourable conservation status at a regional level. Finally, actions should also be taken as necessary for other migratory species to maintain their favourable status.
- Only cover true migratory raptor species that regularly occur within the African-Eurasian region as listed in Annex 3 (which includes partial migrants). For practical reasons the instrument should exclude nomadic species and species that technically meet the CMS migratory species definition because they regularly cross one or more national boundaries, but are short-distance migrants, which travel less 100 km. The species include a sufficient number and diversity of raptors and range of coverage that the additional listing of short-distance ('technical') migrants would be of little additional benefit, because many short-distance migrants would benefit from actions proposed for other migratory raptors.
- Apply to the aggregate range of all migratory raptors (with the exception of Amur falcon *Falco amurensis*) that regularly occur within the Afrotropical or Western Palearctic realms at some point in their annual cycle. It is suggested that Amur falcon is excluded because this species has a unique and extremely long migration (from China and east Asia, across south Asia and the Indian Ocean to Africa) that would result in the addition of a large number of countries to the area covered by MoU, which could be impractical. Furthermore, Amur Falcon currently appears to have a favourable conservation status.

  The African-Eurasia region covered by the MoU would therefore comprise all countries within the Afrotropical Realm (including Madagascar but excluding the archipelagos of Cape Verde, Comores and Seychelles and other islands), all countries within the Western Palearctic (as defined by Cramp *et al.* (1977-93)) and the following additional

countries (which contain breeding populations of which a significant proportion regularly migrate to Afrotropical or Western Palearctic countries): Afghanistan, China, Iran, Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan, Turkmenistan and Uzbekistan.

- Focus on key transboundary actions that will address the key threats to migratory raptors (as listed above), including:
  - reviewing and where necessary strengthening the legal protection afforded to raptors;
  - alleviating threats related to habitat degradation and loss;
  - protecting and managing important sites for migratory raptors, especially bottleneck sites, because threats can have a disproportionate impact on populations at such sites.

And to support these objectives the Action Plan should:

- Promote activities that raise awareness of migratory raptors, their current plight and the threats that they face, and the measures that need to be taken to conserve them.
- Monitor raptor populations throughout the region to establish reliable population trends, and carry out research to establish the impacts of threats on them and the measures that are needed to alleviate them.
- Identify regions where actions should be taken, and priorities and responsibilities for their implementation. It is not proposed to specify directly which individual countries should be expected to take actions at this stage, because there is insufficient information to consistently and reliably identify where actions must be taken. Further consultation with CMS Focal Points and other stakeholders within the countries covered by the Action Plan would be required to achieve this.

6.5 Potential problems with establishing a new instrument for African-Eurasian migratory raptors

The main problems that a new MoU will face in delivering conservation benefits for raptors are as follows:

- obtaining the necessary number and type of signatory range states to make it operational, bearing in mind some have reservations over their existing burdens;
- implementing the MoU given that it has no formal legal standing or budget and therefore depends for effectiveness entirely on the goodwill of the participating states;
- maintaining a high level of coordination and support given the number of species and wide geographic range since the Secretariat is provided by the Convention Secretariat and the level of input will depend on the resources available to them and other programme priorities;
- possible confusion with the existing AEWA.

It is therefore recommended that, if the Conference of Parties supports the establishment of a new MoU and Action Plan for African-Eurasian Migratory Raptors, then an ad hoc consortium of range states should be formed to parent the MoU in consultation with the Convention Secretariat.

The consortium would undertake the following tasks pending the entry in to force of the MoU itself:

- appoint an interim coordinator, under the auspices of the Convention Secretariat (but not necessarily co-located with it) to liaise with range states and encourage them to sign the MoU;
- ensure close coordination with the Secretariat of AEWA and other MEA agencies;
- provide funding for the administrative costs of the coordinator;

- arrange and fund the first Meeting of Signatories in cooperation with the Convention Secretariat.

6.6 Financing required for a new instrument for African-Eurasian migratory raptors to deliver additional conservation benefits

On the assumption that the draft Memorandum of Understanding and Action Plan given in the Attachment are adopted more or less as set out, a cost estimation was made for implementing the Action Plan over a 5 year period (Table 17).

The estimate allows only for the expected incremental cost on top of domestic expenditure that signatories would be expected to disburse in the normal course of their nature conservation activities or from additional national commitments undertaken by signing the MoU. However, some provision has been made, in accordance with paragraph 17 of the MoU on mutual financial assistance, for funding priority actions for surveys, management planning and awareness raising through establishing special grant programmes to be administered by the MoU Secretariat. Provision is also made for operational costs and supporting attendance at Meetings of Signatories.

The cost estimate totals US$1,970,000 over five years. While this sum is rather higher than for other existing CMS MoUs, it should be borne in mind that this MoU covers by far the greatest number of range states and migratory species. Moreover, in global conservation terms, the amount is quite modest and could be raised through fostering private / public partnerships and by in-kind or offset contributions.

Table 17: Cost estimate for implementing an International Action Plan for African-Eurasian Migratory Raptors over five years

Activities	Priority Level	Time-scale	Item	Year 1 US$	Year 2 US$	Year 3 US$	Year 4 US$	Year 5 US$	Total US$
0: MoU Management									
First Meeting of Signatories: 20 countries; 1 rep each funded				40,000					40,000
Second Meeting of Signatories: 40 countries; 1 rep each funded							90,000		90,000
Coordination (Staff, office, travel, incidentals)				50,000	55,000	60,000	70,000	75,000	310,000
Sub-total				90,000	55,000	60,000	160,000	75,000	440,000
1: Improvement of legal protection									
1.1. Update CMS appendices to include all Category 1 species on Annex I	Second	Short							0
1.2. Ensure national legislation protects all raptors from all forms of killing, disturbance at nest sites, egg-collection and taking from the wild unless this can be shown to be sustainable and forms part of an International Management Plan agreed by parties to this MoU	First	Immediate							0
1.3 Ensure that national legislation bans the use of exposed poison baits for predator control	First	Immediate							0
1.4 Ensure that national legislation requires all new power lines to be designed to avoid bird of prey electrocution	Second	Short							0
1.5 Strengthen the application of legal protection for raptors by training law enforcement authorities, and raising public awareness to boost surveillance and reporting of illegal activities, particularly at bottleneck sites	Second	Ongoing							0
1.6 Identify gaps in existing MEAs where raptor protection and conservation can be improved and draw these to the attention of the relevant Secretariat and other Parties	Third	Intermediate	Consultancy		30,000				30,000
Sub-total				0	30,000	0	0	0	30,000
2: Protect and manage important sites and flyways									
2.1 Designate important sites (listed in Table 3) as protected areas with management plans that are agreed with key stakeholders and take bird of prey conservation requirements into account.	Second	Medium	Consultancies for ca. 30 sites		100,000	100,000	100,000		300,000
2.2 Include important sites (listed in Table 3) in the EU within the Natura 2000 network	Second	Short							0
2.3 Require EIAs in accordance with the CBD guidelines (CBD Decision VI/7A and any subsequent amendments) for any projects impacting sites listed in Table 3	Third	Medium							0
2.4 Conduct risk assessments at important sites (listed in Table 3) to identify and address actual or potential causes of incidental mortality from human causes (including fire, laying poisons, pest spraying, power lines, wind turbines)	Third	Ongoing							0
2.5 Conduct Strategic Environmental Assessments of planned infrastructure developments within major flyways to identify key risk areas	Third	Medium							0
Sub-total				0	100,000	100,000	100,000	0	300,000
3: Habitat conservation and sustainable management									
3.1 Develop schemes under the EU EAFRD / Rural Development Regulation that are targeted towards maintaining or restoring habitats for raptors	Second	Ongoing							0
3.2 Survey, maintain and restore natural vegetation cover in former habitats (especially grasslands) in the range of globally threatened species:	Third	Long	Surveys in Africa and Central Asia		50,000	60,000	80,000	100,000	290,000
Sub-total				0	50,000	60,000	80,000	100,000	290,000

Activities	Priority Level	Time-scale	Item	Year 1 US$	Year 2 US$	Year 3 US$	Year 4 US$	Year 5 US$	Total US$
4: Raise awareness of problems faced by migratory raptors and measures needed to conserve them			Small Grant Programme for NGOs		40,000	60,000	80,000	100,000	280,000
4.1 Develop a programme of public awareness, using TV, radio, newspapers and the internet to publicise the migrations undertaken by raptors, their current status, the threats to them and actions that can be taken to conserve them.	Second	Short							0
4.2 Develop an awareness programme within forestry, agriculture, fisheries, energy, industry and transport etc to inform decision makers of the current status of raptors, the threats to them and the sectoral actions that can be taken to conserve them.	Second	Medium							0
4.3 Develop a school educational programme and teaching resources to inform school children of the migrations undertaken by raptors, their current status, the threats to them and actions that can be taken to conserve them.	Third	Medium							0
4.4 Establish information notices and provide leaflets at bottleneck sites informing people of their importance for migrating raptors and the measures that they can take to conserve them	Second	Short							0
Sub-total				0	40,000	60,000	80,000	100,000	280,000
5: Monitor bird of prey populations and carry out conservation research			Bird of prey monitoring and research fund		100,000	100,000	120,000	120,000	440,000
5.1 Establish a monitoring network comprising a representative range of sites where systematic and coordinated monitoring of breeding populations and migration numbers (spring and autumn) can be undertaken	Third	Immediate							0
5.2 Design and undertake a coordinated monitoring programme based on the monitoring network established under 5.1	Third	Ongoing							0
5.3 Assess the impacts of habitat change on breeding, passage and wintering populations of raptors, and identify required measures to maintain Favourable Conservation Status	Second	Medium							0
5.4 Assess the impacts of the use of toxic agrochemicals on breeding, passage and wintering populations of raptors, and identify required measures to maintain Favourable Conservation Status	Second	Medium							0
Sub-total				0	100,000	100,000	120,000	120,000	440,000
6: Supporting measures									
6.1 National Plans of Action for migratory raptors	Second	Immediate	Consultancies	80,000					80,000
6.2 International Plan of Action for migratory raptors	Second	Short	Consultancy	30,000					30,000
6.3 Prepare single species action plans for all globally threatened species, taking account of existing international plans and where necessary extending them to cover the entire African-Eurasian range of each species	First	Medium	Consultancies		40,000	20,000	20,000		80,000
6.4 Update Tables 1 and 3 according to new information emerging from the monitoring programme	Third	Ongoing							0
Sub-total				110,000	40,000	20,000	20,000	0	190,000
TOTAL				**200,000**	**415,000**	**400,000**	**560,000**	**395,000**	**1,970,000**

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ANNEX 1

VI World Conference on Birds of Prey and Owls
Budapest, Hungary, 18-23 May 2003
RESOLUTION 3

RECALLING that the Convention on the Conservation of Migratory Species of Wild Animals 1979 (CMS) encourages international cooperative action to conserve migratory species;

CONSIDERING that migratory raptors constitute an important part of the global biological diversity which, in keeping with the spirit of the Convention on Biological Diversity 1992 and Agenda 21, should be conserved for the benefit of present and future generations;

AWARE of the environmental, ecological, genetic, scientific, aesthetic, recreational, cultural, educational, social and economic values of raptors in general;

CONSCIOUS that migratory raptors are particularly vulnerable because they migrate over long distances, with many species being reliant upon land-bridges and/or networks of fragile habitats that are declining in extent and becoming degraded through unsustainable human activities;

RECOGNISING the need to take immediate action to halt the decline of migratory raptor populations and their habitats in the geographic area of the African-Eurasian raptor migration systems;

CONVINCED that a multilateral agreement and its implementation through coordinated and concerted action would contribute significantly to the conservation of migratory raptors and their habitats in the most effective manner, and would deliver ancillary benefits for many other species of animal and plant;

URGES the CMS Secretariat and other bodies of CMS, notably the Scientific Council, urgently to consider establishing a multilateral agreement on the conservation of African-Eurasian migratory raptors;

ACKNOWLEDGES that effective implementation of such an agreement would require assistance to be provided to some range states for research, training and monitoring of migratory raptor species and their habitats, for the management of those habitats as well as for the establishment or improvement of scientific and administrative institutions for the implementation of such an agreement; and

FURTHER URGES all range states within the African-Eurasian geographic area actively to embrace this proposal and to work together to establish, ratify and implement such an agreement as a matter of urgency.

ANNEX 2

The Definition of “Favourable Conservation Status” According to the Convention on the Conservation of Migratory Species of Wild Animals

According to Article 1(c) “conservation status” will be taken as “favourable” when:

(1) population dynamics data indicate that the migratory species is maintaining itself on a long-term basis as a viable component of its ecosystems;

(2) the range of the migratory species is neither currently being reduced, nor is likely to be reduced, on a long-term basis;

(3) there is, and will be in the foreseeable future, sufficient habitat to maintain the population of the migratory species on a long-term basis; and

(4) the distribution and abundance of the migratory species approach historic coverage and levels to the extent that potentially suitable ecosystems exist and to the extent that is consistent with wise wildlife management.

Conversely, Article 1(d) states:

"Conservation status" will be taken as "unfavourable" if any of the conditions set out in sub-paragraph (c) … is not met.

ANNEX 3

Raptors that Regularly Occur in the Afrotropical and Palearctic Realms, their Migratory Behaviour and Global Conservation Status

Key / source: W Pal & Afro-tropical: regularly occurring range according to BirdLife International World Bird Database: Af = Afrotropical Realm, WP = Western Palearctic. Migratory behaviour: source GROMS (www.groms.de) unless otherwise indicated, (G) = follows GROMMS listing although this differs from its migrant status in the BirdLife World Bird Database, (BL) = follows BirdLife's migrant listing although not listed as a migrant in GROMMS (see below for reasons). Global status according to BirdLife International's World Bird Database, www.birdlife.org (accessed 20 June 2005): CR = Critical, EN = Endangered, VU = Vulnerable, NT = Near Threatened, LC = Least Concern.

Scientific name	English name	W Pal & Afro-tropical	Migratory behaviour	Global status
SAGITTARIIDAE				
Sagittarius serpentarius	Secretarybird	Af	not a migrant	LC
ACCIPITRIDAE				
Aviceda cuculoides	African Baza	Af	full migrant (G)	LC
Aviceda madagascariensis	Madagascar Baza	Af	not a migrant	LC
Aviceda jerdoni	Jerdon's Baza		full migrant	LC
Aviceda leuphotes	Black Baza		full migrant	LC
Pernis apivorus	European Honey-buzzard	Af WP	full migrant	LC
Pernis ptilorhyncus	Oriental Honey-buzzard	WP	full migrant	LC
Macheiramphus alcinus	Bat Hawk	Af	not a migrant	LC
Elanus caeruleus	Black-winged Kite	Af WP	not a migrant (G)	LC
Chelictinia riocourii	African Swallow-tailed Kite	Af	full migrant	LC
Milvus milvus	Red Kite	Af WP	full migrant	NT
Milvus migrans	Black Kite	Af WP	full migrant	LC
Milvus lineatus	Black-eared Kite		full migrant (BL)	LC
Haliastur indus	Brahminy Kite		not a migrant	LC
Haliaeetus leucogaster	White-bellied Fish-eagle		not a migrant	LC
Haliaeetus vocifer	African Fish-eagle	Af	not a migrant	LC
Haliaeetus vociferoides	Madagascar Fish-eagle	Af	not a migrant	CR
Haliaeetus albicilla	White-tailed Eagle	WP	full migrant	LC
Haliaeetus pelagicus	Steller's Sea-eagle		full migrant	VU
Ichthyophaga humilis	Lesser Fish-eagle		not a migrant	NT
Gypohierax angolensis	Palm-nut Vulture	Af	not a migrant	LC
Gypaetus barbatus	Lammergeier	Af WP	not a migrant (G)	LC
Neophron percnopterus	Egyptian Vulture	Af WP	full migrant	LC
Necrosyrtes monachus	Hooded Vulture	Af	not a migrant	LC
Gyps africanus	White-backed Vulture	Af	not a migrant	LC
Gyps bengalensis	White-rumped Vulture		not a migrant	CR
Gyps rueppellii	Rueppell's Griffon	Af	not a migrant	LC
Gyps himalayensis	Himalayan Griffon		not a migrant (G)	LC
Gyps fulvus	Eurasian Griffon	Af WP	full migrant	LC
Gyps coprotheres	Cape Griffon	Af	not a migrant (G)	VU
Aegypius monachus	Cinereous Vulture	Af WP	full migrant	NT
Torgos tracheliotus	Lappet-faced Vulture	Af WP	not a migrant	VU
Trigonoceps occipitalis	White-headed Vulture	Af	not a migrant	LC
Sarcogyps calvus	Red-headed Vulture		not a migrant	NT

Scientific name	English name	W Pal & Afro-tropical	Migratory behaviour	Global status
Circaetus gallicus	Short-toed Snake-eagle	Af WP	full migrant	LC
Circaetus cinereus	Brown Snake-eagle	Af	not a migrant	LC
Circaetus fasciolatus	Southern Banded Snake-eagle	Af	not a migrant	NT
Circaetus cinerascens	Banded Snake-eagle	Af	not a migrant	LC
Terathopius ecaudatus	Bateleur	Af	not a migrant	LC
Spilornis cheela	Crested Serpent-eagle		not a migrant	LC
Dryotriorchis spectabilis	Congo Serpent-eagle	Af	not a migrant	LC
Eutriorchis astur	Madagascar Serpent-eagle	Af	not a migrant	EN
Circus aeruginosus	Western Marsh-harrier	Af WP	full migrant	LC
Circus ranivorus	African Marsh Harrier	Af	not a migrant	LC
Circus spilonotus	Eastern Marsh-harrier		full migrant	LC
Circus macrosceles	Madagascar Harrier	Af	not a migrant	VU
Circus maillardi	Réunion Harrier	Af	not a migrant	EN
Circus maurus	Black Harrier	Af	full migrant (G)	VU
Circus cyaneus	Northern Harrier	WP	full migrant	LC
Circus macrourus	Pallid Harrier	Af WP	full migrant	NT
Circus melanoleucos	Pied Harrier		full migrant	LC
Circus pygargus	Montagu's Harrier	Af WP	full migrant	LC
Polyboroides typus	African Harrier-hawk	Af	not a migrant	LC
Polyboroides radiatus	Madagascar Harrier-hawk	Af	not a migrant	LC
Kaupifalco monogrammicus	Lizard Buzzard	Af	not a migrant	LC
Melierax metabates	Dark Chanting-goshawk	Af WP	not a migrant	LC
Melierax poliopterus	Eastern Chanting-goshawk	Af	not a migrant	LC
Melierax canorus	Pale Chanting-goshawk	Af	not a migrant	LC
Melierax gabar	Gabar Goshawk	Af	not a migrant	LC
Accipiter trivirgatus	Crested Goshawk		not a migrant	LC
Accipiter tachiro	African Goshawk	Af	not a migrant	LC
Accipiter castanilius	Chestnut-flanked Sparrowhawk	Af	not a migrant	LC
Accipiter badius	Shikra	Af WP	full migrant	LC
Accipiter brevipes	Levant Sparrowhawk	Af WP	full migrant	LC
Accipiter soloensis	Chinese Goshawk		full migrant	LC
Accipiter francesiae	Frances's Sparrowhawk	Af	not a migrant	LC
Accipiter erythropus	Red-thighed Sparrowhawk	Af	not a migrant	LC
Accipiter minullus	Little Sparrowhawk	Af	not a migrant	LC
Accipiter gularis	Japanese Sparrowhawk		full migrant	LC
Accipiter virgatus	Besra		full migrant	LC
Accipiter madagascariensis	Madagascar Sparrowhawk	Af	not a migrant	NT
Accipiter ovampensis	Ovampo Sparrowhawk	Af	full migrant (G)	LC
Accipiter nisus	Eurasian Sparrowhawk	Af WP	full migrant	LC
Accipiter rufiventris	Rufous-chested Sparrowhawk	Af	not a migrant	LC
Accipiter melanoleucus	Black Goshawk	Af	not a migrant	LC
Accipiter henstii	Henst's Goshawk	Af	not a migrant	NT
Accipiter gentilis	Northern Goshawk	WP	full migrant	LC
Urotriorchis macrourus	Long-tailed Hawk	Af	not a migrant	LC
Butastur rufipennis	Grasshopper Buzzard	Af	full migrant (G)	LC
Butastur teesa	White-eyed Buzzard		not a migrant	LC
Butastur liventer	Rufous-winged Buzzard		not a migrant	LC
Butastur indicus	Grey-faced Buzzard		full migrant	LC
Buteo buteo	Common Buzzard	Af WP	full migrant	LC

Scientific name	English name	W Pal & Afro-tropical	Migratory behaviour	Global status
Buteo oreophilus	Mountain Buzzard	Af	full migrant (G)	LC
Buteo brachypterus	Madagascar Buzzard	Af	not a migrant	LC
Buteo rufinus	Long-legged Buzzard	Af WP	full migrant	LC
Buteo hemilasius	Upland Buzzard		full migrant	LC
Buteo lagopus	Rough-legged Hawk	WP	full migrant	LC
Buteo auguralis	Red-necked Buzzard	Af	full migrant	LC
Buteo augur	Augur Buzzard	Af	not a migrant	LC
Buteo archeri	Archer's Buzzard	Af	not a migrant	LC
Buteo rufofuscus	Jackal Buzzard	Af	not a migrant	LC
Ictinaetus malayensis	Black Eagle		not a migrant	LC
Aquila pomarina	Lesser Spotted Eagle	Af WP	full migrant	LC
Aquila clanga	Greater Spotted Eagle	Af WP	full migrant	VU
Aquila rapax	Tawny Eagle	Af WP	full migrant (BL)	LC
Aquila nipalensis	Steppe Eagle	Af WP	full migrant	LC
Aquila adalberti	Spanish Imperial Eagle	WP	full migrant	VU
Aquila heliaca	Imperial Eagle	Af WP	full migrant	VU
Aquila chrysaetos	Golden Eagle	Af WP	full migrant	LC
Aquila verreauxii	Verreaux's Eagle	Af WP	not a migrant	LC
Aquila wahlbergi	Wahlberg's Eagle	Af	full migrant (G)	LC
Hieraaetus fasciatus	Bonelli's Eagle	Af WP	not a migrant	LC
Hieraaetus spilogaster	African Hawk-eagle	Af	not a migrant	LC
Hieraaetus pennatus	Booted Eagle	Af WP	full migrant	LC
Hieraaetus ayresii	Ayres's Hawk-eagle	Af	not a migrant	LC
Hieraaetus kienerii	Rufous-bellied Eagle		not a migrant	LC
Polemaetus bellicosus	Martial Eagle	Af	not a migrant	LC
Lophaetus occipitalis	Long-crested Eagle	Af	not a migrant	LC
Spizaetus africanus	Cassin's Hawk-eagle	Af	not a migrant	LC
Spizaetus nipalensis	Mountain Hawk-eagle		full migrant	LC
Stephanoaetus coronatus	Crowned Hawk-eagle	Af	not a migrant	LC
PANDIONINAE				
Pandion haliaetus	Osprey	Af WP	full migrant	LC
FALCONIDAE				
Polihierax semitorquatus	Pygmy Falcon	Af	not a migrant	LC
Microhierax caerulescens	Collared Falconet		not a migrant	LC
Microhierax melanoleucos	Pied Falconet		not a migrant	LC
Falco naumanni	Lesser Kestrel	Af WP	full migrant	VU
Falco tinnunculus	Common Kestrel	Af WP	full migrant	LC
Falco newtoni	Madagascar Kestrel	Af	not a migrant	LC
Falco punctatus	Mauritius Kestrel	Af	not a migrant	VU
Falco araea	Seychelles Kestrel	Af	not a migrant	VU
Falco rupicoloides	Greater Kestrel	Af	not a migrant	LC
Falco alopex	Fox Kestrel	Af	full migrant (G)	LC
Falco ardosiaceus	Grey Kestrel	Af	not a migrant	LC
Falco dickinsoni	Dickinson's Kestrel	Af	not a migrant	LC
Falco zoniventris	Banded Kestrel	Af	not a migrant	LC
Falco vespertinus	Red-footed Falcon	Af WP	full migrant	NT
Falco amurensis	Amur Falcon	Af	full migrant	LC
Falco eleonorae	Eleonora's Falcon	Af WP	full migrant	LC
Falco concolor	Sooty Falcon	Af WP	full migrant	LC

Scientific name	English name	W Pal & Afro-tropical	Migratory behaviour	Global status
Falco columbarius	Merlin	WP	full migrant	LC
Falco subbuteo	Eurasian Hobby	Af WP	full migrant	LC
Falco cuvierii	African Hobby	Af	not a migrant	LC
Falco severus	Oriental Hobby		not a migrant	LC
Falco biarmicus	Lanner Falcon	Af WP	Full migrant (G)	LC
Falco jugger	Laggar Falcon		not a migrant	NT
Falco cherrug	Saker Falcon	Af WP	full migrant	EN
Falco rusticolus	Gyrfalcon	WP	full migrant	LC
Falco peregrinus	Peregrine Falcon	Af WP	full migrant	LC
Falco pelegrinoides	Barbary Falcon	Af WP	full migrant (BL)	LC
Falco fasciinucha	Taita Falcon	Af	not a migrant	NT
TYTONIDAE				
Tyto soumagnei	Madagascar Red Owl	Af	not a migrant	EN
Tyto alba	Barn Owl	Af WP	not a migrant	LC
Tyto capensis	African Grass-owl	Af	not a migrant	LC
Tyto longimembris	Eastern Grass-owl		not a migrant	LC
Phodilus prigoginei	Congo Bay-owl	Af	not a migrant	EN
Phodilus badius	Oriental Bay-owl		not a migrant	LC
STRIGIDAE				
Otus icterorhynchus	Sandy Scops-owl	Af	not a migrant	LC
Otus ireneae	Sokoke Scops-owl	Af	not a migrant	EN
Otus spilocephalus	Mountain Scops-owl		not a migrant	LC
Otus hartlaubi	São Tomé Scops-owl	Af	not a migrant	VU
Otus brucei	Pallid Scops-owl	WP	full migrant	LC
Otus scops	Common Scops-owl	Af WP	full migrant	LC
Otus senegalensis	African Scops-owl	Af	not a migrant	LC
Otus sunia	Oriental Scops-owl		not a migrant	LC
Otus elegans	Elegant Scops-owl		not a migrant	NT
Otus magicus	Moluccan Scops-owl	Af	not a migrant	LC
Otus insularis	Seychelles Scops-owl	Af	not a migrant	EN
Otus rutilus	Malagasy Scops-owl	Af	not a migrant	LC
Otus pembaensis	Pemba Scops-owl	Af	not a migrant	LC
Otus capnodes	Anjouan Scops-owl	Af	not a migrant	CR
Otus moheliensis	Moheli Scops-owl	Af	not a migrant	CR
Otus pauliani	Grand Comoro Scops-owl	Af	not a migrant	CR
Otus bakkamoena	Collared Scops-owl		not a migrant	LC
Otus leucotis	White-faced Scops-owl	Af	not a migrant	LC
Bubo bubo	Eurasian Eagle-owl	Af WP	not a migrant	LC
Bubo ascalaphus	Pharaoh Eagle-owl	Af	not a migrant	LC
Bubo capensis	Cape Eagle-owl	Af	not a migrant	LC
Bubo africanus	Spotted Eagle-owl	Af	not a migrant	LC
Bubo poensis	Fraser's Eagle-owl	Af	not a migrant	LC
Bubo vosseleri	Usambara Eagle-owl	Af	not a migrant	VU
Bubo nipalensis	Spot-bellied Eagle-owl		not a migrant	LC
Bubo shelleyi	Shelley's Eagle-owl	Af	not a migrant	NT
Bubo lacteus	Verreaux's Eagle-owl	Af	not a migrant	LC
Bubo coromandus	Dusky Eagle-owl		not a migrant	LC
Bubo leucostictus	Akun Eagle-owl	Af	not a migrant	LC
Ketupa blakistoni	Blakiston's Fish-owl		not a migrant	EN

Scientific name	English name	W Pal & Afro-tropical	Migratory behaviour	Global status
Ketupa zeylonensis	Brown Fish-owl	Af WP	not a migrant	LC
Ketupa flavipes	Tawny Fish-owl		not a migrant	LC
Scotopelia peli	Pel's Fishing-owl	Af	not a migrant	LC
Scotopelia ussheri	Rufous Fishing-owl	Af	not a migrant	EN
Scotopelia bouvieri	Vermiculated Fishing-owl	Af	not a migrant	LC
Nyctea scandiaca	Snowy Owl	WP	full migrant	LC
Strix leptogrammica	Brown Wood-owl		not a migrant	LC
Strix aluco	Tawny Owl	WP	not a migrant	LC
Strix butleri	Hume's Owl	WP	not a migrant	LC
Strix uralensis	Ural Owl	WP	full migrant	LC
Strix nebulosa	Great Grey Owl	WP	full migrant	LC
Strix woodfordii	African Wood-owl	Af	not a migrant	LC
Jubula lettii	Maned Owl	Af	not a migrant	LC
Surnia ulula	Northern Hawk Owl	WP	full migrant	LC
Glaucidium passerinum	Eurasian Pygmy-owl	WP	not a migrant	LC
Glaucidium brodiei	Collared Owlet		not a migrant	LC
Glaucidium perlatum	Pearl-spotted Owlet	Af	not a migrant	LC
Glaucidium tephronotum	Red-chested Owlet	Af	not a migrant	LC
Glaucidium sjostedti	Sjostedt's Owlet	Af	not a migrant	LC
Glaucidium cuculoides	Asian Barred Owlet		not a migrant	LC
Glaucidium capense	African Barred Owlet	Af	not a migrant	LC
Glaucidium castaneum	Chestnut Owlet	Af	not a migrant	LC
Glaucidium albertinum	Albertine Owlet	Af	not a migrant	VU
Athene noctua	Little Owl	Af WP	not a migrant	LC
Athene brama	Spotted Owlet		not a migrant	LC
Aegolius funereus	Boreal Owl	WP	full migrant	LC
Ninox scutulata	Brown Hawk-owl		full migrant	LC
Ninox superciliaris	White-browed Hawk-owl	Af	not a migrant	LC
Asio otus	Long-eared Owl	WP	full migrant	LC
Asio abyssinicus	Abyssinian Owl	Af	not a migrant	LC
Asio madagascariensis	Madagascar Owl	Af	not a migrant	LC
Asio flammeus	Short-eared Owl	Af WP	full migrant (BL)	LC
Asio capensis	Marsh Owl	Af WP	not a migrant	LC

NOTE to table: species not listed as migratory in GROMS, but listed as migratory by BirdLife World Bird Database

Aquila rapax **Tawny Eagle**

GROMS text: Resident in most areas but perhaps some seasonal movement into more arid areas in SW and NE Africa during the rainy season; also some birds perform seasonal N-S movements in W Africa. Often mixes with flocks of migrant *A. nipalensis*. Rare vagrant to Bangladesh, NW Thailand and perhaps Sri Lanka. (del Hoyo J Elliott A, Sargatal J (eds) 1994). Conclusion: Migrant (although only some populations)

Falco pelegrinoides **Barbary Falcon**

GROMS text: Not listed. Treated as a sub-species in del Hoyo *et al.* Conclusion: Migratory status uncertain, but in the absence of any further information, follow BirdLife and treated as a migrant.

Milvus lineatus **Black-eared Kite**

GROMS Text: None, presumably because treated as subspecies of *Milvus migrans* by del Hoyo *et al.* 1994. But Del Hoyo state in text that subspecies lineatus is migratory. Conclusion: Migratory (follow WBDB)

Asio flammeus **Short-eared Owl**

GROMS Text: Not listed. Conclusion: Migratory (GROMS error).

ANNEX 4

African-Eurasian Countries where Globally Threatened and Near-Threatened Migratory Raptors Regularly Occur

	Aegypius monachus	*Aquila adalberti*	*Aquila clanga*	*Aquila heliaca*	*Circus macrourus*	*Circus maurus*	*Falco cherrug*	*Falco naumanni*	*Falco vespertinus*	*Milvus milvus*	Grand Total
Afghanistan	+		+	+	+		+	+			**6**
Albania			+		+			+	+	+	**5**
Algeria					+			+	+	+	**4**
Angola					+			+	+		**3**
Armenia	+		+	+	+		+	+	+		**7**
Austria			+				+		+	+	**4**
Azerbaijan	+		+	+	+		+	+	+		**7**
Bahrain					+		+	+			**3**
Belarus			+		+		+		+	+	**5**
Belgium										+	**1**
Benin					+			+			**2**
Bosnia and Herzegovina			+	+				+	+	+	**5**
Botswana					+	+		+	+		**4**
Bulgaria	+		+	+	+		+	+	+	+	**8**
Burkina Faso					+			+	+		**3**
Burundi					+			+	+		**3**
Cameroon					+				+		**2**
Cape Verde										+	**1**
Central African Republic					+			+			**2**
Chad					+			+	+		**3**
China (mainland)	+		+	+	+		+	+			**6**
Congo								+			**1**
Congo, The Democratic Republic of the					+			+	+		**3**
Côte d'Ivoire					+			+	+		**3**
Croatia	+		+	+	+		+	+	+	+	**8**
Cyprus				+	+		+	+	+		**5**
Czech Republic				+	+		+		+	+	**5**
Denmark					+				+	+	**3**
Djibouti			+	+	+			+			**4**
Egypt			+	+	+		+	+	+	+	**7**
Eritrea			+		+			+			**3**
Estonia			+						+		**2**
Ethiopia			+	+	+		+	+	+		**6**
Finland			+		+				+		**3**
France			+		+			+	+	+	**5**
Gabon								+			**1**
Gambia					+			+			**2**
Georgia	+		+	+	+			+	+	+	**7**
Germany					+				+	+	**3**
Ghana					+						**1**
Gibraltar (to UK)								+		+	**2**
Greece	+		+	+	+		+	+	+	+	**8**

	Aegypius monachus	*Aquila adalberti*	*Aquila clanga*	*Aquila heliaca*	*Circus macrourus*	*Circus maurus*	*Falco cherrug*	*Falco naumanni*	*Falco vespertinus*	*Milvus milvus*	Grand Total
Guinea								+			**1**
Guinea-Bissau					+						**1**
Hungary			+	+			+		+	+	**5**
Iran, Islamic Republic of	+		+	+	+		+	+	+	+	**8**
Iraq			+	+	+		+	+	+		**6**
Israel	+		+	+	+		+	+	+		**7**
Italy			+		+		+	+	+	+	**6**
Jordan			+	+	+		+	+	+		**6**
Kazakhstan	+		+	+	+		+	+	+		**7**
Kenya			+	+	+		+	+	+		**6**
Kuwait			+	+	+		+	+			**5**
Kyrgyzstan	+						+		+		**3**
Latvia			+						+	+	**3**
Lebanon	+		+	+	+			+		+	**6**
Lesotho						+		+	+		**3**
Liberia					+			+	+		**3**
Libya					+		+	+	+	+	**5**
Liechtenstein									+	+	**2**
Lithuania			+							+	**2**
Luxembourg										+	**1**
Macedonia, the former Yugoslav Republic of			+	+	+			+	+	+	**6**
Malawi					+			+	+		**3**
Mali					+			+	+		**3**
Malta					+		+	+	+		**4**
Mauritania					+		+	+	+		**4**
Moldova			+	+	+		+	+	+	+	**7**
Mongolia	+		+	+	+		+	+			**6**
Morocco			+					+	+	+	**4**
Mozambique					+			+			**2**
Namibia					+	+		+	+		**4**
Netherlands										+	**1**
Niger					+			+			**2**
Nigeria					+			+	+		**3**
Oman			+	+	+		+	+	+		**6**
Palestinian Authority Territories					+			+			**2**
Poland			+						+	+	**3**
Portugal								+		+	**2**
Qatar			+		+			+			**3**
Romania				+	+		+	+	+	+	**6**
Russia	+		+	+	+		+	+	+	+	**6**
Rwanda					+			+	+		**3**
Saudi Arabia	+		+	+	+		+	+			**6**
Senegal					+			+	+		**3**
Serbia and Montenegro	+		+	+	+		+	+	+	+	**8**
Sierra Leone					+			+			**2**
Slovakia			+	+	+		+		+	+	**6**
Slovenia			+		+				+	+	**4**
Somalia					+			+			**2**

	Aegypius monachus	*Aquila adalberti*	*Aquila clanga*	*Aquila heliaca*	*Circus macrourus*	*Circus maurus*	*Falco cherrug*	*Falco naumanni*	*Falco vespertinus*	*Milvus milvus*	Grand Total
South Africa					+	+		+	+		**4**
Spain	+	+	+	+			+	+		+	**7**
Sudan	+		+	+	+		+	+	+		**7**
Swaziland					+						**1**
Sweden									+	+	**2**
Switzerland									+	+	**2**
Syria	+		+	+	+		+	+	+		**7**
Tajikistan	+						+		+		**3**
Tanzania			+	+	+			+	+		**5**
Thailand	+		+	+							**3**
Togo					+			+			**2**
Tunisia					+		+	+	+	+	**5**
Turkey	+		+	+	+		+	+	+	+	**8**
Turkmenistan	+			+				+	+	+	**5**
Uganda					+			+			**2**
Ukraine	+		+	+	+		+	+	+	+	**8**
United Arab Emirates			+	+	+		+	+			**5**
United Kingdom									+	+	**2**
Uzbekistan	+			+			+	+	+		**5**
Yemen			+	+	+		+	+			**5**
Zambia					+			+	+		**3**
Zimbabwe					+			+	+		**3**
Total	**38**	**1**	**67**	**57**	**92**	**4**	**49**	**89**	**76**	**45**	**518**

Source: BirdLife International World Bird Database, www.birdlife.org (accessed 23 June 2005).

ANNEX 5

The Regional Status of African-Eurasian Migratory Raptors and Owls

Key

Global Status	CR = Critical EN = Endangered VU = Vulnerable NT = Near Threatened LC = Least Concern
European Species of Conservation Concern (SPEC)	SPEC 1 = Species of Global Conservation Concern (i.e. classified as Globally Threatened, Near Threatened or Data Deficient) SPEC 2 = Species that are concentrated in Europe and have an unfavourable conservation status; SPEC 3 = Species that are not concentrated in Europe but have an unfavourable conservation status. *Status refers to breeding population.*
b	Breeding population
m	only occurs on migration
w	occurs in winter (non-breeding season) and on migration
wss	wintering population in sub-Sahara
European Threat Status	CR = Critical EN = Endangered VU = Vulnerable D = Declining R = Rare H = Depleted S = Secure
Qualifying criteria for Africa, Asia and the Middle East	d = declining in numbers or range r = rare or depleted population h = threatened by habitat loss *The status regarding Asia refers to Western Palearctic populations that occur (e.g. breed) within Asia*
FC	Favourable Conservation Status
?	Unknown status, or uncertain status if combined with UCS or FC

Species with an Unfavourable Conservation Status (UCS) according to CMS (see Annex 2) are indicated in **bold**.

Species	English Name	Global Status	European SPEC	European Threat Status	Asia*	Middle-east	Africa	Refs
Aviceda cuculoides	African Baza	LC	-	-	-	-	?	
Pernis apivorus	European Honey-buzzard	LC	N	(S)	?	m	w	
Pernis ptilorhyncus	Oriental Honey-buzzard	LC	m	m	?	m	-	
Chelictinia riocourii	**African Swallow-tailed Kite**	LC	-	-	-	-	**UCSd**	7
Milvus milvus	**Red Kite**	NT	**2**[*1]	**D**	-	-	**UCSr**	
Milvus migrans	**Black Kite**	LC	**3**	**(VU)**	**UCS?**	FC?	**UCd?**	7
Haliaeetus albicilla	**White-tailed Eagle**	**LC**	**1**[*1]	**R**	FC?	?	-	1
Neophron percnopterus	**Egyptian Vulture**	LC	**3**	**EN**	?	FC?	?	
Gyps fulvus	Eurasian Griffon	LC	N	S	FC?	?	?	
Aegypius monachus	**Cinereous Vulture**	**NT**	**1**	**R**	?	w	w	1,2
Circaetus gallicus	**Short-toed Snake-eagle**	LC	**3**	**(R)**	?	?	b? wss	
Circus aeruginosus	Western Marsh-harrier	LC	N	S	FC	m	m	
Circus maurus	**Black Harrier**	**VU**	-	-	-	-	**UCSrh**	1,4
Circus cyaneus	**Northern Harrier**	LC	**3**	**H**	?	w	w	
Circus macrourus	**Pallid Harrier**	**NT**	**1**	**(EN)**	?	w	w	1,9
Circus pygargus	Montagu's Harrier	LC	N	S	FC?	m	b? w	
Accipiter badius	Shikra	LC	N	(S)	?	m	FC?	
Accipiter brevipes	**Levant Sparrowhawk**	LC	**2**	**(VU)**	FC?	m	w	
Accipiter ovampensis	Ovampo Sparrowhawk	LC	-	-	-	-	FC?	
Accipiter nisus	Eurasian Sparrowhawk	LC	N	S	FC?	w	b? wss	
Accipiter gentilis	Northern Goshawk	LC	N	S	FC	-	?	
Butastur rufipennis	Grasshopper Buzzard	LC	-	-	-	-	?	
Buteo buteo	Common Buzzard	LC	N	S	?	w	w	
Buteo oreophilus	Mountain Buzzard	LC	-	-	-	-	FC?	
Buteo rufinus	**Long-legged Buzzard**	**LC**	**3**	**(VU)**	?	?	?	

Species	English Name	Global Status	European SPEC	European Threat Status	Asia*	Middle-east	Africa	Refs
Buteo lagopus	Rough-legged Hawk	LC	N	(S)	FC?	-	-	
Buteo auguralis	Red-necked Buzzard	LC	-	-	-	-	FC?	
Aquila pomarina	**Lesser Spotted Eagle**	LC	**2**	**(D)**	**UCSd?**	m	w	6
Aquila clanga	**Greater Spotted Eagle**	**VU**	**1**	**EN**	?	w	w	1,2
Aquila rapax	**Tawny Eagle**	LC	-	-	-	?	**UCSd**	5,7,8
Aquila nipalensis	**Steppe Eagle**	LC	**3**	**(EN)**	**UCSd?**	w	w	6
Aquila adalberti	**Spanish Imperial Eagle**	**EN**	**1**	**(EN)**	-	-	w	
Aquila heliaca	**Imperial Eagle**	**VU**	**1**	**R**	**UCSd?**	w	w	1,2
Aquila chrysaetos	**Golden Eagle**	LC	**3**	**R**	?	?	?	
Aquila wahlbergi	Wahlberg's Eagle	LC	-	-	-	-	FC?	
Hieraaetus pennatus	**Booted Eagle**	LC	**3**	**(R)**	?	m	b? w	
Pandion haliaetus	**Osprey**	LC	**3**	**R**	?	**UCS?**	FC?	
Falco naumanni	**Lesser Kestrel**	**VU**	**1**	**H**	?	**UCSr**	w	1,2
Falco tinnunculus	**Common Kestrel**	LC	**3**	**D**	**UCSd?**	?	?	
Falco alopex	Fox Kestrel	LC	-	-	-	-	FC?	
Falco vespertinus	**Red-footed Falcon**	NT	**3**[*1]	**(VU)**	?	m	w	
Falco amurensis	Amur Falcon	LC	-	-	FC?	-	w	
Falco eleonorae	**Eleonora's Falcon**	LC	**2**	**D**	-	m	b? w	
Falco concolor	Sooty Falcon	LC	-	-	?	FC?	FC?	
Falco columbarius	Merlin	LC	N	(S)	?	w	w	
Falco subbuteo	Eurasian Hobby	LC	N	(S)	?	m	w	
Falco biarmicus	**Lanner Falcon**	LC	**3**	**VU**	-	FC?	**UCd?**	5,7
Falco cherrug	**Saker Falcon**	EN	**1**	**EN**	**UCSd**	w	w	2,3
Falco rusticolus	**Gyrfalcon**	LC	**3**	**(R)**	?	-	-	
Falco peregrinus	Peregrine Falcon	LC	N	S	?	?	?	
Falco pelegrinoides	Barbary Falcon	LC	N	S	-	?	?	
Otus brucei	**Pallid Scops-owl**	LC	**3**	**CR**	?	?	-	
Otus scops	**Common Scops-owl**	LC	**2**	**(H)**	?	m	b? w	
Nyctea scandiaca	**Snowy Owl**	LC	**3**	**(R)**	?	-	-	

Species	English Name	Global Status	European SPEC	European Threat Status	Asia*	Middle-east	Africa	Refs
Strix uralensis	Ural Owl	LC	N	(S)	?	-	-	
Strix nebulosa	Great Grey Owl	LC	N	(S)	?	-	-	
Surnia ulula	Northern Hawk Owl	LC	N	(S)	?	-	-	
Aegolius funereus	Boreal Owl	LC	N	(S)	?	-	-	
Asio otus	Long-eared Owl	LC	N	(S)	?	?	?	
Asio flammeus	Short-eared Owl	LC	3	(H)	?	w	w	

Sources. Global Threat Status: BirdLife International World Bird Database (www.birdlife.org, accessed 20 June 2005). European Threat Status: BirdLife International (2004c).

Other regions - general: del Hoyo *et al.* (1994, 1999), Ferguson-Lees *et al.* (2001). Specific species references (see table code): 1 BirdLife International (2004a); 2 BirdLife (2001); 3 Galushin (2004); 4 Curtis *et al.* (2004); 5 Barnes (2000); 6 Shirihai *et al.* (2000); 7 Thiollay (in press-c); 8 Simmons & Brown (2005); 9 Galushin *et al.* (2003).

Note. *1 Global status changed since publication of BirdLife International 2004c.

ANNEX 6

Important Birds Areas in Europe, the Middle East and Africa that are Significant for Passage Raptors and their Protection Status

This should be treated as a minimum list of internationally important areas requiring protection for migratory raptors. Other sites of equal or greater importance may be discovered with further knowledge and appropriate protection measures will also be required for nationally and regionally important sites.

Key

X	Sites qualify according to the criteria of that column
Criteria	A1 = The site regularly holds significant numbers of Globally Threatened species, or other species of global conservation concern A4iv = Global importance 'bottleneck' site where at least 20,000 storks, raptors, or cranes pass during spring or autumn migration B4iv = European (or regional) importance 'bottleneck' site where over 5,000 storks, or over 3,000 raptors or cranes regularly pass on spring or autumn migration
Protection levels	H = High P = Partial L = Low N = None ? = uncertain blank = not mentioned, and therefore probably none
Protection type	NR = Nature Reserve NP = National Park NGR = National Game Reserve WR = Wildlife Refuge SPA = EU Special Protection Area Zap = *Zapovednik* (strict nature reserve) BR = Biosphere Reserve R = Ramsar Site WHR = World Heritage Site

Country / IBA International name	**Qualifying level and criteria**			**National protection**		**International protection**	
	Global spp (A1)	**Global (A4iv)**	**Regional (B4iv)**	**Level**	**Type**	**Level**	**Type**
Bulgaria							
Atanasovo lake	X	X	X	H	NR	P	R
Mandra-Poda complex			X	P		N	
Denmark							
Gilleleje area			X	N		N	
Hellebæk			X	N		N	
Korshage, Hundested and surrounding sea area			X	L		H	SPA
Marstal Bugt and the coast of south-west Langeland			X	L		H	SPA
Skagen			X	N		N	

Country / IBA International name	Qualifying level and criteria			National protection		International protection	
	Global spp (A1)	Global (A4iv)	Regional (B4iv)	Level	Type	Level	Type
Stevns		X	X	N		N	
Djibouti							
Kadda Guéïni - Doumêra		X	---	N		N	
Egypt							
Ain Sukhna	X	X	---	N		N	
El Qa plain	X	X	---	N		N	
Gebel El Zeit	X	X	---	N		N	
Ras Mohammed National Park	X	X	---	H	NP	N	
Suez	X	X	---	N		N	
Finland							
Merenkurkku archipelago			X	N		P	R
France							
Basses Corbières		X	X	L		N	
Col de l'Escrinet		X	X	N		N	
Col de Lizarrieta			X	N		N	
Etangs de Leucate et Lapalme		X	X	L		N	
Etangs Narbonnais			X	P		N	
Gorges de la Dordogne			X	N		N	
Haute chaîne du Jura: défilé de l'écluse, Etournel et Mont Vuache		X	X	H		N	
Haute Soule : Forêt d'Irraty, Organbidexka et Pic des Escaliers		X	X	N		N	
Hautes Corbières			X	L		N	
Hautes garrigues du Montpellierais			X	N		N	
Massif du Canigou-Carança		X	X	P		P	
Montagne de la Clape			X	N		P	SPA
Montagne de la Serre			X	N		N	
Monts et Plomb du Cantal			X	L		P	SPA
Pointe de Grave			X	N		N	
Val d'Allier : Saint-Yorre-Joze			X	P		N	
Val de Drôme: Les Ramières-printegarde			X	P		P	SPA
Vallée de la Nive des Aldudes-Col de Lindux		X	X	N		N	
Georgia							
Kolkheti		X	X	H	NP	H	R
Meskheti	X		X	P	NR	N	
Gibraltar (to UK)							
Rock of Gibraltar	X	X	X	H		H	
Greece							
North, east and south Kithira island			X	P	WR	L	SPA
Iraq							
Samara dam			X	N		N	
Israel							
Cliffs of Zin and the Negev highlands			X	P		N	
Hula valley	X	X	X	H	NR	N	
Jezre'el, Harod and Bet She'an valleys	X	X	X	L	NR	N	
Judean desert	X		X	H	NR NP	N	
Judean foothills	X		X	N		N	
Northern Arava valley		X	X	P	NR	N	

Country / IBA International name	Qualifying level and criteria			National protection		International protection	
	Global spp (A1)	Global (A4iv)	Regional (B4iv)	Level	Type	Level	Type
Northern lower Jordan valley		X	X	P	NR	N	
Southern Arava valley and Elat mountains	X	X	X	P	NR	N	
Western Negev	X	X	X	P	NR	N	
Italy							
Aspromonte			X	P	NP	N	
Cape Otranto			X	N		N	
Costa Viola	X		X	N		N	
Maritime Alps			X	P	NR NP	N	
Mount Beigua			X	P	NP	N	
Mount Conero			X	H	NP	N	
Mount Grappa			X	N		N	
Peloritani mountains		X	X	N		P	SPA
Piave river			X	N		N	
Jordan							
Aqaba mountains	?	X	X	N		N	
Jordan valley			X	N		N	
Petra area			X	P	NP	L	WHR
Wadi Dana - Finan	X	X	X	H	NR	N	
Wadi Mujib			X	H	NR	N	
Kuwait							
Al-Jahra Pool Nature Reserve	X		X	P	NR	N	
Latvia							
Slitere Nature Reserve		X	X	H	NR	N	
Lebanon							
Ammiq swamp			X	H	NR	H	R
Lithuania							
Kuronian spit		?	X	H	NP	N	
Malta							
Buskett and Wied il-Luq			X	H	NR	N	
Morocco							
Cap Spartel - Perdicaris		X	---	H		N	
Jbel Moussa		X	---	N		N	
Palestinian Authority Territories							
Jericho	?	?	X	N		N	
Northern Lower Jordan Valley		X	X	P	NR	N	
Portugal							
South-west coast of Portugal			X	H	NP	H	SPA
Russia (European)							
Caucasus Biosphere Reserve			X	H	Z	H	BR
Chudsko-Pskovski Lake and adjacent areas		X	X	P	Z	P	R
Delta of the River Don	X		X	P	Z	N	
Irendyk ridge		X	X	N		N	
Teberdinski Nature Reserve	X		X	H	Z	N	
Saudi Arabia							
Taif escarpment			X	N		N	
Wadi Jawwah	X		X	N		N	
Wadi Rabigh springs			X	N		N	

Country / IBA International name	Qualifying level and criteria			National protection		International protection	
	Global spp (A1)	Global (A4iv)	Regional (B4iv)	Level	Type	Level	Type
Spain							
Bujeo, Ojén, del Niño and Blanquilla mountain ranges		X	X	H	NP	H	SPA
Cabras, Aljibe and Montecoche mountain range		X	X	H	NP	H	SPA
Cadí mountains			X	P	NGR NP	P	SPA
Ceuta	X	X	X	N		N	
De la Plata mountain range		X	X	N		N	
Guadalquivir marshes		X	X	P	NP	P	SPA R BR WHS
La Janda		X	X	N		N	
Roncesvalles-Irati-Abodi mountain range			X	L	NR	P	SPA
Tarifa	X	X	X	L		N	
Sweden							
Bay of Skälderviken			X	P	NR	P	SPA
Falsterbo-Bay of Foteviken		X	X	P	NR	P	SPA R
Switzerland							
Pre-alpine region of Gurnigel			X	P		N	
Syria							
Jabal Slenfeh			X	N		N	
Tunisia							
Djebel el Haouaria		X	---	P	HR	N	
Turkey							
Bosporus		X	X	P	NR	N	
North-east Turkey		X	X	P	NR NP	N	
Nur mountains		X	X	P	NR	N	
Yemen							
Al-Kadan area	X		X	N		N	
Bab al-Mandab - Mawza		X	X	N		N	
Mafraq al-Mukha	X		X	N		N	
Wadi Rijaf			X	N		N	

Source: BirdLife International World Bird Database (accessed March 2005).

ANNEX 7

Multilateral Environmental Agreements with Provisions Applicable to the Conservation of African-Eurasian Migratory Raptors

EUROPEAN LANDSCAPE CONVENTION

Full title	Council of Europe European Landscape Convention (Florence 2000)
Web page	http://www.coe.int/T/E/Cultural_Co-operation/Environment/Landscape/
No. Signatories	16

Relevant provisions

Article 3 – Aims

The aims of this Convention are to promote landscape protection, management and planning, and to organise European co-operation on landscape issues.

Article 5 – General measures

Each Party undertakes :

a. to recognise landscapes in law as an essential component of people's surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity;

d. to integrate landscape into its regional and town planning policies and in its cultural, environmental, agricultural, social and economic policies, as well as in any other policies with possible direct or indirect impact on landscape.

Article 9 – Transfrontier landscapes

The Signatories shall encourage transfrontier co-operation on local and regional level and, wherever necessary, prepare and implement joint landscape programmes.

Remarks

The European Landscape Convention is a relatively new convention, having come into force only in March 2004, and has just 16 Signatories. Thus, it is too early to judge whether it will have the desired effect for the landscape-scale habitat protection that would benefit raptors. On the other hand, there are clearly opportunities for using this convention as it matures.

CONVENTION ON BIOLOGICAL DIVERSITY

Full title	UN Convention on Biological Diversity (Rio de Janeiro 1992)
Web page	http://www.biodiv.org/
No. Signatories	188

Relevant provisions

Article 1 − Objectives

The objectives of this Convention, to be pursued in accordance with its relevant provisions, are the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources, including by appropriate access to genetic resources and by appropriate transfer of relevant technologies, taking into account all rights over those resources and to technologies, and by appropriate funding.

Article 6 – General Measures for Conservation and Sustainable Use

Each Contracting Party shall, in accordance with its particular conditions and capabilities:

(a) Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes which shall reflect, inter alia, the measures set out in this Convention relevant to the Contracting Party concerned; and

(b) Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.

Article 8 – In-situ Conservation

Each Contracting Party shall, as far as possible and as appropriate:
(d) Promote the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings;
(f) Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies;

2010 Biodiversity Target

In 2002, the 6th Conference of the Signatories adopted a Strategic Plan in which Signatories committed themselves to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth. This target has been widely re-affirmed at various subsequent intergovernmental conferences, and indeed in Europe was strengthened by the Fifth Ministerial Conference on Environment in Europe held in Kiev (Ukraine) in 2003 to "halt" the loss of biodiversity by 2010.

The Pan-European Biological and Landscape Diversity Strategy

PEBLDS is the Pan-European response to the Convention on Biological Diversity (CBD) that seeks to stop and reverse the degradation of biological and landscape diversity values in Europe. A major tool in this regard is the development of the *Pan-European Ecological Network* (PEEN), that contributes to achieving the main goals of the Strategy by ensuring that: a full range of ecosystems, habitats, species and their genetic diversity and landscapes of European importance are conserved; habitats are large enough to place species in a favourable conservation status; there are sufficient opportunities for the dispersal and migrations of species; and damaged elements of the key systems are restored and the systems are buffered from potential threats. PEEN intends to link core areas physically through the restoration or preservation of corridors. PEBLDS was endorsed in 1995 by 53 countries including all the countries participating in this project. It has a Secretariat provided jointly between the Council of Europe and UN Economic Commission for Europe.

National Biodiversity Strategies and Action Plans

Article 6 creates an obligation for national biodiversity planning. The development and adoption of a national biodiversity strategy reflects how a country intends to fulfil the objectives of the Convention in light of specific national circumstances, and the related action plans constitute the sequence of steps to be taken to meet these goals. The EU has adopted a biodiversity strategy for the whole of its territory, and the vast majority of other countries in Afro-Eurasian region have also prepared BSAPs as this is a perquisite for project funding by the Global Environment Facility.

CLIMATE CHANGE CONVENTION

Full title	UN Framework Convention on Climate Change (New York 1992)
Web page	http://unfccc.int/2860.php
No. Signatories	194

Relevant provisions

Article 2 − Objective

The ultimate objective of this Convention and any related legal instruments that the Conference of the Signatories may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

Article 4 − Commitments

1. All Signatories, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall:
(d) Promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all 11 greenhouse gases not controlled by the Montreal Protocol, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems;
(e) Cooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas, particularly in Africa, affected by drought and desertification, as well as floods;

Kyoto Protocol

The 1997 Kyoto Protocol that came into force in February 2005 shares the Convention's objective, principles and institutions, but significantly strengthens the Convention by committing Signatories from developed countries to individual, legally-binding targets to limit or reduce their greenhouse gas emissions. These add up to a total cut in greenhouse-gas emissions of at least 5% from 1990 levels in the commitment period 2008-2012. This has prompted a number of initiatives including carbon sequestration through investing in "sinks" such as (re-)afforestation or arable reversion to grassland. Such schemes have the potential for expanding the habitat available for forest- and steppe-dwelling raptors.

CONVENTION TO COMBAT DESERTIFICATION

Full title	UN Convention to Combat Desertification (Paris 1994)
Web page	http://www.unccd.int/main.php
No. Signatories	191

Relevant provisions

Article 2 − Objective
1. The objective of this Convention is to combat desertification and mitigate the effects of drought in countries experiencing serious drought and/or desertification, particularly in Africa, through effective action at all levels, supported by international cooperation and partnership arrangements, in the framework of an integrated approach which is consistent with Agenda 21, with a view to contributing to the achievement of sustainable development in affected areas.
2. Achieving this objective will involve long-term integrated strategies that focus simultaneously, in affected areas, on improved productivity of land, and the rehabilitation, conservation and sustainable management of land and water resources, leading to improved living conditions, in particular at the community level.

Article 7 − Priority for Africa
In implementing this Convention, the Signatories shall give priority to affected African country Signatories, in the light of the particular situation prevailing in that region, while not neglecting affected developing country Signatories in other regions.

Article 9 − Basic approach
1. In carrying out their obligations pursuant to article 5, affected developing country Signatories and any other affected country Party in the framework of its regional implementation annex or, otherwise, that has notified the Permanent Secretariat in writing of its intention to prepare a national action programme, shall, as appropriate, prepare, make public and implement national action programmes, utilizing and building, to the extent possible, on existing relevant successful plans and programmes, and sub-regional and regional action programmes, as the central element of the strategy to combat desertification and mitigate the effects of drought. Such programmes shall be updated through a continuing participatory process on the basis of lessons from field action, as well as the results of research. The preparation of national action programmes shall be closely interlinked with other efforts to formulate national policies for sustainable development.

National action programmes

Signatories implement the Convention by developing and carrying out national, sub-regional, and regional action programmes (Article 9). Criteria for preparing these programmes are detailed in the treaty's five "regional implementation annexes": Africa (considered a priority under Article 7 because that is where desertification is most severe), Asia, Latin America and the Caribbean, the Northern Mediterranean, and Central and Eastern Europe. The Convention states that these programmes must adopt a democratic, bottom-up approach. They should emphasize popular participation and the creation of an "enabling environment" designed to allow local people to help themselves to reverse land degradation. However, governments remain responsible for creating this enabling environment and must make politically sensitive changes, such as decentralising authority, improving land-tenure systems, and empowering women, farmers, and pastoralists. They should also permit non-governmental organizations to play a strong role in preparing and implementing the action programmes. Between 2000 and 2004, 32 African countries had prepared NAPs. In addition there are four sub-regional programmes, including one for the Sahel where many migratory raptors winter, and thematic programme networks for:

Integrated management of international river, lake and hydro-geological basins.
Promotion of agroforestry and soil conservation.
Rational use of rangelands and promotion of fodder crops development.
Ecological monitoring, natural resources mapping, remote sensing and early warning systems.
Promotion of new and renewable energy sources and technologies.
Promotion of sustainable agricultural farming systems.

EC BIRDS DIRECTIVE

Full title	Council Directive on the Conservation of Wild Birds (79/409/EEC)
Web page	http://europa.eu.int/comm/environment/nature/
No. Signatories	25

Relevant provisions

Article 1

1. This directive relates to the conservation of all species of naturally occurring birds in the wild state in the European territory of the member states to which the treaty applies. It covers the protection, management and control of these species and lays down rules for their exploitation.

Article 2

Member states shall take the requisite measures to maintain the population of the species referred to in Article 1 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

1. In the light of the requirements referred to in Article 2, member states shall take the requisite measures to preserve, maintain or re-establish a sufficient diversity and area of habitats for all the species of birds referred to in Article 1.

Article 4

1. The species mentioned in Annex I shall be the subject of special conservation measures concerning their habitat in order to ensure their survival and reproduction in their area of distribution. In this connection, account shall be taken of:
(a) species in danger of extinction;
(b) species vulnerable to specific changes in their habitat;
(c) species considered rare because of small populations or restricted local distribution;
(d) other species requiring particular attention for reasons of the specific nature of their habitat.
Trends and variations in population levels shall be taken into account as a background for evaluations. Member states shall classify in particular the most suitable territories in number and size as special protection areas for the conservation of these species, taking into account their protection requirements in the geographical sea and land area where this Directive applies.
2. Member states shall take similar measures for regularly occurring migratory species not listed in Annex I, bearing in mind their need for protection in the geographical sea and land area where

this directive applies, as regards their breeding, moulting and wintering areas and staging posts along their migration routes. to this end, member states shall pay particular attention to the protection of wetlands and particularly to wetlands of international importance.

Remarks

The Birds 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), and bans large-scale or non-selective means of capture or killing (Article 8).

Stroud (2003) points out that a large proportion of European diurnal raptors (33 of 39 falconiforms) and owls (8 of 13) are listed on Annex I under Article 4 of the Directive. Of the remaining species, most are regular migrants and thus require (where site-based protection is an appropriate conservation measure) the classification of SPAs under Article 4.2. The only non-Annex I listed species which are sedentary are some populations of Northern Goshawk (*Accipiter. gentilis buteoides* and *A. g. gentilis*), sedentary populations of Eurasian Sparrowhawk (*Accipiter n. nisus*), island and central mainland Europe races of Common Buzzard (*Buteo buteo*), and island races of Common Kestrel (*Falco tinnunculus alexandri, neglectus, canariensis* and *dacotiae*).

EC HABITATS DIRECTIVE

Full title	Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (92/43/EEC)
Web page	http://europa.eu.int/comm/environment/nature/
No. Signatories	25

Relevant provisions

Article 2

1. The aim of this Directive shall be to contribute towards ensuring bio-diversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the Member States to which the Treaty applies.
2. Measures taken pursuant to this Directive shall be designed to maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest.
3. Measures taken pursuant to this Directive shall take account of economic, social and cultural requirements and regional and local characteristics.

Article 3

1. A coherent European ecological network of special areas of conservation shall be set up under the title Natura 2000. This network, composed of sites hosting the natural habitat types listed in Annex I and habitats of the species listed in Annex II, shall enable the natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a favourable conservation status in their natural range.
The Natura 2000 network shall include the special protection areas classified by the Member States pursuant to [the Birds] Directive 79/409/EEC.
2. Each Member State shall contribute to the creation of Natura 2000 in proportion to the representation within its territory of the natural habitat types and the habitats of species referred to in paragraph 1. To that effect each Member State shall designate, in accordance with Article 4, sites as special areas of conservation taking account of the objectives set out in paragraph 1.
3. Where they consider it necessary, Member States shall endeavour to improve the ecological coherence of Natura 2000 by maintaining, and where appropriate developing, features of the landscape which are of major importance for wild fauna and flora, as referred to in Article 10.

Article 6

2. Member States shall take appropriate steps to avoid, in the special areas of conservation, the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant in relation to the objectives of this Directive.

Article 10

Member States shall endeavour, where they consider it necessary, in their land-use planning and development policies and, in particular, with a view to improving the ecological coherence of the Natura 2000 network, to encourage the management of features of the landscape which are of major importance for wild fauna and flora.

Remarks

The Habitats Directive largely implements, in the EU territory, the provisions of the Bern Convention (see below), although it has the added strengths of an enforcement mechanism through the European Court of Justice, and co-funding provisions for site management. It elaborates on the site protection system established under the Birds Directive, in particular the concept of an EU-wide ecological network of sites known as Natura 2000.

BERN CONVENTION

Full title	Council of Europe Convention on the Conservation of European Wildlife and Natural Habitats (Bern 1979)
Web page	http://www.coe.int/t/e/Cultural_Co-operation/Environment/Nature_and_biological_diversity/Nature_protection/
No. Signatories	45 (including Burkino Faso, Morocco, Senegal, Tunisia; but Russia and Belarus are not Signatories)

Relevant provisions

Article 1

1 The aims of this Convention are to conserve wild flora and fauna and their natural habitats, especially those species and habitats whose conservation requires the co-operation of several States, and to promote such co-operation.
2 Particular emphasis is given to endangered and vulnerable species, including endangered and vulnerable migratory species.

Article 2

The Contracting Signatories 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 4

1 Each Contracting Party shall take appropriate and necessary legislative and administrative measures to ensure the conservation of the habitats of the wild flora and fauna species, especially those specified in Appendices I and II, and the conservation of endangered natural habitats.
3 The Contracting Signatories undertake to give special attention to the protection of areas that are of importance for the migratory species specified in Appendices II and III and which are appropriately situated in relation to migration routes, as wintering, staging, feeding, breeding or moulting areas.

Article 6

Each Contracting Party shall take appropriate and necessary legislative and administrative measures to ensure the special protection of the wild fauna species specified in Appendix II.

Article 10

1 The Contracting Signatories undertake, in addition to the measures specified in Articles 4, 6, 7 and 8, to co-ordinate their efforts for the protection of the migratory species specified in Appendices II and III whose range extends into their territories.

Remarks

Annex II of the Bern Convention covers strictly protected fauna species, and includes all species of falconiforms and owls, with no further discrimination of species or populations. As part of its work under the Bern Convention the Council of Europe launched The Emerald Network (Natura 2000 in the EU) to create an ecological network made up of “areas of special conservation interest”.

AFRICAN CONVENTION

Full title African	Convention on the Conservation of Nature and Natural Resources (Algiers 1968)
Web page	http://www.africa-union.org/home/Welcome.htm [Official Documents]
No. Signatories	30

Relevant provisions

Article VII − Faunal Resources

1. The Contracting States shall ensure conservation, wise use and development of faunal resources and their environment, within the framework of land-use planning and of economic and social development. Management shall be carried out in accordance with plans based on scientific principles, and to that end the Contracting States shall:
(a) manage wildlife populations inside designated areas according to the objectives of such areas and also manage exploitable wildlife populations outside such areas for an optimum sustained yield, compatible with and complementary to other land uses

Article VIII − Protected Species

The Contracting States recognize that it is important and urgent to accord a special protection to those animal and plant species that are threatened with extinction, or which may become so, and to the habitat necessary to their survival. Where such a species is represented only in the territory of one Contracting State, that State has a particular responsibility for its protection. These species which are, or may be listed, according to the degree of protection that shall be given to them are placed in Class A or B of the Annex to this Convention, and shall be protected by Contracting States as follows:
(a) species in Class A shall be totally protected throughout the entire territory of the Contracting States; the hunting, killing, capture or collection of specimens shall be permitted only on the authorization in each case of the highest competent authority and only if required in the national interest or for scientific purposes; and
(b) species in Class B shall be totally protected, but may be hunted, killed, captured or collected under special authorization granted by the competent authority.

Article X − Conservation Areas

1. The Contracting States shall maintain and extend where appropriate, within their territory and where applicable in their territorial waters, the Conservation areas existing at the time of entry into force of the present convention and, preferably within the framework of land use planning programmes, assess the necessity of establishing additional conservation areas in order to:
(a) protect those ecosystems which are most representative of and particularly those which are in any respect peculiar to their territories;
(b) ensure conservation of all species and more particularly of those listed or may be listed in the annex to this convention.

Remarks

Annex A of the Convention includes all vultures, while Annex B covers all raptors. It is not clear how actively the Convention is applied internationally; there are no provisions in it for regular meetings of Signatories.

In July 2003, in Mozambique, the members of the African Union adopted a revised text of the Convention to bring it more in line with recent international conventions such as CBD. It also defines different types of conservation areas. It will enter in to force with the accession of the 15th party − at the time of writing this had not been achieved.

RAMSAR CONVENTION

Full title	Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar 1971)
Web page	www.ramsar.org
No. Signatories	144

Relevant provisions

Article 2
Each Contracting Party shall designate suitable wetlands within its territory for inclusion in a List of Wetlands of International Importance.

Article 3
The Contracting Signatories shall formulate and implement their planning so as to promote the conservation of the wetlands included in the List, and as far as possible the wise use of wetlands in their territory.

Article 4
Each Contracting Party shall promote the conservation of wetlands and waterfowl by establishing nature reserves on wetlands, whether they are included in the List or not, and provide adequately for their wardening.

Remarks

The Ramsar Convention takes a broad approach in determining the wetlands which come under its aegis. Under the text of the Convention, wetlands are defined as: areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres. Thus, the coverage of the Convention extends to a wide variety of habitat types, including rivers and lakes, coastal lagoons, mangroves, and peatlands, as well as human-made wetlands such as fish ponds, irrigated agricultural land, salt pans, reservoirs, gravel pits, and canals. At least seven of the species of raptors listed in Table 3 are heavily dependent on wetlands for hunting and/or breeding, and the designation and protection of Ramsar Sites therefore assists their conservation.

CITES

Full title	Convention on International Trade in Endangered Species of Wild Fauna and Flora (Washington 1973)
Web page	www.cites.org
No. Signatories	167

Relevant provisions

Article II – Fundamental Principles
1. Appendix I shall include all species threatened with extinction which are or may be affected by trade. Trade in specimens of these species must be subject to particularly strict regulation in order not to endanger further their survival and must only be authorized in exceptional circumstances.
2. Appendix II shall include:
(a) all species which although not necessarily now threatened with extinction may become so unless trade in specimens of such species is subject to strict regulation in order to avoid utilization incompatible with their survival; and
(b) other species which must be subject to regulation in order that trade in specimens of certain species referred to in sub-paragraph (a) of this paragraph may be brought under effective control.
3. Appendix III shall include all species which any Party identifies as being subject to regulation within its jurisdiction for the purpose of preventing or restricting exploitation, and as needing the co-operation of other Signatories in the control of trade.

Remarks

Annex I of CITES includes the following species considered in this review: Spanish imperial eagle *Aquila adalberti,* imperial eagle *A. heliaca, w*hite-tailed eagle *Haliaeetus albicilla,* Barbary falcon *F. pelegrinoides,* and peregrine falcon *F. peregrinus*. All the rest are listed in Annex II and therefore fall under the provisions for issuing export and import licences. In principle, this means that the trapping and export of species used in falconry should be regulated in a way that does not compromise their conservation status.

BONN CONVENTION

Full title	Convention on the Conservation of Migratory Species of Wild Animals (Bonn 1979)
Web page	http://www.cms.int/
No. Signatories	89

Relevant provisions

Article II – Fundamental Principles

1. The Signatories acknowledge the importance of migratory species being conserved and of Range States agreeing to take action to this end whenever possible and appropriate, paying special attention to migratory species the conservation status of which is unfavourable, and taking individually or in co-operation appropriate and necessary steps to conserve such species and their habitat.
3. In particular, the Signatories:
a) should promote, co-operate in and support research relating to migratory species;
b) shall endeavour to provide immediate protection for migratory species included in Appendix I; and
c) shall endeavour to conclude Agreements covering the conservation and management of migratory species included in Appendix II.

Article III – Endangered Migratory Species: Appendix I

4. Signatories that are Range States of a migratory species listed in Appendix I shall endeavour:
a) to conserve and, where feasible and appropriate, restore those habitats of the species which are of importance in removing the species from danger of extinction;
b) to prevent, remove, compensate for or minimize, as appropriate, the adverse effects of activities or obstacles that seriously impede or prevent the migration of the species; and
c) to the extent feasible and appropriate, to prevent, reduce or control factors that are endangering or are likely to further endanger the species, including strictly controlling the introduction of, or controlling or eliminating, already introduced exotic species.
5. Signatories that are Range States of a migratory species listed in Appendix I shall prohibit the taking of animals belonging to such species.

Article IV – Migratory Species to be the Subject of Agreements: Appendix II

1. Appendix II shall list migratory species which have an unfavourable conservation status and which require international agreements for their conservation and management, as well as those which have a conservation status which would significantly benefit from the international cooperation that could be achieved by an international agreement.
3. Signatories that are Range States of migratory species listed in Appendix II shall endeavour to conclude Agreements where these should benefit the species and should give priority to those species in an unfavourable conservation status.

Article V – Guidelines for Agreements

1. The object of each Agreement shall be to restore the migratory species concerned to a favourable conservation status or to maintain it in such a status. Each Agreement should deal with those aspects of the conservation and management of the migratory species concerned which serve to achieve that object.
2. Each Agreement should cover the whole of the range of the migratory species concerned and should be open to accession by all Range States of that species, whether or not they are Signatories to this Convention.
3. An Agreement should, wherever possible, deal with more than one migratory species.

Remarks

Annex I of the Bonn Convention contains white-tailed eagle *Haliaeetus albicilla,* greater spotted eagle *Aquila clanga,* Spanish imperial eagle *A. adalberti,* imperial eagle *A. heliaca,* and lesser kestrel *Falco*

naumanni, while all the falconiforms (including those listed in Annex I) are listed in Appendix II. However, none of the owls are covered by this Convention.

ANNEX 8

Consultation Response Form

Name		Organisation Type: ❑ Ministry ❑ Government Agency ❑ Research / Academic Institution ❑ Non-Government Organisation ❑ Other
Position		
Organisation		
e-mail address		
Telephone		

1. Do you agree with the general conclusion of the status report that few migratory owls have an unfavourable conservation status at present?
   - ❑ Yes
   - ❑ No – please state reasons:

2. Do you agree with the general conclusion of the status report that a high proportion of migratory raptors have an unfavourable conservation status at present?
   - ❑ Yes
   - ❑ No – please state reasons:

3. Do you believe that a new international instrument under CMS covering migratory raptors would lead to improved conservation action for those species having an unfavourable conservation status?
   - ❑ Yes
   - ❑ No – please state reasons:

4. If yes to Question 3, please indicate what type of CMS instrument do you think would be most appropriate to develop in the near future, in order of importance (1 highest to 5 lowest):

Potential CMS Instrument	Importance (Rank 1 – 5)
Action plan only	
Memorandum of Understanding (with Action Plan)	
Agreement under Article IV(4), for selected species and key Range States	
Agreement under Article IV(3) for all migratory raptors and all Range States	
Expansion of AEWA to cover raptors (if not all other birds)	

Many thanks for your kind attention.

If you have any further information, references or other comments please send them to us as well.

Disclaimer

The information provided in this response form is to be used solely for the purposes of the consultation exercise. The responses will not be construed as representing the official views of the organisation concerned nor any commitment on their part concerning any conclusions that may be made.

ATTACHMENT

DRAFT MEMORANDUM OF UNDERSTANDING ON THE CONSERVATION OF MIGRATORY RAPTORS IN AFRICA AND EURASIA

[MemCRAE]

The signatories

RECALLING that the Convention on the Conservation of Migratory Species of Wild Animals, signed at Bonn on 23 June 1979, calls for international co-operative action to conserve migratory species and that Article IV.4 of that convention encourages Signatories to conclude Agreements - including non-binding administrative agreements such as this one - in respect of any populations of migratory species;

NOTING that several species of Falconiformes are listed in Appendix I and all the rest of the Falconiformes in Appendix II of that Convention;

CONSIDERING that as predators, raptors serve as high-level indicators of ecosystem health across their range;

RECOGNIZING that many populations of raptors migrate between and within the African and Eurasian regions, crossing the territory of different countries;

CONCERNED by the considerable number of African-Eurasian migratory species of raptors that presently have an unfavourable conservation status at a regional and/or global level and the lack of knowledge of the status of migratory raptors in Africa, Asia and the Middle East;

AWARE that among the factors which contribute to the continuous decline of African-Eurasian raptors are the loss, degradation or fragmentation of suitable habitats, direct human persecution by shooting and taking for falconry, collateral mortality or reduced breeding success caused by human economic activities (including pollution, collisions with powerlines and wind turbines, and disturbance), and that climate change will very likely add further stress on raptor populations;

MINDFUL that a range of exiting multi-lateral environmental agreements can or do contribute to the conservation of migratory raptors but lack a unifying international plan of action;

CONVINCED of the need for immediate and concerted international actions to conserve African-Eurasian migratory species of raptors and restore them in general to favourable conservation status;

DESIROUS to implement Resolution No. 3 adopted by the VI World Conference on Birds of Prey and Owls held in Budapest, Hungary, 18-23 May 2003;

REALISING the importance of involving all range states in the region as well as relevant inter-governmental, non-governmental and private sector organisations in cooperative conservation for migratory raptors and their habitats;

ACKNOWLEDGING that effective implementation and enforcement of such actions will require assistance to be provided, in a spirit of solidarity, to some Range States for research

and training, to monitor migratory raptors and their habitats, to manage them and their habitats and to establish or improve scientific and administrative institutions;

HAVE AGREED as follows:

Scope and Definitions

1. For the purpose of this Memorandum of Understanding

a) "Raptor" means migratory populations of Accipitriformes, Falconiformes and Strigiformes occurring in Africa and Eurasia, listed in Appendix 1;

b) "Africa and Eurasia" means the whole or parts of the territories of the range states contained within the boundary marked on the map provided in Appendix 2;

c) "Conservation" means the protection and management, including sustainable utilisation, of raptors and their habitats, in accordance with the objectives and principles of this Memorandum of Understanding;

d) "Convention" means the Convention on the Conservation of Migratory Species of Wild Animals, signed at Bonn on 23 June 1979;

e) "Signatory" means a Signatory to this Memorandum of Understanding;

f) "Secretariat" means the Secretariat of the Convention.

g) "Action Plan" means the Action Plan for the Conservation of African-Eurasian Migratory Raptors.

In addition, the terms defined in Article I, subparagraphs 1 (a) to (i), of the Convention shall have the same meaning, *mutatis mutandis,* in this Agreement.

2. This Memorandum of Understanding is an agreement under Article IV, paragraph 4, as defined by Resolution 2.6 adopted at the Second Conference of the Signatories (Geneva, 11-14 October 1988).

3. The interpretation of any term or provision of this Memorandum of Understanding shall be made in accordance with the Convention and/or relevant Resolutions adopted by its Conference of the Signatories, unless such a term or provision is defined or interpreted differently in this Memorandum of Understanding.

4. The Action Plan (Appendix 3) annexed to this Memorandum of Understanding is an integral part thereof.

Fundamental Principles

5. Signatories aim to take co-ordinated measures to prevent the extinction of raptors and to achieve and maintain their favourable conservation status throughout their range. To this end, they will pursue, within the limits of their jurisdiction and in accordance with their international obligations, the measures prescribed in Paragraphs 7 and 8, together with the specific actions laid down in the Action Plan.

6. In implementing the measures prescribed in Paragraph 5 above, Signatories will seek to apply the precautionary principle.

General Conservation Measures

7. Signatories strive to adopt, implement and enforce such legal, regulatory and administrative measures as may be necessary to conserve raptors and their habitat.

8. To this end, Signatories endeavour to:

a) identify important habitats for raptors occurring within their territory and encourage their protection, conservation, rehabilitation and restoration;

b) coordinate their efforts to ensure that a network of suitable habitats is maintained or, where appropriate, established throughout the African-Eurasian region, in particular where such habitats extend over the territory of more than one Signatory to this Memorandum of Understanding;

c) investigate problems that are posed or are likely to be posed by human activities and endeavour to implement remedial measures, including habitat rehabilitation and restoration, and compensatory measures for loss of habitat;

d) cooperate in emergency situations requiring concerted international action, in developing appropriate emergency procedures to provide increased protection to vulnerable raptor populations and in preparing guidelines to assist individual Signatories in addressing such situations;

e) ensure that any utilisation of raptors (in particular taking for falconry and post-hunting release) is based on an assessment of the best available knowledge of their ecology and is sustainable for the species as well as for the ecological systems that support them;

f) prohibit the deliberate introduction of non-native species into the African-Eurasian region and take all appropriate measures to prevent the unintentional release of such species if this introduction or release would prejudice the conservation status of raptors. When non-native species have already been introduced, the Signatories will take all appropriate measures to prevent these species from becoming a potential threat to raptors;

g) initiate or support research into the biology and ecology of raptors, including the harmonization of research and monitoring methods and, where appropriate, the establishment of joint or cooperative research and monitoring programmes;

h) analyse their training requirements for, *inter alia*, surveys, monitoring, marking and habitat management to identify priority topics and areas for training and to cooperate in the development and provision of appropriate training programmes;

i) develop and maintain programmes to raise awareness and understanding of conservation issues relating to raptors and their habitat as well as the objectives and provisions of this Memorandum of Understanding;

j) exchange information and the results from research, monitoring, conservation and education programmes; and

k) cooperate with a view to assisting each other to implement this Memorandum of Understanding, particularly in the areas of research and monitoring.

9. With a view to promoting the conservation status of raptors, Signatories may encourage other Range States to sign this Memorandum of Understanding.

Implementation and Reporting

10. Each Signatory will:

a) designate an authority or an authorized scientist as a national contact point for all matters relating to the implementation of this Memorandum of Understanding; and

b) communicate the name and address of that authority or scientist to the Secretariat.

11. Within two years of this Memorandum of Understanding coming in to force, Signatories will prepare and submit to the Secretariat a national plan of action for conservation of raptors aimed at implementing this Memorandum of Understanding and accompanying Action Plan. The format, contents and period of the national plan of action will be developed by the Secretariat taking account of the Action Plan and the CMS Strategic Plan. The Secretariat will communicate to all Signatories and all other Range States all national plans of action received from the Signatories.

12. The Meeting of the Signatories is the decision-making body of this Memorandum of Understanding. The Secretariat will convene a meeting of the Signatories upon request of at least half of the States which are Signatories to this Memorandum of Understanding, subject to the availability of funds. The meeting will elect a Chairman and consider for adoption the rules of procedure recommended by the Secretariat. Meetings will be arranged wherever possible to coincide with other appropriate gatherings where the relevant experts would be present. Any agency or body technically qualified in such matters may be represented at sessions of the Meeting of the Signatories by observers, unless at least one third of the Signatories present object. Participation will be subject to the rules of procedure.

13. The first Meeting of Signatories will be convened as soon as possible after at least three quarters of the Signatories have submitted their national plans of action. At the first meeting, the Secretariat will present an overview report compiled on the basis of all information at its disposal pertaining to raptors, and present proposals for an international plan of action (aiming to complement and reinforce the national plans of action) that can be considered for adoption by the Signatories. The first meeting will also adopt a format for and schedule of regular progress reports on implementing the national and international plans of action, a procedure for amending Table 1 of the Action Plan, and make such arrangements as may be necessary for convening subsequent meetings of Signatories.

14. The Secretariat will compile the regular national and international progress reports and circulate them to all Signatories and Range States.

15. Signatories to this Memorandum of Understanding which are also Signatories to the Convention will in their national report to the Conference of the Parties make specific reference to activities undertaken in relation to this Memorandum of Understanding.

16. The Signatories endeavour to exchange expeditiously the scientific, technical and legal information needed to co-ordinate conservation measures and cooperate with other Range States, appropriate international organizations and recognized scientists with a view to developing co-operative research and facilitating the implementation of this Memorandum of Understanding and its Action Plan.

17. Signatories endeavour to finance from national sources the implementation on their territory of the measures necessary for the conservation of raptors. In addition, they endeavour to assist each other in the implementation and financing of key points of the Action Plan, and seek assistance from other sources for the financing and implementation of their national work programmes.

Final Provisions

18. This Memorandum of Understanding is concluded for an indefinite period.

19. This Memorandum of Understanding, including the Action Plan which is appended to it, may be amended at any meeting of the Signatories. Any amendment will be adopted by consensus at a meeting of the Signatories and will become effective on the date of its

adoption by the meeting. The Secretariat will communicate the text of any amendment so adopted to all Signatories and to all other Range States.

20. Nothing in this Memorandum of Understanding shall prevent any of the Signatories adopting stricter measures for the conservation of raptors on its territory.

21. Nothing in this Memorandum of Understanding shall bind any of the Signatories either jointly or severally.

22. This Memorandum of Understanding shall be open for signature indefinitely, at the seat of the Secretariat, for all Range States of African-Eurasian raptors and for the United Nations, its Specialized Agencies, any regional economic integration organization, any secretariat of relevant international agreements, and any competent international organizations which are especially involved in the conservation and management of raptors.

23. This Memorandum of Understanding shall become effective on the first day of the month following the date of signature of the eighth Range State, provided that at least one of the signatories is a member of the European Union, at least one signatory is a non-EU member situated in Eurasia, at least one signatory is situated in the Middle East and at least one signatory is a member of the African Union. Thereafter, it will become effective for any other signatory on the first day of the month following the date of signature by that signatory.

24. Any Signatory may withdraw from this Memorandum of Understanding by written notification to the Secretariat. The withdrawal will take effect for that Signatory six months after the date on which the Secretariat has received the notification.

25. The Secretariat will be the Depositary of this Memorandum of Understanding.

26. The working language for all matters relating to this Memorandum of Understanding, including meetings, documents and correspondence, is English.

Done at xxxxxxx, on xxxxxxx:

Signatory and Authority Represented:

Appendix 1

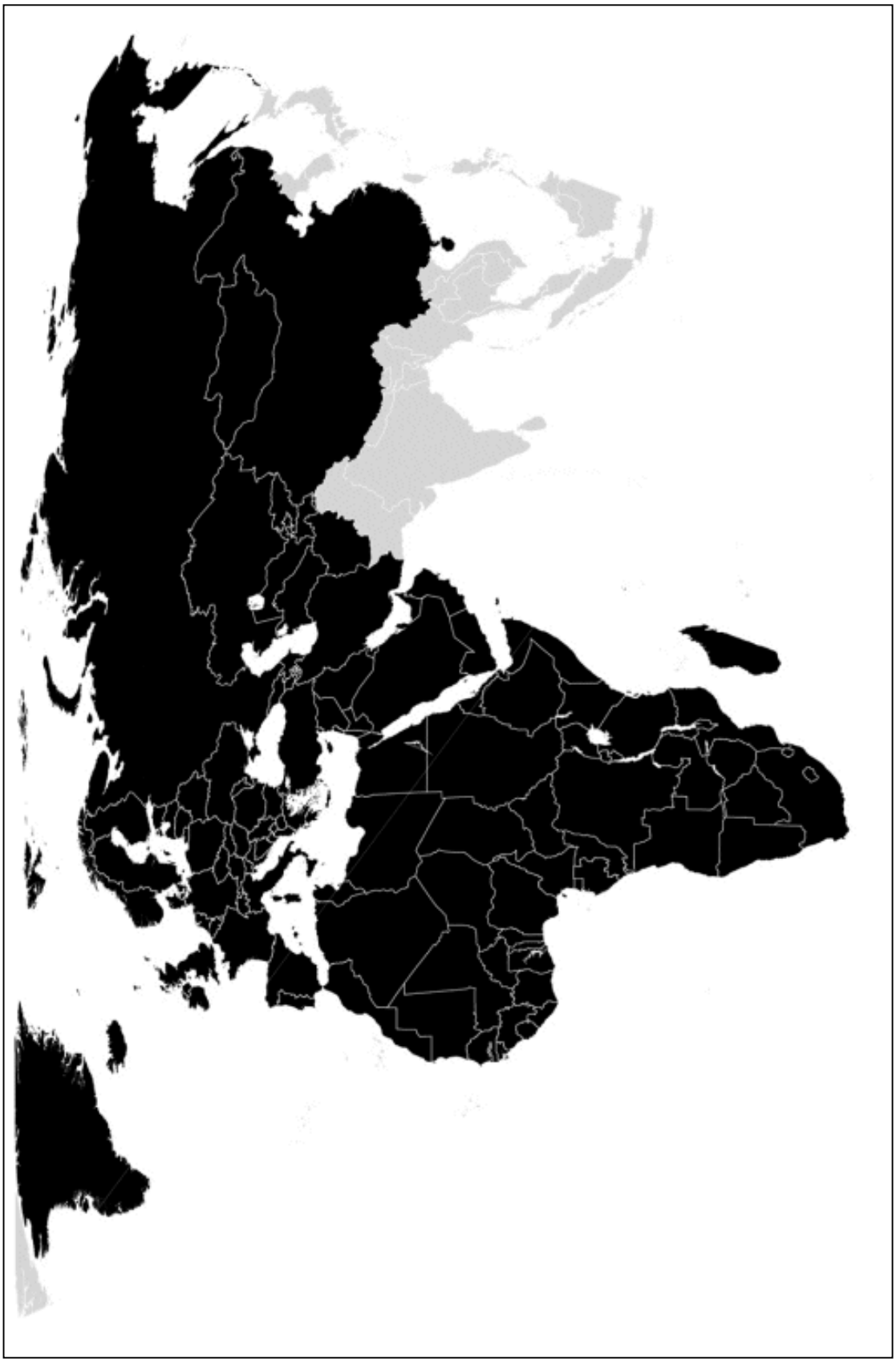
List of African-Eurasian Migratory Raptors

Scientific name	English name
Aviceda cuculoides	African Baza
Pernis apivorus	European Honey-buzzard
Pernis ptilorhyncus	Oriental Honey-buzzard
Chelictinia riocourii	African Swallow-tailed Kite
Milvus milvus	Red Kite
Milvus migrans	Black Kite
Haliaeetus albicilla	White-tailed Eagle
Neophron percnopterus	Egyptian Vulture
Gyps fulvus	Eurasian Griffon
Aegypius monachus	Cinereous Vulture
Circaetus gallicus	Short-toed Snake-eagle
Circus aeruginosus	Western Marsh-harrier
Circus maurus	Black Harrier
Circus cyaneus	Northern Harrier
Circus macrourus	Pallid Harrier
Circus pygargus	Montagu's Harrier
Accipiter badius	Shikra
Accipiter brevipes	Levant Sparrowhawk
Accipiter ovampensis	Ovampo Sparrowhawk
Accipiter nisus	Eurasian Sparrowhawk
Accipiter gentilis	Northern Goshawk
Butastur rufipennis	Grasshopper Buzzard
Buteo buteo	Common Buzzard
Buteo oreophilus	Mountain Buzzard
Buteo rufinus	Long-legged Buzzard
Buteo lagopus	Rough-legged Hawk
Buteo auguralis	Red-necked Buzzard
Aquila pomarina	Lesser Spotted Eagle
Aquila clanga	Greater Spotted Eagle
Aquila rapax	Tawny Eagle
Aquila nipalensis	Steppe Eagle
Aquila adalberti	Spanish Imperial Eagle
Aquila heliaca	Imperial Eagle
Aquila chrysaetos	Golden Eagle
Aquila wahlbergi	Wahlberg's Eagle
Hieraaetus pennatus	Booted Eagle
Pandion haliaetus	Osprey
Falco naumanni	Lesser Kestrel
Falco tinnunculus	Common Kestrel
Falco alopex	Fox Kestrel
Falco vespertinus	Red-footed Falcon
Falco amurensis	Amur Falcon
Falco eleonorae	Eleonora's Falcon
Falco concolor	Sooty Falcon

Falco columbarius	Merlin
Falco subbuteo	Eurasian Hobby
Falco biarmicus	Lanner Falcon
Falco cherrug	Saker Falcon
Falco rusticolus	Gyrfalcon
Falco peregrinus	Peregrine Falcon
Falco pelegrinoides	Barbary Falcon
Otus brucei	Pallid Scops-owl
Otus scops	Common Scops-owl
Nyctea scandiaca	Snowy Owl
Strix uralensis	Ural Owl
Strix nebulosa	Great Grey Owl
Surnia ulula	Northern Hawk Owl
Aegolius funereus	Boreal Owl
Asio otus	Long-eared Owl
Asio flammeus	Short-eared Owl

Appendix 2

Map and Range States of the African-Eurasian Region covered by the Memorandum of Understanding



RANGE STATES

Afrotropical realm*

Angola
Benin
Botswana
Burkina Faso
Burundi
Cameroon
Central African Republic
Chad
Congo
Congo, Dem. Rep.
Côte d'Ivoire
Djibouti
Equatorial Guinea
Eritrea
Ethiopia
Gabon
Gambia
Ghana
Guinea
Guinea-Bissau
Kenya
Lesotho
Liberia
Madagascar
Malawi
Mali
Mozambique
Namibia
Niger
Nigeria
Rwanda
Senegal
Sierra Leone
Somalia
South Africa
Sudan
Swaziland
Tanzania
Togo
Uganda
Zambia
Zimbabwe

*Excludes Cape Verde, Comoros, Mauritius, Mayotte (to France), Réunion (to France), Sâo Tomé e Principe and Seychelles

Palearctic

Afghanistan
Åland Islands (to Finland)
Albania
Algeria
Andorra
Armenia
Austria
Azerbaijan
Bahrain
Belarus
Belgium
Bosnia and Herzegovina
Bulgaria
China
Croatia
Cyprus
Czech Republic
Denmark
Egypt
Estonia
Faroe Islands (to Denmark)
Finland
France
Georgia
Germany
Gibraltar (to UK)
Greece
Greenland
Hungary
Iceland
Iran
Iraq
Ireland
Israel
Italy
Jordan
Kazakhstan
Kuwait
Kyrgyzstan
Latvia
Lebanon
Libya
Liechtenstein
Lithuania
Luxembourg
Macedonia, FYR
Malta
Mauritania
Moldova
Monaco
Mongolia
Morocco
Netherlands
Norway
Oman
Palestinian Authority Territories
Poland
Portugal
Qatar
Romania
Russia
San Marino
Saudi Arabia
Serbia and Montenegro
Slovakia
Slovenia
Spain (including the Canary Islands)
Svalbard and Jan Mayen Islands (to Norway)
Sweden
Switzerland
Syria
Tajikistan
Tunisia
Turkey
Turkmenistan
Ukraine
United Arab Emirates
United Kingdom
Uzbekistan
Vatican City
Western Sahara
Yemen

Appendix 3

Draft Action Plan for the Conservation of Migratory Raptors in Africa and Eurasia

1 General Aim

1.1 The general aim is to ensure that all populations of raptors (including owls) listed in Appendix 1 of the Memorandum of Understanding are maintained in, or returned to, Favourable Conservation Status within the meaning of Article 1(c) of the Convention.

2 Objectives

2.1 For the effective period of this Action Plan, the following objectives are set:

a) To reverse the population declines of Globally Threatened and Near Threatened migratory raptors and alleviate threats to them such that they are no longer Globally Threatened;

b) To halt the population declines of other migratory raptors with an Unfavourable Conservation Status within the African-Eurasian region and alleviate threats to them in order to return their populations to Favourable Conservation Status.

c) To anticipate, reduce and avoid new threats to all migratory raptors species, especially to prevent any species with a Favourable Conservation Status from declining.

3 Species Categories

3.1 The raptor species included in Appendix 1 (and any subsequent amendments of it) are assigned within the following categories:

Category 1: Globally Threatened and Near Threatened species as defined according to IUCN criteria and listed as such in the BirdLife International World Bird Database;

Category 2: Species considered to have Unfavourable Conservation Status at a regional level within the area of the Memorandum of Understanding (defined in Appendix 2);

Category 3: all other species.

3.2 The species in Appendix 1 are assigned to the categories provided for in paragraph 3.1 as given in Table 1, for the effective period of this Action Plan, unless amended in accordance with a procedure to be agreed by the Signatories at the First Meeting of Signatories.

4 Priority Actions

4.1 Taking into account the predicted impacts of threats and opportunities for reducing them, the priority actions for achieving the objectives given in paragraph 2 are considered to be (in order of importance):

- Protecting all species from shooting, persecution and unsustainable exploitation.
- Protecting and appropriately managing important sites: especially where Category 1 species breed, and all migration bottlenecks (known important congregatory sites are listed in Table 3).
- Alleviating habitat degradation through the development and promotion of sustainable land management policies and practices.

- Raising awareness about migratory raptors, their current plight and the threats that they face, and the measures that need to be taken to conserve them.
- Monitoring populations throughout the region to establish reliable population trends; carry out research to establish the impacts of threats on them and the measures that are needed to alleviate them; and sharing information between Signatories and other Range States.

5 Implementation Framework

5.1 **Activities** The principal activities signatories ought to undertake in order to implement the general provisions of the Memorandum of Understanding and the specific issues addressed in this Action Plan are set out in Table 2. These activities will be addressed by the national plans of action, and international plan of action for transboundary activities, as required by paragraph 11 of the Memorandum of Understanding.

5.2 **Priorities** The activities in Table 2 are accorded the following orders of priority:

First: an activity needed to prevent global extinction of a species.

Second: an activity needed to prevent or reverse declines in any Globally Threatened or Near Threatened species, or the majority of other species with an Unfavourable Conservation Status.

Third: an activity needed to restore populations of a Globally Threatened or Near Threatened species, or to prevent declines in any species with an Unfavourable Conservation Status.

Fourth: an activity needed to restore populations in any species with an Unfavourable Conservation Status, or to prevent declines in any species with a Favourable Conservation Status.

These priorities ought to be taken into account in the preparation of national plans of action for raptors as required under paragraph 11 of the Memorandum of Understanding.

5.3 **Time schedule** The activities in Table 2 are accorded the following time schedules:

Immediate: an activity to be completed within two years from the date of effectiveness;

Short term: an activity to be completed within three years from the date of effectiveness;

Medium: an activity to be completed within five years from the date of effectiveness;

Long term: an activity to be completed within seven years from the date of effectiveness;

Ongoing: an activity to be undertaken throughout the period of effectiveness;

5.4 **Responsibilities** The organisation types expected to lead on the various activities are indicated in Table 2. Existing signatories are urged to encourage the full range of necessary organisations to participate in the implementation of this Action Plan whether or not they are currently signatories to the Memorandum of Understanding.

5.5 **Targets** The Secretariat will monitor the progress and efficacy of this Action Plan according to the performance targets for certain activities given in Table 2.

6 Synergy with other MEAs

6.1 Insofar as a range state is represented as a Signatory to this Memorandum of Understanding is also Contracting Party to one or more Multilateral Environmental Agreements that has or have provisions that achieve or otherwise assist the aims, objectives and activities of this Action Plan, and having legal authority or precedence over the Memorandum of Understanding, such MEAs will be applied as appropriate and to their full extent in the first instance.

6.2 In pursuit of paragraph 6.1, signatories to the Memorandum of Understanding will undertake an audit of the relevant MEAs and their potential application for the implementation of this Action Plan and include the results in their national plans of action under paragraph 11 of the Memorandum of Understanding.

7 Progress Reports

7.1 Signatories and the Secretariat will report on progress with implementing the Action Plan in accordance with paragraphs 13 and 14 of the Memorandum of Understanding.

8 Period of Effectiveness

8.1 This Action Plan comes into effect on the same date as the entry in to force of the Memorandum of Understanding and shall have a period of seven years. At least two years before the expiry of this period, a full review of the Action Plan will be undertaken and a revised version prepared for the approval of the signatories.

Table 1: Categorisation of African-Eurasian raptors covered by the Action Plan[1]

Category 1[2]		Category 2[3]		Category 3[4]	
Red Kite	*Milvus milvus* (NT)	African Swallow-tailed Kite	*Chelictinia riocourii* (d)	African Baza	*Aviceda cuculoides*
Spanish Imperial Eagle	*Aquila adalberti* (VU)	Black Kite	*Milvus migrans* (vu)	European Honey-buzzard	*Pernis apivorus*
Cinereous Vulture	*Aegypius monachus* (NT)	Egyptian Vulture	*Neophron percnopterus* (en)	Oriental Honey-buzzard	*Pernis ptilorhyncus*
Pallid Harrier	*Circus macrourus* (NT)	Short-toed Snake-eagle	*Circaetus gallicus* (r)	Eurasian Griffon	*Gyps fulvus*
Black Harrier	*Circus maurus* (VU)	Northern Harrier	*Circus cyaneus* (h)	Western Marsh-harrier	*Circus aeruginosus*
Greater Spotted Eagle	*Aquila clanga* (VU)	Levant Sparrowhawk	*Accipiter brevipes* (vu)	Montagu's Harrier	*Circus pygargus*
Imperial Eagle	*Aquila heliaca* (VU)	Long-legged Buzzard	*Buteo rufinus* (vu)	Shikra	*Accipiter badius*
Saker Falcon	*Falco cherrug* (EN)	White-tailed Eagle	*Haliaeetus albicilla* (r)	Ovampo Sparrowhawk	*Accipiter ovampensis*
Lesser Kestrel	*Falco naumanni* (VU)	Lesser Spotted Eagle	*Aquila pomarina (pomarina)* (d)	Eurasian Sparrowhawk	*Accipiter nisus*
Red-footed Falcon	*Falco vespertinus* (NT)	Tawny Eagle	*Aquila rapax* (d)	Northern Goshawk	*Accipiter gentilis*
		Steppe Eagle	*Aquila nipalensis* (en)	Grasshopper Buzzard	*Butastur rufipennis*
		Golden Eagle	*Aquila chrysaetos* (r)	Common Buzzard	*Buteo buteo*
		Booted Eagle	*Hieraaetus pennatus* (r)	Mountain Buzzard	*Buteo oreophilus*
		Osprey	*Pandion haliaetus* (r)	Rough-legged Hawk	*Buteo lagopus*
		Common Kestrel	*Falco tinnunculus* (vu)	Red-necked Buzzard	*Buteo auguralis*
		Eleonora's Falcon	*Falco eleonorae* (d)	Wahlberg's Eagle	*Aquila wahlbergi*
		Lanner Falcon	*Falco biarmicus* (vu)	Fox Kestrel	*Falco alopex*
		Gyrfalcon	*Falco rusticolus* (r)	Amur Falcon	*Falco amurensis*
		Pallid Scops-owl	*Otus brucei* (cr)	Sooty Falcon	*Falco concolor*
		Common Scops-owl	*Otus scops* (h)	Merlin	*Falco columbarius*
		Snowy Owl	*Nyctea scandiaca* (r)	Eurasian Hobby	*Falco subbuteo*
		Short-eared Owl	*Asio flammeus* (h)	Peregrine Falcon	*Falco peregrinus*
				Barbary Falcon	*Falco pelegrinoides*
				Ural Owl	*Strix uralensis*
				Great Grey Owl	*Strix nebulosa*
				Northern Hawk Owl	*Surnia ulula*
				Boreal Owl	*Aegolius funereus*
				Long-eared Owl	*Asio otus*

Notes

1: Listed in Appendix 1

2: Globally Threatened and Near Threatened species as defined by IUCN and listed on BirdLife International's World Bird Database (EN = Endangered; VU = Vulnerable; NT = Near threatened)

3: Species that are considered to have Unfavourable Conservation Status at a regional level within the area (defined in Appendix 2) of the Memorandum of Understanding (cr = critical; en = endangered; vu = vulnerable; d = declining in numbers or range; r = rare or depleted population; h = depleted or threatened by habitat loss)

4: All other species.

Table 2: Activities to be done under paragraph 5 of the Action Plan

Activities	Species	Countries	Priority Level	Time-scale	Organisations	Target
Activity 1: Improvement of legal protection						
1.1. Update CMS appendices to include all Category 1 species on Annex I	Cat. 1	–	Second	Short	CMS Secretariat / CoP	CMS appendices amended
1.2. Ensure national legislation protects all raptors from all forms of killing, disturbance at nest sites, egg-collection and taking from the wild unless this can be shown to be sustainable and forms part of an International Management Plan agreed by parties to this MoU	All	All	First	Immediate	Governments	All raptors given full protection in the national legislation of all Signatories and unsustainable taking of birds is prohibited
1.3 Ensure that national legislation bans the use of exposed poison baits for predator control	All	All	First	Immediate	Governments	The national legislation of all Signatories bans use of exposed poison baits
1.4 Ensure that national legislation requires all new power lines to be designed to avoid raptor electrocution	All	All	Second	Short	Governments	The national legislation of all Signatories requires power line design to avoid electrocution
1.5 Strengthen the application of legal protection for raptors by ensuring appropriate penalties, training law enforcement authorities, and raising public awareness to boost surveillance and reporting of illegal activities, particularly at bottleneck sites	All	All	Second	Ongoing	Governments, law enforcement agencies and NGOs	Individuals breaking protection laws are prosecuted; results of prosecutions relayed to Secretariat and included in national reports
1.6 Identify gaps in existing MEAs where raptor protection and conservation can be improved and draw these to the attention of the relevant Secretariat and other Parties	All	All	Third	Intermediate	CMS Secretariat / Governments / NGOs	Provisions of existing MEAs strengthened with respect to raptor protection and conservation
Activity 2: Protect and manage important sites and flyways						
2.1 Designate nationally and internationally important sites (including those listed in Table 3) as protected areas with management plans that are agreed with key stakeholders and take raptor conservation requirements into account	All	All countries listed in Table 3	Second	Medium	Governments, BirdLife International and site stakeholders	All important sites have conservation measures in place
2.2 Include important national and international sites (including those listed in Table 3) in the EU within the Natura 2000 network	All	EU member states	Second	Short	Governments and European Commission	All important sites designated as SPAs under the EU Wild Birds Directive
2.3 Require EIAs in accordance with the CBD guidelines (CBD Decision VI/7A and any subsequent amendments) and CMS Resolution 7.2 on Impact Assessment and Migratory Species for any projects potentially impacting sites listed in Table 3 and any other sites holding significant populations of Category 1 and 2 species.	Cat 1 and 2	All	Third	Medium	Governments, forestry, energy and infrastructure sectors	National EIA regulations require EIAs for projects impacting raptor sites; results of EIAs relayed to the Secretariat and included in national reports

Activities	Species	Countries	Priority Level	Time-scale	Organisations	Target
2.4 Conduct risk assessments at important sites (including those listed in Table 3) to identify and address actual or potential causes of incidental mortality from human causes (including fire, laying poisons, pest spraying, power lines, wind turbines)	Cat. 1 and 2	All	Third	Ongoing	Governments and land managers	Incidental mortality of raptors reduced to insignificant levels
2.5 Conduct Strategic Environmental Assessments of planned infrastructure developments within major flyways to identify key risk areas	All	All countries with bottleneck sites	Third	Medium	Governments	SEAs carried out and results relayed to the Secretariat and included in national reports
Activity 3: Habitat conservation and sustainable management						
3.1 Develop schemes under the EU EAFRD / Rural Development Regulation that are targeted towards maintaining or restoring habitats for raptors	Cat. 1 and 2	EU Member States	Second	Ongoing	Governments, forest authorities, private land managers	Agri-environment schemes that benefit raptors are available for land managers
3.2 Survey, maintain and restore natural vegetation cover in former habitats (especially grasslands) in the range of globally threatened species	Cat. 1	All range states of Cat. 1 species	Third	Long	Government, land managers	Inventories of grassland areas supporting Cat. 1 species prepared and at least 30% of former grassland habitats having natural vegetation cover and under sustainable management
Activity 4: Raise awareness of problems faced by migratory raptors and measures needed to conserve them						
4.1 Develop a programme of public awareness, using TV, radio, newspapers and the internet to publicise the migrations undertaken by raptors, their current status, the threats to them and actions that can be taken to conserve them.	All species	All countries with bottleneck sites	Second	Short	Governments in collaboration with NGOs	Programme implemented, and conservation needs of raptors widely understood amongst public
4.2 Develop an awareness programme within forestry, agriculture, fisheries, energy, industry and transport etc to inform decision makers of the current status of raptors, the threats to them and the sectoral actions that can be taken to conserve them.	All species	All	Second	Medium	Governments in collaboration with NGOs	Programme implemented, and conservation needs of raptors widely understood amongst government departs
4.3 Develop a school educational programme and teaching resources to inform school children of the migrations undertaken by raptors, their current status, the threats to them and actions that can be taken to conserve them.	All species	All countries with bottleneck sites	Third	Medium	Governments in collaboration with NGOs	Programme implemented, and conservation needs of raptors widely understood by teachers and taught in schools
4.4 Establish information notices and provide leaflets at bottleneck sites informing people of their importance for migrating raptors and the measures that they can take to conserve them	All species	All countries with bottleneck sites	Second	Short	Governments and NGOs	Programme implemented, and conservation needs of raptors known within bottleneck sites
Activity 5: Monitor bird of prey populations and carry out conservation research						

Activities	Species	Countries	Priority Level	Time-scale	Organisations	Target
5.1 Establish a monitoring network comprising a representative range of sites where systematic and coordinated monitoring of breeding populations and migration numbers (spring and autumn) can be undertaken	All	To be defined	Third	Immediate	Governments, Birdlife International, national ornithological organisations	Monitoring network established and adopted by Signatories
5.2 Design and undertake a coordinated monitoring programme based on the monitoring network established under 5.1	All	To be defined	Third	Ongoing	Governments, Birdlife International, national ornithological organisations	Monitoring guidelines / manual prepared for national and transboundary data collection; data relayed to the Secretariat and included in national reports; breeding and migratory population trends reliably established
5.3 Assess the impacts of habitat change on breeding, passage and wintering populations of raptors, and identify required measures to maintain Favourable Conservation Status	Cat. 1 and 2 species	Middle East and Africa	Second	Medium	NGOs and research organisations	Habitat problems and required mitigation measures identified
5.4 Assess the impacts of the use of toxic agrochemicals on breeding, passage and wintering populations of raptors, and identify required measures to achieve and maintain Favourable Conservation Status	Cat. 1 and 2 species	Middle East and Africa	Second	Medium	NGOs and research organisations	Toxic chemical problems assessed and mitigation measures identified if required
Activity 6: Supporting measures						
6.1 National Plans of Action for migratory raptors	Cat. 1 and 2 species	All	Second	Immediate	Governments, national ornithological organisations	National Plans of Action describing how this Action Plan will be implemented with particular regard for Cat. 1 and Cat. 2 species submitted to the Secretariat before the first meeting of Signatories
6.2 International Plan of Action for migratory raptors	Cat. 1 and 2 species	All	Second	Short	Governments, Birdlife International, national ornithological organisations	International Plan of Action prepared by the Secretariat to address transboundary aspects of implementing this Action Plan, with particular regard for Cat. 1 and Cat. 2 species, submitted to the first meeting of Signatories for approval
6.3 Prepare single species action plans for all globally threatened species, taking account of existing international plans and where necessary extending them to cover the entire African-Eurasian range of each species	Cat. 1 species	All range states of Cat. 1 species	First	Medium	Governments, Birdlife International, national ornithological organisations	International conservation plans developed, approved and being implemented for all globally threatened species
6.4 Update Tables 1 and 3 according to new information emerging from the monitoring programme	All	All	Third	Ongoing	Secretariat	On the basis of information collected and collated from the Signatories, the Secretariat proposes amendments to Tables 1 and 3 of this Action Plan for approval by the Signatories

Table 3: Important Bird Areas identified by Birdlife International that are known to be important congregatory raptor sites

Bulgaria
Atanasovo lake
Mandra-Poda complex
Denmark
Gilleleje area
Hellebæk
Korshage, Hundested and surrounding sea area
Marstal Bugt and the coast of south-west Langeland
Skagen
Stevns
Djibouti
Kadda Guéïni - Doumêra
Egypt
Ain Sukhna
El Qa plain
Gebel El Zeit
Ras Mohammed National Park
Suez
Finland
Merenkurkku archipelago
France
Basses Corbières
Col de l'Escrinet
Col de Lizarrieta
Etangs de Leucate et Lapalme
Etangs Narbonnais
Gorges de la Dordogne
Haute chaîne du Jura: défilé de l'écluse, Etournel et Mont Vuache
Haute Soule : Forêt d'Irraty, Organbidexka et Pic des Escaliers
Hautes Corbières
Hautes garrigues du Montpellierais
Massif du Canigou-Carança
Montagne de la Clape
Montagne de la Serre
Monts et Plomb du Cantal
Pointe de Grave
Val d'Allier : Saint-Yorre-Joze
Val de Drôme: Les Ramières-printegarde
Vallée de la Nive des Aldudes-Col de Lindux
Georgia
Kolkheti
Meskheti
Gibraltar (to UK)
Rock of Gibraltar
Greece
North, east and south Kithira island
Iraq
Samara dam
Israel
Cliffs of Zin and the Negev highlands
Hula valley
Jezre'el, Harod and Bet She'an valleys
Judean desert
Judean foothills
Northern Arava valley
Northern lower Jordan valley
Southern Arava valley and Elat mountains
Western Negev
Italy
Aspromonte
Cape Otranto
Costa Viola
Maritime Alps
Mount Beigua
Mount Conero
Mount Grappa
Peloritani mountains
Piave river
Jordan
Aqaba mountains
Jordan valley
Petra area
Wadi Dana - Finan
Wadi Mujib
Kuwait
Al-Jahra Pool Nature Reserve
Latvia
Slitere Nature Reserve
Lebanon
Ammiq swamp
Lithuania
Kuronian spit
Malta
Buskett and Wied il-Luq
Morocco
Cap Spartel - Perdicaris
Jbel Moussa
Palestinian Authority Territories
Jericho
Northern Lower Jordan Valley
Portugal
South-west coast of Portugal
Russia (European)

Caucasus Biosphere Reserve
Chudsko-Pskovski Lake and adjacent areas
Delta of the River Don
Irendyk ridge
Teberdinski Nature Reserve

Saudi Arabia

Taif escarpment
Wadi Jawwah
Wadi Rabigh springs

Spain

Bujeo, Ojén, del Niño and Blanquilla mountain ranges
Cabras, Aljibe and Montecoche mountain range
Cadí mountains
Ceuta
De la Plata mountain range
Guadalquivir marshes
La Janda
Roncesvalles-Irati-Abodi mountain range
Tarifa

Sweden

Bay of Skälderviken
Falsterbo-Bay of Foteviken

Switzerland

Pre-alpine region of Gurnigel

Syria

Jabal Slenfeh

Tunisia

Djebel el Haouaria

Turkey

Bosporus
North-east Turkey
Nur mountains

Yemen

Al-Kadan area
Bab al-Mandab - Mawza
Mafraq al-Mukha
Wadi Rijaf

PBxxxxx

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Status report on Raptors in the African-Eurasian Region

defra
Department for Environment
Food and Rural Affairs

Assessment of the merits of an Instrument under the Convention on Migratory Species covering Migratory Raptors

Review of the Status of Migratory Raptors in Africa and Eurasia

Final - September 2005

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Cover photo: Hobby (*Falco subbuteo*). Courtesy of Tom Raven, Somerset Ornithological Society

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TABLES

ANNEXES

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LIST OF ABBREVIATIONS

AEWA	Agreement on the Conservation of African-Eurasian Migratory Waterbirds.
CITES	Convention on International Trade in Endangered Species
CMS	(Bonn) Convention on Conservation of Migratory Species of Wild Animals
DEFRA	Department for Environment, Food and Rural Affairs
EC DG	European Commission Directorate General
ETS	European Threat Status, as defined by Birdlife International
EU	European Union
FAO	UN Food and Agriculture Organisation
FCS	Favourable Conservation Status, as defined under CMS (see 2.1)
GROMS	Global Register of Migratory Species
IBA	Important Bird Area, as defined by Birdlife International
IGO	Intergovernmental Organisation
IUCN	World Conservation Union (International Union for Conservation of Nature and Natural Resources)
JNCC	Joint Nature Conservation Committee
MEA	Multi-lateral Environmental Agreement
NGO	Non-governmental Organisation
SPEC	Species of European Conservation Concern, as defined by Birdlife International (see 2.3.1)
UCS	Unfavourable Conservation Status, as defined under the CMS (see 2.1)
WWGBP	World Working Group on Birds of Prey and Owls

1 SUMMARY

In January 2005, Defra commissioned a study to assess whether or not an international agreement to conserve migratory raptors (including owls) should be established under the auspices of the Convention on Conservation of Migratory Species (CMS) in the African-Eurasian region. This Status Report contributes to that study (available separately from Defra) by reviewing the current conservation status of each species of migratory raptor within the region, the principal threats to those with an Unfavourable Conservation Status (as defined by the Convention) and the international actions being taken for raptors of the region under existing multi-lateral environmental agreements (MEAs).

From a review of the available literature and data in Birdlife International's World Bird Database, it is clear that at least 32 of the 60 migratory raptors assessed have an Unfavourable Conservation Status, and many of these are showing rapid or long-term population declines. Furthermore, since the conservation status of many species in Africa, Asia and the Middle-east is poorly known, other species in these regions may also be declining.

Although there are many documented threats to migratory raptors in the region, available data proved inadequate to quantify population level impacts. Nevertheless, for the majority of species the most important threats are probably the result of human induced habitat loss and degradation (including impacts from pesticide use and other forms of pollution). Climate change is also expected to exacerbate these habitat-related problems profoundly across the entire African-Eurasian region. For some species accidental poisoning, persecution, shooting for sport and trapping may also be key or contributory factors causing population declines (or long-term reductions in range), but the impacts of these losses on populations require further studies.

2 INTRODUCTION

2.1 BACKGROUND

There is widespread concern over the deteriorating conservation status of many birds, especially regarding increasing risks of global extinction (Birdlife International 2004c), but also in terms of regional range contractions and declines, e.g. in Europe (Birdlife International 2004a). Raptors[1] and owls may be particularly at risk because they are generally large, long-lived species with low rates of reproduction: characteristics that appear to be associated with high risks of extinction (Bennett & Owens 1997). Species with low fecundity are particularly susceptible to factors that increase their adult mortality rates (Newton 1979). Furthermore, species with slow reproduction take a long time to recover from losses, which lengthens the time over which reduced populations may be at risk from catastrophic chance events. Also, as predators, many species are naturally scarce, which further exacerbates their vulnerability to threats.

Raptors are known to be susceptible to many threats. The most important concern land use practices that reduce prey availability and suitable breeding habitat, but pollution, poisoning, hunting, persecution, illegal taking and trade (e.g. for falconry), collisions and electrocution from overhead power-lines, and general disturbance all impact on their welfare (Thiollay 1994; White *et al.* 1994). Moreover, migratory raptors face additional problems because they need adequate networks of suitable habitat along their migration paths, and many species tend to congregate at land-bridges, mountain passes and along coastlines where they are especially susceptible to intensive hunting and trapping (Zalles & Bildstein 2000).

The cumulative evidence of national or regional declines of raptors, increasing pressures on their populations, and apparent failings in current conservation measures to redress the situation, has led to calls for better conservation action, especially for the migratory species. As a result, the VI World Conference on Birds of Prey and Owls convened in Budapest, 18-23 May 2003, by the World Working Group on Birds of Prey and Owls (WWGBP) adopted a resolution (see Annex 1) proposing the establishment of a new multilateral agreement for African-Eurasian migratory raptors, under the Convention on Migratory Species of Wild Animals[2] (CMS).

The WWGBP resolutions were subsequently considered by the CMS Scientific Council, who endorsed a proposal from the UK Government's Department for Environment, Food and Rural Affairs (DEFRA) to study the possibility of developing a new instrument on raptors, and to present a report at the next Conference of Parties to be held in Nairobi, 16-25 November 2005.

In January 2005, the NatureBureau was commissioned to carry out the study, and this report contributes to the study (the final report of which is available separately from Defra).

[1] In this study "raptor" refers to all birds of prey, including owls, i.e. species in the Orders Falconiformes and Strigiformes.

[2] Also known as the Bonn Convention

2.2 OBJECTIVES

This report reviews available literature and other known data sources to assess the status of migratory raptors in the African-Eurasian region, and establish the scope for further conservation measures (including relevant research and monitoring). In particular, the review aims to:

- establish the conservation status of each species in the region; and
- identify the threats to each species and the principal generic threats to raptors across the region; and
- assess urgent key actions needed to deliver an immediate conservation benefit for the raptors concerned.

2.3 GEOGRAPHICAL COVERAGE

The study began by considering the global status of all raptors regularly occurring in Palearctic and Afrotropical realms, as defined in Newton (2003). Then a more detailed assessment was made of migratory raptor populations that regularly occur at some point in their annual cycle within the Afrotropical Realm or Western Palearctic, as defined by Cramp *et al.* (1977-93). The aggregate Afrotropical and Palearctic range of this group of species[3] would represent the potential area of any CMS instrument, which comprises all Afrotropical and Western Palearctic countries, plus Afghanistan, China (mainland only), Iran, Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan, Turkmenistan and Uzbekistan. This range is referred to hereafter in this report as the African-Eurasian region.

2.4 DEFINITION OF MIGRATORY SPECIES

It was envisaged that a CMS raptor instrument would be applicable to any raptor species that met the CMS migratory definition i.e. “Migratory species means the entire population or any geographically separate part of the population of any species or lower taxon of wild animals, a significant proportion of whose members cyclically and predictably cross one or more national jurisdictional boundaries”.

However, for practical reasons, in this study the list of species was restricted to those defined as “True Migrants” and listed in the Global Register of Migratory Species (GROMS) database. These include partial migrants (species in which only part of the population migrates, with the rest remaining in the breeding areas) but excludes those listed as “nomadising” or “range extensions” (see Annex 2). It also excludes species that technically meet the CMS migratory species definition because they regularly cross one or more national boundaries, but are short-distance migrants, travelling less than 100 km.

It was anticipated that the chosen species would include a sufficient number and diversity of raptors and range of coverage that the additional listing of short-distance (‘technical’) migrants would be of little additional benefit. It was assumed that many short-distance migrants would benefit from actions proposed for other migratory raptors. Nevertheless, it is

[3] For practical reasons, this excludes countries outside the Palearctic that the Amur Falcon (*Falco amurensis*) passes through on migration

expected that this assumption would be investigated further if a CMS raptor instrument is eventually brought into force.

It should also be recognised that our knowledge of the migratory status of many Africa raptors is incomplete, and many species that are currently listed by GROMS as non-migratory may, with better knowledge in the future, turn out to be at least partial migrants. The migratory status of African raptors should therefore also be subject to further investigation if a CMS raptor instrument is developed and implemented.

3 STUDY METHODS AND DATA SETS

3.1 TAXONOMY AND NOMENCLATURE

The study follows the taxonomy, scientific nomenclature and English names used by Birdlife International since it is the IUCN Red Data Book authority for birds. Birdlife International maintains its own taxonomic list of all the world's bird species because there are so many different global, regional, national, site and family taxonomic checklists, and thus many differences of opinion and much confusion over the taxonomic rank of certain species. The Birdlife International list is based on:

- well recognised and established sources adopted by the Birdlife International Taxonomic Working Group (BTWG) − each year, these sources are reviewed and, where possible and appropriate, updated or revised (see below for the principle sources used for species referred to in this study);
- peer-reviewed papers (published in the major ornithological journals) which have themselves been reviewed by the BTWG;
- original taxonomic research conducted by Birdlife International researchers and published in the Red Data Books and, more recently, by the BTWG, notably concerning particularly controversial and complex taxa (usually where there are important conservation considerations);
- some deviations from the adopted sources where treatment is judged to be mistaken and/or controversial.

Birdlife International's preparation of a standardised list of all the world's bird species remains in progress and much work remains to be done, including taxonomic review of some 400 potential species, taxonomic verification of Extinct species, and documentation of the decisions taken for over 200 species. However, few of these remaining considerations are likely to affect the species and their nomenclature contained in this report.

The principle sources used for the species covered in this study were:

- Global: Sibley and Monroe (1990, 1993).
- Western Palearctic: Cramp, S. *et al.* (1977-1994).
- Afrotropical: Dowsett, R. J. and Forbes-Watson, A. D. (1993).

The nomenclature used by Birdlife International aims to follow David and Gosselin (2002) for consistent gender agreement of scientific names, which may contradict the taxonomic sources. Otherwise, scientific names usually follow the agreed sources, as above, although global consistency is taken into account (e.g. where generic names are changed regionally but not consistently for the whole group). Where species limits are recognised by more than one source, but different nomenclature is used, global consistency is again taken into account.

The names and sequence of orders and families follows Morony *et al.* (1975) while the species sequence within these families follows Sibley and Monroe (1990, 1993). Common names for each species are taken from the source used to determine the scientific name, following the order of precedence outlined above. No attempt has been made to ensure global consistency.

3.2 ASSESSMENT OF POPULATIONS AND FAVOURABLE STATUS

Due to data limitations and other practical considerations it was not feasible within this study to attempt the assessment of the status of each species according to subpopulations, although in some cases this would be desirable. The study therefore operated at the taxonomic level of species.

One of the principal aims of this study is to examine the status of migratory raptors, to establish if these groups are particularly threatened and therefore warrant new and urgent measures under the CMS in comparison with other groups. Comparisons are also made within raptors between regions and between migratory and non-migratory species. The analysis initially focuses on the threat of global extinction, but another important conservation aim is the maintenance of species' ranges and populations. Therefore the study also examines conservation status in broader terms. In particular we focus on Unfavourable Conservation Status as defined under the CMS.

According to the CMS text "conservation status" will be taken as "favourable" when:

(1) population dynamics data indicate that the migratory species is maintaining itself on a long-term basis as a viable component of its ecosystems;
(2) the range of the migratory species is neither currently being reduced, nor is likely to be reduced, on a long-term basis;
(3) there is, and will be in the foreseeable future, sufficient habitat to maintain the population of the migratory species on a long-term basis; and
(4) the distribution and abundance of the migratory species approach historic coverage and levels to the extent that potentially suitable ecosystems exist and to the extent that is consistent with wise wildlife management.

This definition has been interpreted with respect to available data and existing conservation assessments. Accordingly, in this study species are considered to have an Unfavourable Conservation Status if they are:

- Globally Threatened or Near Threatened (i.e. not assessed as being of Least Concern), according to Birdlife International's World Bird Database; or
- a Species of European Conservation Concern (SPEC) according to Birdlife International (2004a); or
- considered in this report to be declining in population or range by more than 1% per annum in Asia, the Middle-East or Africa; or
- are considered in this report to be regionally threatened by reduced population size or imminent substantial habitat loss.

As a result of data limitations, assessments of population status in Asia, the Middle-East and Africa are mostly based on extrapolation of available data and subjective overall assessments.

3.3 DATA SOURCES

The study has reviewed the key relevant literature on raptors, including the following publications by WWGBP: *Raptors in the Modern World* (Meyburg & Chancellor 1989), *Raptor Conservation Today* (Meyburg & Chancellor 1994), *Raptors at Risk (Chancellor & Meyburg 1998)*, *Raptors in the New Millennium* (Yosef *et al.* 2002), *Raptors Worldwide (Chancellor & Meyburg 2003)*; and Birdlife International: *Threatened Birds of the World* (Birdlife International 2004c), *Birds in Europe* (Tucker and Heath 1994, Birdlife International 2004a), *Important Bird Areas in Europe* (Heath & Evans 2000), *Important Bird Areas in the Middle East* (Evans 1994), *Important Bird Areas in Africa* (Fishpool & Evans 2001); as well as others, e.g. *Handbook of the Birds of the World* (del Hoyo *et al*. 1994, 1999), *Birds of Africa* (Brown *et al.* 1982) and *Raptors of the World* (Ferguson-Lees & Christie 2001). Key journals have also been checked for relevant papers, and searches have been carried out using internet bibliographic databases, including the Raptor Information System (http://ris.wr.usgs.gov/about.asp)..

However, much of the quantitative analysis in this study has used data from Birdlife International's World Bird Database (WBD), which includes detailed data on the global population status of birds, and for Globally Threatened species, information on conservation actions and threats.

3.4 GEOGRAPHICAL TERMINOLOGY

Bird populations within Europe include those in the Atlantic archipelagos of the Azores, Madeira, and the Canary Islands, as well as western Russia (east to the Ural mountains and Ural River), Greenland, Svalbard, Iceland, the Faroe Islands, Turkey, Cyprus and the Caucasus states of Georgia, Armenia and Azerbaijan.

The Middle-East refers to Bahrain, Islamic Republic of Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Sultanate of Oman, Qatar, Kingdom of Saudi Arabia, Syria, Palestinian Authority territories, United Arab Emirates and Yemen.

Africa here includes Madagascar and the archipelagos of Cape Verde, Comores and Seychelles.

Asia only refers to the Asian countries within the African-Eurasian region as listed above under 2.3.

4 THE STATUS OF AFRICAN-EURASIAN RAPTORS

Using the area and species criteria set out 2.3 and 2.4, there were found to be 211 species of raptors occurring in the African and Palearctic realms (see Annex 3). Of these, 60 (51 diurnal raptors and 9 owls) were treated as African-Eurasian migrants. An assessment of the conservation status of each raptor species of the African-Eurasian region is provided in Table 1, and discussed further below.

4.1 GLOBALLY THREATENED SPECIES

4.1.1 Comparisons of the global status of African-Eurasian raptors, between areas and according to migratory behaviour

Examination of the global status of all raptor species occurring within the Afrotropical and Palearctic realms reveals that of the 211 species concerned (see Annex 1), 28 (13.3%) are Globally Threatened, i.e. classified as Vulnerable (VU), Endangered (EN) or Critical (CR) by Birdlife International (Birdlife International World Bird Database, www.birdlifeinternational.org accessed 20 June 2005) according to the current IUCN criteria (IUCN 2001). This ratio is close to the average proportion of Globally Threatened species across all birds, which is about 12.4% of all extant species (Birdlife International 2004b).

It is also considerably lower than some highly threatened groups such as albatrosses (95% threatened), cranes (60%), parrots (29%), pheasants (26%) and pigeons (23%). This is somewhat unexpected given that species with large bodies and low reproductive rates, which would include many raptors, have a relatively high probability of being threatened (Bennett & Owens 1997). Nevertheless, 13% of raptor species classified as Globally Threatened and a further 5.2% as Near Threatened is an undesirably high proportion that warrants conservation intervention.

Further examination reveals a difference between the status of diurnal raptors, as some 17.4% of owls are Globally Threatened, compared to 11.3% of diurnal raptors (Table 2). However, a comparison between migrant and non-migrants reveals that this is largely due to a relatively high proportion (i.e. 24.4%) of non-migratory Afrotropical and Western Palearctic owls being Globally Threatened. In contrast, none of the seven species of migratory owls occurring in the Afrotropical and Western Palearctic realms are Globally Threatened. Similarly the one migratory African-Eurasian owl that also occurs only in the Eastern Palearctic is not threatened. Thus, including owls in any new CMS conservation instrument might only marginally serve the purpose of preventing global extinctions (though there may be a case with respect to regional population declines: see below).

Another aim of this study is to establish if migratory species are particularly threatened, and if species in the Eastern Palearctic merit conservation measures as well as those in the Western Palearctic. Table 2 shows that there is no substantial difference between the Eastern and Western Palearctic/Afrotropical species, and between migratory and non-migratory species as regards the proportions of raptors that are Globally Threatened.

Table 1: The status of African-Eurasian migratory raptors

Key

Species with an Unfavourable Conservation Status according to CMS (see Section 4.1) at a global or regional level are indicated in bold.

Global Status: CR = Critical; EN = Endangered; VU = Vulnerable; NT = Near Threatened; LC = Least Concern (see Annex 4 for details of Global Threat categories).

European Status: European Species of Conservation Concern (SPEC), SPEC 1 = Species of Global Conservation Concern (i.e. classified as Globally Threatened, Near Threatened or Data Deficient); SPEC 2 = Species that are concentrated in Europe and have an unfavourable conservation status; SPEC 3 = Species that are not concentrated in Europe but have an unfavourable conservation status. European Threat Status: CR = Critical; EN = Endangered; VU = Vulnerable; D = Declining; R = Rare; H = Depleted; S = Secure.

Status in Africa, Asia and the Middle-East: UCS = Unfavourable Conservation Status; FC = Favourable Conservation Status; ? = unknown status, or uncertain status if combined with UCS or FC. UCS criteria: d = declining in numbers or range; r = rare or depleted population; h = threatened by habitat loss.

Status refers to breeding population. b = Breeding population, m = only occurs on migration, w = occurs in winter (non-breeding season) and on migration, wss = wintering population in sub-Sahara.

Species	English Name	Global Status	European SPEC	European Threat Status	Asia*	Middle-East	Africa	Refs
Aviceda cuculoides	African Baza	LC	-	-	-	-	?	
Pernis apivorus	European Honey-buzzard	LC	N	(S)	?	m	w	
Pernis ptilorhyncus	Oriental Honey-buzzard	LC	m	m	?	m	-	
Chelictinia riocourii	African Swallow-tailed Kite	LC	-	-	-	-	UCSd	7
Milvus milvus	Red Kite	NT	2*1	D	-	-	UCSr	
Milvus migrans	Black Kite	LC	3	(VU)	UCS?	FC?	UCd?	7
Haliaeetus albicilla	White-tailed Eagle	LC	1*1	R	FC?	?	-	1
Neophron percnopterus	Egyptian Vulture	LC	3	EN	?	FC?	?	
Gyps fulvus	Eurasian Griffon	LC	N	S	FC?	?	?	
Aegypius monachus	Cinereous Vulture	NT	1	R	?	w	w	1,2
Circaetus gallicus	Short-toed Snake-eagle	LC	3	(R)	?	?	b? wss	
Circus aeruginosus	Western Marsh-harrier	LC	N	S	FC	m	m	
Circus maurus	Black Harrier	VU	-	-	-	-	UCSrh	1,4

Species	English Name	Global Status	European SPEC	European Threat Status	Asia*	Middle-East	Africa	Refs
Circus cyaneus	Northern Harrier	LC	3	H	?	w	w	
Circus macrourus	Pallid Harrier	NT	1	(EN)	?	w	w	1,9
Circus pygargus	Montagu's Harrier	LC	N	S	FC?	m	b? w	
Accipiter badius	Shikra	LC	N	(S)	?	m	FC?	
Accipiter brevipes	Levant Sparrowhawk	LC	2	(VU)	FC?	m	w	
Accipiter ovampensis	Ovampo Sparrowhawk	LC	-	-	-	-	FC?	
Accipiter nisus	Eurasian Sparrowhawk	LC	N	S	FC?	w	b? wss	
Accipiter gentilis	Northern Goshawk	LC	N	S	FC	-	?	
Butastur rufipennis	Grasshopper Buzzard	LC	-	-	-	-	?	
Buteo buteo	Common Buzzard	LC	N	S	?	w	w	
Buteo oreophilus	Mountain Buzzard	LC	-	-	-	-	FC?	
Buteo rufinus	Long-legged Buzzard	LC	3	(VU)	?	?	?	
Buteo lagopus	Rough-legged Hawk	LC	N	(S)	FC?	-	-	
Buteo auguralis	Red-necked Buzzard	LC	-	-	-	-	FC?	
Aquila pomarina	Lesser Spotted Eagle	LC	2	(D)	UCSd ?	m	w	6
Aquila clanga	Greater Spotted Eagle	VU	1	EN	?	w	w	1,2
Aquila rapax	Tawny Eagle	LC	-	-	-	?	UCSd	5,7,8
Aquila nipalensis	Steppe Eagle	LC	3	(EN)	UCSd ?	w	w	6
Aquila adalberti	Spanish Imperial Eagle	EN	1	(EN)	-	-	w	
Aquila heliaca	Imperial Eagle	VU	1	R	UCSd ?	w	w	1,2
Aquila chrysaetos	Golden Eagle	LC	3	R	?	?	?	
Aquila wahlbergi	Wahlberg's Eagle	LC	-	-	-	-	FC?	

Species	English Name	Global Status	European SPEC	European Threat Status	Asia*	Middle-East	Africa	Refs
Hieraaetus pennatus	Booted Eagle	LC	3	(R)	?	m	b? w	
Pandion haliaetus	Osprey	LC	3	R	?	UCS?	FC?	
Falco naumanni	Lesser Kestrel	VU	1	H	?	UCSr	w	1,2
Falco tinnunculus	Common Kestrel	LC	3	D	UCSd ?	?	?	
Falco alopex	Fox Kestrel	LC	-	-	-	-	FC?	
Falco vespertinus	Red-footed Falcon	NT	3*1	(VU)	?	m	w	
Falco amurensis	Amur Falcon	LC	-	-	FC?	-	w	
Falco eleonorae	Eleonora's Falcon	LC	2	D	-	m	b? w	
Falco concolor	Sooty Falcon	LC	-	-	?	FC?	FC?	
Falco columbarius	Merlin	LC	N	(S)	?	w	w	
Falco subbuteo	Eurasian Hobby	LC	N	(S)	?	m	w	
Falco biarmicus	Lanner Falcon	LC	3	VU	-	FC?	UCd?	5,7
Falco cherrug	Saker Falcon	EN	1	EN	UCSd	w	w	2,3
Falco rusticolus	Gyrfalcon	LC	3	(R)	?	-	-	
Falco peregrinus	Peregrine Falcon	LC	N	S	?	?	?	
Falco pelegrinoides	Barbary Falcon	LC	N	S	-	?	?	
Otus brucei	Pallid Scops-owl	LC	3	CR	?	?	-	
Otus scops	Common Scops-owl	LC	2	(H)	?	m	b? w	
Nyctea scandiaca	Snowy Owl	LC	3	(R)	?	-	-	
Strix uralensis	Ural Owl	LC	N	(S)	?	-	-	
Strix nebulosa	Great Grey Owl	LC	N	(S)	?	-	-	
Surnia ulula	Northern Hawk Owl	LC	N	(S)	?	-	-	
Aegolius funereus	Boreal Owl	LC	N	(S)	?	-	-	
Asio otus	Long-eared Owl	LC	N	(S)	?	?	?	

Species	English Name	Global Status	European SPEC	European Threat Status	Asia*	Middle-East	Africa	Refs
Asio flammeus	Short-eared Owl	LC	3	(H)	?	w	w	

Source. Global Threat Status: Birdlife International World Bird Database (www.birdlifeinternational.org, accessed 20 June 2005). European Threat Status: Birdlife International (2004c).
Other regions - general: del Hoyo *et al.* (1994, 1999), Ferguson-Lees *et al.* (2001). Specific species references (see table code): 1 Birdlife International (2004a); 2 Birdlife International (2001); 3 Galushin (2004); 4 Curtis *et al.* (2004); 5 Barnes (2000); 6 Shirihai *et al.* (2000); 7 Thiollay (in press-c); 8 Simmons & Brown (2005); 9 Galushin *et al.* (2003).

Note. *1 Global status changed since publication of Birdlife International 2004c.

The latter observation is interesting because it has often been claimed (e.g. Owen & Black 1991; Salathe 1991) that migratory species are particularly vulnerable as a result of threats they face on migration. However, the relatively high proportions of threatened non-migratory raptors and especially owls may be due to a significant number of them having small ranges, because birds with small ranges tend to be more likely to qualify as Globally Threatened (Birdlife International 2004b). It might also be partly due to a high proportion of owls being restricted to primary tropical forest habitats, which are amongst the most highly threatened habitats (Groombridge & Jenkins 2002). Thus, if we were to compare species with comparable ranges and habitats, we might find that the proportion of Globally Threatened species is indeed higher amongst migratory species than non-migratory species. However, interesting though this analysis would be, it is beyond the scope of this present study.

4.1.2 Globally Threatened and Near Threatened migratory raptors of the African-Eurasian region

The ten migratory raptors of the African-Eurasian region that are currently considered to be Globally Threatened or Near Threatened, are listed in Table 3, together with summaries of their current range and migratory behaviour. Countries where these species regularly occur are listed in Annex 5. One of the most obvious facts from examination of the list is that all but one, i.e. Black Harrier (*Circus maurus*), breed primarily within the Palearctic. However this might partly reflect inadequate knowledge of the population status of some inter-African migrants and the migratory behaviour of some threatened species.

In conclusion, it appears that there is no special need to focus conservation measures for Globally Threatened species on migratory raptors compared to non-migratory species. Nor is there a biological reason for focussing measures on the Afrotropical realm and Western Palearctic flyway, though there may well be practical reasons for doing so.

Table 2: Global threat comparison between migratory / non-migratory raptor species occurring in the Afrotropical / Western Palearctic and Eastern Palearctic Realms

Group	East Palearctic	Afrotropical / West Palearctic	Afrotropical / Palearctic
ALL RAPTORS (including owls)			
No. Species	44	167	211
No. Species Globally Threatened	4	25	28
% Species Globally Threatened	9.1%	15.0%	13.3%
Migratory			
No. Species	14	61	74
No. Species Globally Threatened	2	6	7
% Species Globally Threatened	14.3%	9.8%	9.5%
Non-migratory			
No. Species	30	106	137
No. Species Globally Threatened	2	19	21
% Species Globally Threatened	6.7%	17.9%	15.3%
DIURNAL RAPTORS			
No. Species	29	113	142
No. Species Globally Threatened	3	14	16
% Species Globally Threatened	10.3%	12.4%	11.3%
Migratory			
No. Species	13	52	64
No. Species Globally Threatened	2	6	7
% Species Globally Threatened	15.44%	11.5%	10.9%
Non-migratory			
No. Species	16	61	78
No. Species Globally Threatened	1	8	9
% Species Globally Threatened	6.3%	13.1%	11.5%
OWLS			
No. Species	15	54	69
No. Species Globally Threatened	1	11	12
% Species Globally Threatened	6.7%	20.4%	17.4%
Migratory			
No. Species	1	9	10
No. Species Globally Threatened	0	0	0
% Species Globally Threatened	0%	0%	0%
Non-migratory			
No. Species	14	45	59
No. Species Globally Threatened	1	11	12
% Species Globally Threatened	7.1%	24.4%	20.3%

Source. Birdlife International World Bird Database (www.birdlifeinternational.org, accessed March 2005)

Table 3: Globally Threatened and Near Threatened African-Eurasian migratory raptors

See Table 1 for global threat status categories

Species	English Name	Breeding Range	Migratory Behaviour	Global Threat Status
Milvus milvus	Red Kite	Nominate race: S Sweden E to Ukraine and S through C Europe to W & C Mediterranean basin, Wales, Caucasus. *M.m. fasciicauda*: Cape Verde Islands.	Mainly migratory in N and C Europe, although increasing tendency to winter in these areas. Populations in S of range and Wales sedentary with varying degree of dispersal of juveniles. The vast majority of migrants winter in S France and especially Iberian Peninsula	NT
Aegypius monachus	Cinereous Vulture	Large Palearctic range from Spain, Balearic Is and Balkans through Turkey, Caucasus, Iran and Afghanistan to S Siberia, Mongolia, N China and extreme N India.	Partial – mainly intercontinental: In S Europe adults non-migratory, in C Asia semi-resident, often following nomads and their domestic herds. Partly migratory in Asia: most birds leave Mongolia and other N breeding areas for winter; migrants winter from NE Africa and Middle East through N India to Korea; some birds reach Arabia and S China.	NT
Circus maurus	Black Harrier	South Africa and N W Namibia, most in S Cape region.	Partial – intracontinental: Most birds migrate N in winter to dry grassland areas of S Namibia, S Botswana and N and C South Africa.	VU
Circus macrourus	Pallid Harrier	E. European Russia, S Asiatic Russia and N. Kazakhstan E to NW China; irregularly breeds farther N and W.	Intercontinental: Migratory, wintering mainly in sub-Saharan Africa, Indian Subcontinent, Sri Lanka and Burma; rare, or much less common, in Mediterranean Basin, Middle East, Arabia, Iran and S & E China; some birds may remain in S of breeding range. Migrates on broad front.	NT
Aquila clanga	Greater Spotted Eagle	EC Europe E through Russia to S far east, isolated populations in N Iran and NC India.	Intercontinental: winters in S Europe, Middle East, NE Africa and S Asia.	VU
Aquila adalberti	Spanish Imperial Eagle	C, W & S Spain, formerly more widespread, occurring in Portugal and Morocco	Partial: Adults sedentary. Young birds, when independent, disperse from natal areas in all directions and up to 350 km, especially to NW Africa.	VU
Aquila heliaca	Imperial Eagle	C Europe and Turkey E through S Russia to Lake Baikal and Mongolia.	Mostly migratory, intercontinental. Birds migrate to S Turkey, Iran, Israel, Syria, Iraq, Egypt, Arabia, and northeast Africa, and to Pakistan, India, Laos and Vietnam.	VU

Species	English Name	Breeding Range	Migratory Behaviour	Global Threat Status
Falco naumanni	Lesser Kestrel	SW Europe and N Africa E through E Europe, Asia Minor, Caucasus, Iran, Jordan, Israel, Kazakhstan, S Russia to Mongolia and N China.	Intercontinental: Mainly trans-Saharan migrant, although some birds winter in NW Africa and in various regions of S Europe and S Asia. Most birds migrate to S Africa. Nomadic movements in winter related to local concentrations of insects. Migrates across broad front.	VU
Falco vespertinus	Red-footed Falcon	E Europe and Hungary, E through NC Asia to extreme NW China and upper R Lena	Intercontinental: Travels great distances from Palearctic breeding areas across the Mediterranean and through Africa to S African wintering areas.	NT
Falco cherrug	Saker Falcon	C and SE Europe, Turkey, Russian Federation, Kazakhstan, Uzbekistan, Turkmenistan, Kyrgyzstan, Afghanistan, Iran, Iraq, Pakistan, China and Mongolia	Intercontinental: migratory or partially migratory; sedentary or dispersive in S and SW of breeding range. Only occurs in winter in N Pakistan, Arabia, Africa (Sudan, Ethiopia, Niger and N Kenya) and parts of Middle East and China.	EN

Sources. Range: Snow and Perrins (1998). Migration behaviour: adapted from GROMS based on del Hoyo *et al.* (1994). Global Threat: Birdlife International World Bird Database (www.birdlifeinternational.org accessed 20 June 2005).

4.2 THE REGIONAL STATUS OF AFRICAN-EURASIAN RAPTORS

4.2.1 The status of raptors in Europe

The status of birds in Europe is relatively well known as a result of fairly extensive and detailed atlas surveys and monitoring programmes, and two recent pan-European assessments of available data (Birdlife International 2004a; Tucker & Heath 1994). It is thus possible to review the status of raptor populations in detail and with some confidence, although trends in some species, such as Levant Sparrowhawk (*Accipiter brevipes*), remain relatively poorly known.

On the basis of the 1994 assessment, Stroud (2003) noted that a high proportion of European raptors have an unfavourable status in Europe (defined in the publication as being species that are declining, rare or localised). This showed that nearly 80% (30 of 38) of diurnal raptors were in an unfavourable conservation status, whilst almost half of the owls (six of 13 species) were similarly categorised.

In this study, we have reviewed the Birdlife International (2004) assessment of each species of raptor, and compared overall population trends between the periods 1970-90 and 1990-2000. The European conservation status and European Threat Status (ETS) of each raptor species is given in Annex 4 and summarised for the group as a whole in Table 4 below.

Table 4: The conservation status of African-Eurasian migratory raptors in Europe

SPEC = Species of European Conservation Concern. See Table 1 for details of the status of individual species.

	Migratory raptors		**All European species**	
SPEC Category	Number	%	Number	%
1	8	17.0%	40	7.6%
2	5	10.6%	45	8.5%
3	16	34.0%	141	26.8%
Total SPECs	*29*	*61.7%*	*226*	*43.0%*
Non-SPEC	18	38.3%	300	57.0%
TOTAL	47		526	
European Threat Status				
Critical (CR)	1	2.1%	9	1.7%
Endangered (EN)	6	12.8%	20	3.8%
Vulnerable (VU)	5	10.6%	38	7.2%
Declining (D)	4	8.5%	62	11.8%
Rare (R)	9	19.1%	33	6.3%
Depleted (H)	4	8.5%	51	9.7%
Other (localised, data deficient, not evaluated)	0	-	12	2.3%
Secure (S)	18	38.3%	301	57.2%
Species with uncertain ETS	25	53.2%		

Source. Birdlife International (2004a).

Birdlife International defines the following three categories of Species of European Conservation Concern (SPEC):

- SPEC 1 – Species of Global Conservation Concern, i.e. classified as Globally Threatened, Near Threatened or Data Deficient (Birdlife International 2004c; IUCN 2001).
- SPEC 2 – Species that are concentrated[4] in Europe and have an unfavourable conservation status.
- SPEC 3 – Species that are not concentrated in Europe but have an unfavourable conservation status.

A species is considered to have an unfavourable conservation status by Birdlife International if its European population is considered to be any of the following:

- small and non-marginal;
- declining more than moderately (i.e. > 1% per year);
- depleted following earlier declines; or
- highly localised.

[4] i.e. more than 50% of its global breeding or wintering population or range occurs in Europe.

As discussed above, we would consider that these species also have an Unfavourable Conservation Status according to the CMS definition. Depending on various levels of decline, population size and localisation, Birdlife International defines 10 categories of European Threat Status (ETS). The following 7 are categories of species in unfavourable conservation status: Critically Endangered, Endangered, Vulnerable, Declining, Rare, Depleted, and Localised. In addition a species may be considered to be Secure (i.e. in favourable conservation status), Data Deficient or Not Evaluated.

Comparison of the proportions of all European migratory raptors that fall into each SPEC and ETS category clearly indicates that a particularly high proportion of these species have an unfavourable status in Europe. Overall, some 62% of migratory raptors have an unfavourable conservation status compared to 43% of all 526 regularly occurring European species. Furthermore a relatively large proportion (41%) of these are in high threat categories, with one Critical (Pallid Scops-owl *Otus brucei*), six Endangered and five Vulnerable.

Despite the critical threat status of Pallid Scops-owl, migratory owls overall appear to be less threatened in Europe than raptors, with 44% of owls with an unfavourable status compared to 66% of diurnal raptors.

A summary and comparison of recent trends in European populations of migratory raptors is provided in Table 5. This indicates that nearly a third are declining by more than 1% per year. Furthermore, 21% have shown large declines, averaging over 3% per year, in the last 10 years. Although this is a slightly lower percentage of species showing large declines than over the 1970-90 period, the proportion of species showing moderate declines has increased, and the overall proportion of species that have undergone moderate or large declines is unchanged. Thus, there has been relatively little improvement in the status of European raptor populations since 1990.

4.2.2 The status of raptors in other regions

Unfortunately, our knowledge of the current status of raptors in Asia, the Middle-East and Africa is much less complete and reliable than in Europe. Few countries in these regions have prepared bird atlases or established bird monitoring schemes. Where atlases have been produced they have yet to be repeated, and where monitoring schemes have been established they have not been undertaken for long enough to establish trends over a meaningful period. Further systematic monitoring and research is required over huge areas before reliable assessments of population status can be made for most species.

Intensive surveys and monitoring of diurnal raptor migration has been undertaken in some areas of the Middle-East, especially in Israel for several decades. These surveys have established population counts for some species that are difficult to census on their breeding grounds, such as Levant Sparrowhawk (*Accipiter brevipes*). They have also built up a considerable amount of data on migrant numbers, which have recently been analysed for trends (e.g. see Shirihai *et al.* 2000 for review). These counts have noted sharp declines in Lesser Spotted Eagle (*Aquila pomarina*) and Steppe Eagle (*Aquila nipalensis*) that accord with observed declines in Europe, and may suggest that declines also occurred in Asia.

Table 5: European population trends in African-Eurasian migratory raptors

	% of raptors (n = 47) in trend class	
Trend*1	**1970-90**	**1990-2000**
Large increase (≥3 % per year)	15%	6%
Moderate increase (1-3% per year)	8%	13%
Small increase*2 (<1% per year)	na	6%
Stable*3	40%	23%
Small decline*2 (<1% per year)	na	6%
Moderate decline (1-3% per year)	2%	10%
Large decline (≥3 per year)	29%	21%
Fluctuating	0%	8%
Unknown	4%	4%
Total % in moderate or large decline	**31%**	**31%**

Sources. 1970-1990 trends: Tucker and Heath (1994). 1990-2000 trends: Birdlife International (2004a).
Notes: *1 Based on worst case scenario calculation taking into account the effects of calculations using minimum and maximum population estimates. *2 This trend category was not distinguished in 1994. *3 Only distinguished in 1990-2000 if <10% decline and < 10% increase, and worst-case and best-case scenario trends are in opposite directions.

However, information on numbers and trends of breeding populations in the Middle-East is very fragmentary and incomplete, although recoveries have been documented of some species' populations since the widespread reduction of use of persistent pesticides.

Information on the status of raptor populations (breeding and wintering) is particularly scarce and incomplete for much of Asia and Africa. Although there are numerous counts of raptors at particular sites, it is difficult to assimilate these and deduce likely population trends in most species. Detailed studies have been carried out in some areas, such as in South Africa (e.g. Tarboton & Allan 1984), or from atlasing (e.g. Harrison *et al.* 1997) or from road counts (e.g. Herremans & Herremans-Tonnoeyr 2001) where population trends have been established for breeding species and some highly aggregated wintering populations, e.g. Lesser Kestrel (*Falco naumanni*). In parts of West Africa Thiollay (in press-a; in press-b; in press-c) has repeated roadside counts some 30 years later to measure population changes. But care needs to be taken in extrapolating trends from such relatively well studied areas to other parts of Africa. Nevertheless, observed declines are a cause for concern and, in accordance with the precautionary principle, justify the need for conservation actions now. The results of many of these studies also highlight the need for further monitoring of raptor populations in areas of Africa that are less well known.

In parts of Asia, detailed studies have been carried out of some species of high conservation importance, such as Saker Falcon (*Falco cherrug*) (Galushin & Moseikin 2000; Galushin 2004; Gott *et al.* 2000; Levin *et al.* 2000; Shijirmaa *et al.* 2000). But the status of most species is very poorly understood in most areas of the Asian Palearctic.

For this study we have assessed the status of African-Eurasian migratory raptor species populations in Asia, the Middle-East and Africa on the basis of available information, and present our results in Table 1. These assessments use the criteria for Unfavourable Conservation Status as described in Section 3.2. However, these assessments should be treated with caution, unless they are based on detailed referenced studies. They are subjective assessments and mostly based on general references (some of which are now over 10 years old) or studies of relatively small parts of the species' range, which may not be representative of the region.

An overall summary of our status assessments of African-Eurasian migratory raptor populations in Asia, Middle-East and Africa is provided in Table 6. This analysis confirms that it is not possible within the scope of this study to reliably assess the status of most of the species' breeding populations in these regions using readily available published studies. However, a number of Asian populations are known or suspected to be in an Unfavourable Conservation Status, including some Globally Threatened or Near Threatened species such Pallid Harrier (*Circus macrourus*), Saker Falcon (*Falco cherrug*) and probably Imperial Eagle (*Aquila heliaca*). In general we are unsure of the status of most intra-African migrants, though there is evidence of declines in some, including Tawny Eagle (*Aquila rapax*), African Swallow-tailed Kite (*Chelictinia riocourii*) and the Globally Threatened Black Harrier (*Circus maurus*) (Birdlife International 2004c; Curtis *et al.* 2004; del Hoyo *et al.* 1994; Ferguson-Lees & Christie 2001; Harrison *et al.* 1997).

Table 6: The status of breeding populations of African-Eurasian migratory raptors in Asia, the Middle-East and Africa

Conservation Status (according to CMS definition)	Asia		Middle-East		Africa	
Unfavourable	1	2.2%	1	5.9%	4	12.9%
Unfavourable (uncertain)	5	11.1%	1	5.9%	2	6.5%
Favourable	2	4.4%	0	0%	0	0%
Favourable (uncertain)	7	15.6%	4	23.5%	8	25.8%
Unknown	30	66.7%	11	64.7%	17	54.8%
Total	**45**		**17**		**31**	

5 THREATS TO AFRICAN-EURASIAN RAPTORS

5.1 INTRODUCTION

There are many well known and documented threats to raptors in the African Eurasian region (e.g. Chancellor & Meyburg 1998; Meyburg & Chancellor 1989, 1994; Newton & Chancellor 1985; Salathe 1991; Thiollay 1994; Tucker & Evans 1997; Tucker & Heath 1994; White *et al.* 1994; Zalles & Bildstein 2000). These are briefly described below, but it is not the intention in this study to discuss these in detail. Instead we have attempted to establish which threats are most likely to be having significant detrimental population-level impacts on species with an Unfavourable Conservation Status (as identified in 3.2). We have also attempted to distinguish between threats that apply to species whilst breeding and whilst on migration / wintering. An important aim of this is to establish which species are subject to impacts at an international scale, and would therefore benefit from coordinated international conservation actions.

Being mostly long-lived species with generally low annual productivity and slow maturity, raptors are particularly vulnerable to any threats that may increase mortality rates. However, although there is much general information on habitat loss and pollution, and many documented cases of persecution e.g. from hunting, there are few demographic studies that have established the effects on mortality and productivity rates, and hence overall population level impacts (e.g. Newton 1979). Furthermore, where such studies have been carried out, the results may not be widely applicable to other regions and habitats. And in some cases threats may have changed since the studies were carried out. For example, many studies have documented the impacts of toxic pesticides on raptors through egg-shell thinning. But the levels of such pesticides have since declined substantially in most areas, and previous studies may therefore be of little value in predicting future impacts.

There is also a paucity of published information on threats to migratory raptors in Asia, the Middle-East and Africa. Therefore, the assessment of threats to species in these regions should be treated with caution, because we have only considered documented threats, rather than those that we may suspect occur (e.g. those that could be inferred from known habitat change).

We have coded identified threats according to the primary threat categories used by Birdlife International, which is based on the IUCN Authority File for threat types (see www.RedList.org), and defined sub-categories that are relevant to raptors in the region.

Table 7 lists for each species the threats that we have identified as probably having a significant population impact. These threats are further described below and a summary of their overall importance to raptors is presented in Table 8.

Table 7: Threats to Africa-Eurasian migratory raptors that have an Unfavourable Conservation Status

GS = Global status: see Table 2.1 for codes. **S = Season**: B = breeding; N (shaded) = non-breeding (migration and wintering areas).

Habitat Loss/Degradation: ai = loss to agriculture & agricultural intensification; aa = abandonment; og = over-grazing; fm = forest management and loss; af = afforestation (e.g. Eucalyptus, Poplar and conifer plantations); w = wetland loss and degradation; b = burning / fire; is = Infrastructure development.

Taking = taking of birds i.e. harvesting / hunting: t = trapping and trade (zoos, collections, falconry); e = egg-collection; s = shooting for sport.

Accidental mortality: C = collision; e = electrocution on power lines; p = poisoning; nd = nest destruction by agricultural machinery.

Per = Persecution (i.e. control of predators / pests) including deliberate poisoning.

Pollution (affecting habitat and/or species): l = Land pollution (other than pesticides); w = water pollution (other than pesticides); p = pesticides (i.e. direct and secondary toxicity effects, not indirect effects through food availability).

Dist = Disturbance (human).

Other: av = invasive alien vegetation; ls = lead-shot poisoning through ingestion of prey with high lead content; ns = nest site loss in old buildings; de = desertification from drought and over exploitation of wood; ip = introduced predators (e.g. rats and cats); pd = prey disease, i.e. myxomatosis and other diseases in rabbits.

				Habitat loss / degradation								Taking			Accidents				Per	Pollution			Dist	Other	Refs
Species	**English Name**	**GS**	**S**	**ai**	**aa**	**og**	**fm**	**af**	**w**	**b**	**is**	**t**	**e**	**s**	**c**	**e**	**p**	**nd**		**l**	**w**	**p**			
Chelictinia riocourii	African Swallow-tailed Kite	LC	B	x		x																x		de	
			N	x		x																x		de	
Milvus milvus	Red Kite	NT	B	x	x												x		x			x	x		10, 31
			N	x	x												x		x			x		ls	10, 31
Milvus migrans	Black Kite	LC	B	x	x				x						x	x			x	x		x	x		
			N											*x*			*x*			*x*		*x*			
Haliaeetus albicilla	White-tailed Eagle	LC	B						x				x		x		x		x		x	x	x		3
			N												x						x	x			
Neophron percnopterus	Egyptian Vulture	LC	B														x		x						
			N											x			x								

				Habitat loss / degradation								Taking			Accidents				Per	Pollution			Dist	Other	Refs
Species	**English Name**	**GS**	**S**	**ai**	**aa**	**og**	**fm**	**af**	**w**	**b**	**is**	**t**	**e**	**s**	**c**	**e**	**p**	**nd**		**l**	**w**	**p**			
Aegypius monachus	Cinereous Vulture	NT	B	x	x			x		x	x						x								1b
			N											x			x								16
Circaetus gallicus	Short-toed Snake-eagle	LC	B	x	x			x		x						x			x				x		
			N											x											
Circus maurus	Black Harrier	VU	B	x						x												x	x	av	4,21
			N																						
Circus cyaneus	Northern Harrier	LC	B	x				x	x	x									x						17
			N																						
Circus macrourus	Pallid Harrier	NT	B	x	x	x			x								x		x			x			33,
			N	x		x								x								x		de	5,6, 33
Accipiter brevipes	Levant Sparrowhawk	LC	B	x																					
			N	x																					18
Buteo rufinus	Long-legged Buzzard	LC	B	x												x	x		x				x		
			N											x			x								
Aquila pomarina	Lesser Spotted Eagle	LC	B	x	x		x	x	x					x					x				x		22
			N	x																					16,18, 20,22,23
Aquila clanga	Greater Spotted Eagle	VU	B				x	x	x					x			x		x				x		24
			N											x											24
Aquila nipalensis	Steppe Eagle	LC	B	x												x			x			x	x		8,18,25,26

				Habitat loss / degradation								Taking			Accidents				Per	Pollution			Dist	Other	Refs
Species	**English Name**	**GS**	**S**	**ai**	**aa**	**og**	**fm**	**af**	**w**	**b**	**is**	**t**	**e**	**s**	**c**	**e**	**p**	**nd**		**l**	**w**	**p**			
			N	x													x					x			20
Aquila rapax	Tawny Eagle	LC	B	x		x											x					x		de	5,20
			N	x										x			x					x		de	5,20
Aquila adalberti	Spanish Imperial Eagle	VU	B	x				x								x	x		x	x		x	x	ls,pd	1d,12,13
			N																						
Aquila heliaca	Imperial Eagle	VU	B	x			x	x				x				x	x		x				x		1c
			N											x			x								
Aquila chrysaetos	Golden Eagle	LC	B					x	x				x			x	x		x						11,14,15
			N												x		x								
Hieraaetus pennatus	Booted Eagle	LC	B	x			x			x						x			x			x			
			N											x			x					x			6
Pandion haliaetus	Osprey	LC	B				x		x				x		x				x		x	x	x		32
			N											x	x				x		x	x			
Falco naumanni	Lesser Kestrel	VU	B	x	x			x			x		x	x										ns	1a
			N	x		x																			6,7
Falco tinnunculus	Common Kestrel	LC	B	x										x		x									
			N									x		x										de	
Falco vespertinus	Red-footed Falcon	NT	B	x					x													x			
			N	x					x					x											6
Falco eleonorae	Eleonora's Falcon	LC	B																				x	ip	27

				Habitat loss / degradation								Taking			Accidents				Per	Pollution			Dist	Other	Refs
Species	**English Name**	**GS**	**S**	**ai**	**aa**	**og**	**fm**	**af**	**w**	**b**	**is**	**t**	**e**	**s**	**c**	**e**	**p**	**nd**		**l**	**w**	**p**			
			N																						
Falco biarmicus	Lanner Falcon	LC	B	x								x	x						x				x		28
			N									x					x								16,20
Falco cherrug	Saker Falcon	EN	B	x	x			x				x	x			x			x			x			2a,b,9,19,25, 26,29, 30
			N									x													
Falco rusticolus	Gyrfalcon	LC	B									x	x						x				x		
			N																						
Otus brucei	Pallid Scops-owl	LC	B																						
			N																						
Otus scops	Common Scops-owl	LC	B	x																		x			
			N																						
Nyctea scandiaca	Snowy Owl	LC	B																				x		
			N																						
Asio flammeus	Short-eared Owl	LC	B	x				x	x																
			N																						

Sources. General: Birdlife International (2004c); Brown, Urban & Newman (1982), del Hoyo *et al.* (1994, 1999), Ferguson-Lees *et al.* (2001); Tucker & Heath (1994); Tucker & Evans (1997).
Specific species references: 1a Biber (1996); 1b Heredia (1996a); 1c Heredia (1996b); 1d Gonzalez (1996); 2a (Barton 2002); 2b Birdlife International (2001); 3 Krone (2003); 4 Harrison *et al.* (1997); 5 Barnes (2000); 6 Thiollay (1989); 7 Pepler (1996); 8 Flint *et al.* 1983, Lopushkov 1988; 9 Galushin (2004); 10 Mateo *et al.* (2003); 11 Whitfield *et al.* (2001); 12 Pain *et al.* (2005); 13 Ferrer (2003); 14 Watson (1992); 15 Marquis, Ratcliffe & Roxburgh (1985); 16 Shirihai *et al.* (2000); 17 Tucker (2003); 18 Zalles & Bildstein (2000); 19 Chancellor & Meyburg (1998); 20a Hartley *et al.* (1996); 20b Hartley (1998); 21 Curtis *et al.* (2004); 22 Meyburg *et al.* (1999b); 23 Meyburg *et al.* (1995) 24 Meyburg *et al.* (1999a); 25 Fox (2004); 26 Batdelger & Potapov (2002); 27 Ristow (1999); 28 Gustin *et al.* (1990); 29 Karyakin *et al*. (2004); 30 Gombobaator *et al.* (2004); 31 (Ntampakis & Carter 2005); 32 (Saurola 1997); 33 Galushin *et al.* (2003).

Table 8: Summary of threats to migratory raptors of the African-Eurasian region that have an Unfavourable Conservation Status

Key. Magnitude of impacts: **L**ow = unlikely to cause detectable population impacts in most species; **M**oderate = likely to cause local population impacts in most species, or population declines in some species; **H**igh = likely to cause population declines in most species. Blank = threat currently unknown in region.

Threat type (primary and secondary types)	% of species impacted*1		Magnitude of impacts*2			
	Breeding	Non-breeding	Europe	Asia	Middle-East	Africa
Habitat Loss/Degradation						
Loss to agriculture & agricultural intensification	72	28	H	M	M?	H
Abandonment	25	3	M	M	?	-
Over-grazing	9	9	L	L	M?	H?
Forest loss & management	16	0	M	L	L	M
Afforestation	34	0	M	-	-	-
Wetland loss and degradation	31	3	M	M	H	M
Burning / fire	16	0	M	-	-	M
Infrastructure development	6	0	M	-	M	-
Taking of birds (harvesting / hunting)						
Trade (collections, falconry)	13	9	L	M	M	L
Egg-collection	22	0	L	L	L	-
Shooting and trapping	12	41	M	L	H	L
Accidental mortality*3						
Collision with man-made structures	9	9	L	L	L	L
Electrocution on power lines	31	0	M	H	L	L
Poisoning (e.g. by baits for other species)	34	34	L	M	M	L (H in parts)
Nest destruction	0	0	L	L	-	L
Persecution	59	6	L	M	M	L
Pollution						
Land pollution*4	6	3	L	L	L	-
Water pollution*4	6	6	L	L	L	L
Toxic pesticides	44	28	L	M?	M?	M?
Disturbance (human)	50	0	H	L	M	M
Other						
Invasive alien vegetation	3	3	L	?	?	?
Lead-shot poisoning	3	3	L	-	?	-
Nest site loss in old buildings	3	0	L	-	-	-
Desertification	6	13	-	-	?	M
Introduced predators	3	0	L	-	L	L
Prey disease	3	0	L	-	-	-

Notes: *1 From Table 3.1. *2 A subjective assessment for the next 10 years, of the likely average impacts on impacted species' African-Eurasian population, taking into account each threat's average extent, severity and predicted trends. *3 Individuals are killed accidentally (but see Pollution where this may also be the case) rather than intentionally (see Hunting, Persecution). *4 Other than pesticides.

5.2 HABITAT LOSS / DEGRADATION

Habitat loss and degradation are the most frequent threats to raptor populations, and are probably the root causes of Unfavourable Conservation Status in most species. However, the form and importance of these threats varies greatly between species and regions.

In Europe, the most profound habitat change impacts on bird populations have resulted from agricultural intensification since the 1970s, particularly in western Europe (Newton 2004; O'Connor & Shrubb 1986; Pain & Pienkowski 1997; Tucker & Evans 1997). The driving force behind this intensification was new agricultural technology (machinery, agro-chemicals and plant breeding) combined with supportive agricultural policies, in particular the Common Agricultural Policy (CAP) in the EU. This led to not only to the loss of uncultivated semi-natural habitats, such as moorlands and wetlands, but also to profound changes in farming practices on existing agricultural land. Intensification resulted in farm and field amalgamation which involved loss of hedgerows, woodlands and other important ecological features. Farms also tended to specialise with a consequent decline in mixed farming. There were also marked switches in crop types and a substantial decrease in the area of unimproved pasture and hay meadows. On the remaining semi-natural grasslands, particularly in the uplands, CAP support policies and socio-economic, technological and structural changes to farming systems have led to increased stocking rates in many areas of Europe. Such changes have undoubtedly reduced prey resources for raptors, and in some cases the availability of suitable nesting sites.

Intensification also resulted in a massive increase in the use and variety of agrochemicals (especially inorganic fertilisers, herbicides and pesticides) on farmland particularly on arable habitats. Pesticides have had profound impacts on the populations of some raptors as a result of their toxicity (see below), and they continue to have widespread indirect effects. Non-crop plants and invertebrates have declined massively as a result of their use (Aebischer 1991; Donald 1998), with almost inevitable, indirect impacts on birds (Campbell *et al.* 1997; Newton 2004).

The biodiversity impacts of these agricultural changes have been well documented and have included major population declines in many farmland birds, e.g. in the UK (Gregory *et al.* 2004), and in fact across most of Europe (Donald *et al.* 2001). Migratory raptors that are known to have been particularly affected by these changes include Steppe Eagle (*Aquila nipalensis*), Imperial Eagle (*Aquila heliaca*), Pallid Harrier (*Circus macrourus*) Long-legged Buzzard (*Buteo rufinus*), Lesser Spotted Eagle (*Aquila pomarina*), Saker Falcon (*Falco cherrug*), Lesser Kestrel (*Falco naumanni*) and Common Kestrel (*Falco tinnunculus*).

To date, intensification has been most widespread in western Europe, and the consequent impacts on raptors have been most severe in these regions. However, with the dissolution of the Soviet Union and the recent accession of several eastern and central European countries to the EU, there is great concern that similar impacts will spread to these areas and perhaps

threaten some of the most important European populations of several raptor species, such as Lesser Spotted Eagle (*Aquila pomarina*) and Greater Spotted Eagle (*Aquila clanga*).

In contrast, agricultural abandonment is a significant problem in parts of Europe. Semi-natural grasslands are particularly at risk, such as in some hill farming areas and in the Mediterranean region, but especially in Eastern Europe. This is detrimental to many raptors, as the grassland that supports voles and other favoured prey is replaced by taller shrubby vegetation, which supports fewer and less accessible prey. For example, widespread abandonment of grazing in the eastern European and Asian steppes has led to vegetation changes that have reduced the density and availability of small rodents such as *Citellus* spp, which has contributed to declines in the Imperial Eagle (*Aquila heliaca*), Steppe Eagle (*Aquila nipalensis*) and Saker Falcon (*Falco cherrug*) (Galushin 2004; Heredia *et al.* 1996).

Forest loss is unlikely to be a significant threat to raptors in most of Europe, because forest cover is generally increasing (Stanners & Bourdeau 1995). In fact afforestation of open habitats, such as in the uplands of the UK and the steppe areas of Spain and Portugal (Tucker & Evans 1997), is more likely to be a problem for most raptor species. It is widely considered that eagles in particular tend to avoid forested landscapes and may thus be affected by large-scale afforestation schemes in open areas, such as tundra, moorland and steppe. The impacts of afforestation on Golden Eagles (*Aquila chrysaetos*) have been well studied in Scotland. Although it was found that increased commercial afforestation reduces breeding success (Marquiss *et al.* 1985; Watson 1992) impacts on breeding densities and range occupancy are less clear (Whitfield *et al.* 2001).

Forest management is, however, an important conservation issue affecting raptors in much of Europe. More intensive commercial forest management results in the loss of old-growth semi-natural forests and their replacement with more uniform and denser forests with reduced species and structural diversity, and fewer nest-cavities. This in turn may reduce raptor prey densities and the number of very large trees that are required by many raptors for nesting. Commercial forestry also results in high levels of disturbance, which is a major problem for sensitive species such as the *Aquila* eagles.

Fire is a natural process in many ecosystems and plays an important role in the maintenance of some open grassland and shrubland habitats, on which many species of raptor depend. Fires also release nutrients and stimulate new vegetation growth which in turn can increase invertebrate and small mammal numbers to the benefit of raptors. However, inappropriate burning management or large wildfires may be a problem for some species, such as Hen Harrier (*Circus cyaneus*) and Merlin (*Falco columbarius*) in the UK (Tucker 2003), Short-toed Eagle (*Circaetus gallicus*) and Cinereous Vulture (*Aegypius monachus*) in the Mediterranean region (Tucker & Heath 1994) and Black Harrier (*Circus maurus*) in South Africa (Harrison *et al.* 1997).

Wetland drainage has declined in many parts of Europe over recent decades (Stanners & Bourdeau 1995), mainly because there is much less to drain, but drainage remains a threat in some areas, especially in the Mediterranean regions of Europe.

Information on habitat related threats to raptors in the Asian part of the Palearctic Realm is much less readily available. Nevertheless, there have been well known large-scale losses of steppe grasslands in Russia and Kazakhstan as a result of the Soviet Union's centralised

programmes of arable conversion. The resulting arable habitats are unsuitable for many steppe raptors such as the Steppe Eagle (*Aquila nipalensis*), Imperial Eagle (*Aquila heliaca*), Saker Falcon (*Falco cherrug*) and Pallid Harrier (*Circus macrourus*) (Galushin 2004; Sanchez-Zapata *et al.* 2003). Many of these areas are now being abandoned, but the likely impacts of on raptor populations are uncertain and need to be further studied. Abandonment of existing steppe grasslands though, as mentioned above, is likely to be a serious threat.

There is also concern over the intensification of forestry operations in Asia. Many of the forests known to be the most extensive and pristine in the Palearctic are increasingly being opened up to commercial logging companies, resulting in forest loss and the intensification of forestry management, with the associated detrimental impacts as described above.

The impacts of habitat change on raptors in the Middle-East also appear to be poorly documented in the scientific literature. It is likely that agricultural intensification is a problem in many parts of the region, but the most extensive cause of habitat degradation is probably overgrazing of the sensitive arid grasslands and deserts. For example, in Syria overgrazing is widespread and causing damage to the steppe and desert vegetation (Baumgart *et al.* 1995, 2003). Overstocking is partly a result of water supplies now being provided to livestock, where before livestock numbers were limited by natural water sources. In turn these irrigation projects result in further habitat degradation through wetland drainage and impoundment, especially in the vicinity of human settlements. On the other hand, the creation of large irrigation schemes across the arid zone, often using diverted rivers or groundwater abstraction, can increase the abundance of insects, reptiles, passerines and small mammals to the benefit of raptors. But such food resources may also attract migrant raptors, which may then be at risk of being shot, trapped or killed by poison baits or toxic pollutants (see relevant sections below).

Within Africa most migrant raptors are reliant on grasslands and open woodland savannah habitats rather than closed-canopy forests. Such habitats support high densities of invertebrates, including termites and locusts, which form a key food resource for many Palaearctic and Afrotropical migrant raptors (Brown 1971, Brown *et al.* 1982). Thus over most of the continent the principal threat to these species is probably the loss and degradation of the remaining grasslands and savannahs (Bildstein *et al.* 2000; Thiollay 2000, 2001, in press-a; Zalles & Bildstein 2000). For example, in the Sahel zone of West and Central Africa, widespread declines in many African and Palearctic migrant raptors have been observed, almost certainly as a result of extensive habitat degradation through intense woodcutting (for firewood and timber), overgrazing and frequent burning, leading to desertification in many areas (Thiollay in press-a, b, c). Similarly, in Botswana most raptors have been found to occur at considerably reduced densities in the degraded grasslands that are outside protected areas, probably because of over-grazing and the associated depletion of potential prey (Herremans 1998; Herremans & Herremans-Tonnoeyr 2000).

Large areas of grassland savannah are also threatened by continued conversion from natural grazing ecosystems to row-crop agriculture and cattle and wild-game ranching (Frank *et al.* 1998). Land use data from the Food and Agriculture Organisation (Table 9) indicates that there has been a substantial increase in the area under arable and permanent agriculture over the last decade or so, with particularly significant increases in Benin, Burkina Faso, Ghana, Guinea-Bissau and Malawi amongst others. Data presented in Table 9 on manufactured fertiliser consumption per unit area of arable and permanent cropped land (a

good indicator of agricultural intensity), also suggests that there has been widespread intensification of agricultural practices (though trends are more mixed than land use changes). Such intensification has also continued in countries that have undergone extensive agricultural development in previous decades and use relatively high rates of fertiliser, such as Egypt, Kenya, Malawi and South Africa. The resulting impacts of agricultural intensification on raptors are probably exacerbated by intensive pesticide use, which will further reduce prey availability for many species, and may lead to toxicity impacts in some (Keith & Bruggers 1998; Mullie *et al.* 1991a; Thiollay 2001, in press-a, b).

Intensification of arable agriculture has been shown to be a particular problem in South Africa, where large monoculture fields and high levels of pesticide use are commonplace, threatening such species as Black Harrier (*Circus maurus*) as a result of reduced prey availability and degraded breeding habitat (Curtis *et al.* 2004). Data on the actual impacts on raptors of habitat loss from agricultural expansion and intensification elsewhere in Africa is extremely limited. However, it is thought that such habitat changes may be having significant impacts on species such as Lesser Kestrel (*Falco naumanni*), Lesser Spotted Eagle (*Aquila pomarina*), Steppe Eagle (*Aquila nipalensis*) and Levant Sparrowhawk (*Accipiter brevipes*) (Brown 1971; Virani & Watson 1998; Zalles & Bildstein 2000). Thiollay (1989) considered that in West Africa, the species most obviously affected by degradation of Sahelian grasslands and the conversion of southern savannahs to pesticide treated cropland were Pallid Harrier (*Circus macrourus*), Montagu's Harrier (*Circus pygargus*), Red-footed Falcon (*Falco vespertinus*) and Lesser Kestrel: all consumers of locusts in the dry savannah belt.

Table 9: Changes in land use and fertiliser use in Africa between 1992 and 2002

	% of land as arable or permanent agriculture			Inorganic fertiliser use metric ton per 1,000ha		
	1992	2002	change as % of 1992 area	1992	2002	change as % of 1992 use
Algeria	3.4%	3.5%	2.1%	12.0	11.9	-0.9%
Angola	2.8%	2.6%	-5.7%	2.6	0.0	-100.0%
Benin	15.8%	25.4%	61.3%	8.8	17.0	93.5%
Botswana	0.7%	0.7%	-9.1%	2.2	12.1	462.2%
Burkina Faso	12.9%	16.1%	24.8%	6.1	0.4	-93.7%
Burundi	50.6%	52.6%	3.9%	4.0	1.9	-53.0%
Cameroon	15.4%	15.4%	0.0%	2.9	4.9	67.0%
Central African Republic	3.2%	3.2%	0.2%	0.5	0.3	-45.6%
Chad	2.7%	2.9%	7.7%	3.0	4.8	61.2%
Congo, Dem Republic of	3.5%	3.4%	-1.3%	0.3	1.3	362.9%
Congo, Republic of	0.6%	0.7%	20.0%	10.0	1.0	-90.2%
Côte d'Ivoire	19.5%	21.7%	11.3%	6.0	15.8	164.7%
Egypt	2.8%	3.4%	20.1%	310.1	373.2	20.4%
Equatorial Guinea	8.2%	8.2%	0.0%	0.0	0.0	-

	% of land as arable or permanent agriculture			Inorganic fertiliser use metric ton per 1,000ha		
	1992	2002	change as % of 1992 area	1992	2002	change as % of 1992 use
Gabon	1.8%	1.9%	7.6%	1.1	0.6	-44.2%
Gambia	16.2%	25.5%	57.4%	4.9	3.1	-36.5%
Ghana	19.0%	27.8%	46.6%	2.3	4.9	109.6%
Guinea	5.5%	6.3%	13.7%	0.4	2.1	456.4%
Guinea-Bissau	14.8%	19.5%	31.4%	0.6	4.4	673.8%
Kenya	8.3%	9.1%	9.4%	21.6	27.7	28.1%
Lesotho	11.1%	11.0%	-0.6%	17.0	33.8	99.4%
Liberia	6.3%	6.2%	-0.8%	0.0	0.0	-
Libya	1.2%	1.2%	-0.7%	39.8	28.8	-27.6%
Madagascar	5.8%	6.1%	5.3%	2.3	2.6	12.5%
Malawi	20.7%	25.9%	25.1%	37.8	79.1	109.0%
Mali	1.8%	3.9%	113.3%	12.4	8.9	-27.9%
Mauritania	0.4%	0.5%	16.8%	17.0	5.8	-65.9%
Morocco	21.8%	20.8%	-4.5%	29.9	43.0	43.5%
Mozambique	4.8%	5.7%	18.3%	1.3	5.6	329.7%
Namibia	0.8%	1.0%	23.9%	0.0	0.4	-
Niger	3.3%	3.6%	7.1%	0.3	1.1	231.3%
Nigeria	35.6%	36.2%	1.7%	13.6	5.0	-62.8%
Rwanda	48.1%	56.1%	16.7%	0.6	11.0	1800.3%
Senegal	12.2%	13.0%	6.6%	7.2	13.4	84.7%
Sierra Leone	7.5%	8.4%	11.1%	2.6	0.5	-80.7%
Somalia	1.7%	1.7%	2.7%	0.0	0.5	-
South Africa	12.3%	12.9%	5.4%	49.2	61.4	24.9%
Sudan	5.5%	7.0%	26.7%	4.5	4.2	-7.8%
Swaziland	11.1%	11.0%	-0.5%	64.9	36.8	-43.3%
Tanzania	5.1%	5.8%	13.3%	10.6	1.4	-86.8%
Togo	40.4%	48.4%	19.8%	5.6	6.5	16.4%
Tunisia	31.4%	31.6%	0.6%	21.5	20.8	-3.4%
Uganda	35.2%	36.5%	3.7%	0.1	1.3	1021.2%
Zambia	7.1%	7.1%	0.3%	16.0	12.3	-23.1%
Zimbabwe	8.0%	8.7%	8.4%	36.8	32.8	-10.7%

Source. FAOSTAT data (2005) http://faostat.fao.org/faostat/form?collection=LandUse&Domain=Land&servlet=1&hasbulk=0&version=ext&language=EN

Notes. No data are available for Eritrea or Ethiopia. Djibouti and Western Sahara omitted as no recorded arable or permanent agriculture. Arable Land: land under temporary crops (double-cropped areas are counted only once), temporary meadows for mowing or pasture, land under market and kitchen gardens and land temporarily fallow (less than five years). The abandoned land resulting from shifting cultivation is not included in this category.

Data for "Arable land" are not meant to indicate the amount of land that is potentially cultivable. Permanent Crops: land cultivated with crops that occupy the land for long periods and need not be replanted after each harvest, such as cocoa, coffee and rubber; this category includes land under flowering shrubs, fruit trees, nut trees and vines, but excludes land under trees grown for wood or timber.

Forest loss has been extensive in many parts of Africa, and now only the Democratic Republic of Congo, Popular Republic of Congo, Gabon and Guinea retain more than half of their original forest cover (Zalles & Bildstein 2000). Moreover, the remaining forest areas are under growing pressure. Further losses will undoubtedly threaten many closed-canopy forest raptors, as for example observed by Thiollay (2000) in Côte d'Ivoire. A high proportion of forest raptors are Globally Threatened, but these do not include any of the migratory species considered in this review. In fact some migratory species, such as Red-necked Buzzard (*Buteo auguralis*), Marsh Harrier (*Circus aeruginosus*) and Lanner Falcon (*Falco biarmicus*), may benefit from forest clearance as they require open habitats (Ferguson-Lees & Christie 2001; Thiollay 2000).

5.3 HARVESTING / HUNTING

The harvesting or hunting of raptors remains a significant threat in many areas of the African-Eurasian region despite its illegality in most places. This takes three main forms: (1) the taking of eggs for collections; (2) the taking of birds for pets, zoos and private collections, or more frequently for falconry, either from the nest or by trapping; and (3) the shooting of raptors for sport (not control of predators / pests – see persecution below). Raptors are also occasionally taken for food, traditional medicines and cultural rituals in Africa − but numbers of migratory raptors taken for these purposes is small and unlikely to have any potential population level impacts, though the numbers of birds taken for food may be rising (G. Rondeau pers com.).

Although egg collecting still takes place over much of Europe, it is a relatively rare activity and therefore egg losses are unlikely to lead to significant population impacts in most species. It also appears to be gradually declining as an activity. However, care does need to be taken, because the incentive for a collector to obtain eggs of a particular species increases with rarity, and endangered species will therefore be particularly susceptible to this threat.

Traditional falconry is still used for hunting in some parts of Central Asia from Iran to Mongolia using Golden Eagles (*Aquila chrysaetos*) and Imperial Eagles (*Aquila heliaca*) (Thiollay 1994). Falconry clubs also exist across Europe and in some African countries (such as Zimbabwe and South Africa). But the numbers of birds used for these purposes is very small and many are captive bred.

In contrast, falconry is a particularly widespread and institutionalised sport in Arabian Gulf countries. Falconry in the Middle-East primarily depends on large numbers of Saker Falcons (*Falco cherrug*) and Peregrine Falcons (*Falco peregrinus*), the majority of which are wild-caught. However, there is some evidence that the number of birds being supplied by captive breeding is increasing due to improved breeding techniques and an increasing demand for powerful Gyrfalcon (*Falco rusticolus*) / Peregrine Falcon hybrids (Barton 2000). But in more traditional Arabic countries such as Saudi Arabia and Kuwait wild caught birds are still

popular (A Dixon pers comm. 2005). The larger female Saker falcons are used for hunting Houbara Bustard (*Chlamydotis undulata*) but some Sakers are used for hunting Arabian Hares (*Lepus capensis*). Smaller male Peregrine Falcons are more suited for catching Stone Curlews (*Burhinus oedicnemus*). Other African-Eurasian migratory falcons that are occasionally taken for falconry include Lanner Falcon (*Falco biarmicus*) and Barbary Falcon (*Falco pelegrinoides*).

It is has been estimated that there may be some 8,600 Saker Falcons (*Falco cherrug*) and Peregrine Falcons (*Falco peregrinus*) in captivity across the Middle-East as a whole (Riddle & Remple 1994). More recently Barton (2002) carried out an analysis using records from falconry clinics (which most falcons are taken to at the start of each season) of the demand for wild caught Sakers across the whole Middle-East, and estimated that a minimum of 6,400 individuals are trapped annually and exported to region. Barton also suggested that records from Dubai indicate that there has been a huge increase in falconry in recent years: 73 falcons being brought to the hospital in 1983-84 compared to 2,594 in 1997-98 (Barton 2000). However, these data should be treated with caution as the increase in clinic visits may be due to other factors, such as a greater knowledge of and willingness to use such facilities.

Falcons are trapped for falconry from as far as eastern China to the Red Sea Coast, and the falcon trade constitutes an important business in the Middle-East (Bijlsma 1990), probably resulting in significant losses to some raptor populations. For example, at the migratory bottleneck site of Bab al Mandab in the Yemen, Bedouin trappers annually trap up to 85 Peregrine (*Falco peregrinus*), Lanner (*Falco biarmicus*), and other falcons in a season (David Stanton in lit. to Birdlife International 2005). Quoted estimates of annual national numbers taken include 30-40 large falcons, or 100 in a good year, in Egypt (Goodman & Meininger 1989), and 100 Lanner Falcons in the Yemen (David Stanton in *The Lammergeier*, cited in Shirihai *et al.* 2000).

Birds are also taken outside the Middle-East for the falconry trade, and this is a cause of particular concern for Saker Falcons (*Falco cherrug*), with adults and young being caught in Russia, Mongolia (Shijirmaa *et al.* 2000), Kazakhstan (Levin *et al.* 2000) and the Kyrgyz Republic (Gott *et al.* 2000). Various estimates indicate that some 6,000-8,000 female Sakers were taken annually during the 1990s in the Asiatic part of its range (Galushin 2004): this is comparable to the estimated demand for falcons, as discussed above, and close to estimates of the known world population of breeding pairs. Thus, even taking into account the obvious fact that there must be errors in the trapping and/or population estimates, it is inevitable that trapping will cause a serious population crash in the near future. Indeed population modelling by Potapov (unpublished 2002, cited in Barton 2002) using an assumed world population of 5,000 breeding pairs of Saker suggests that annual trapping scenarios of a) 1,000 adult females and 4,000 juveniles, b) 300 adult females and 2,000 juveniles and c) 1,000 juvenile females would all be unsustainable, with declines to extinction after 5, 10 and just over 30 years respectively. As a result of the observed declines in Saker Falcons and high trapping pressures, the species is now considered to be globally Endangered (Birdlife International World Bird Database, www.birdlifeinternational.org).

Shooting of diurnal raptors for sport and trophies is also a significant threat for many species. Soaring migratory raptors are particularly vulnerable to shooting because they are large and relatively slow flying, and therefore obvious and easy targets, and because they may congregate at predictable times of year in large numbers at bottleneck sites (Zalles &

Bildstein 2000). Although the shooting of raptors is generally illegal, huge numbers have undoubtedly been routinely shot in many countries, particularly in the Mediterranean region and parts of the Middle-East for sport and trophies. For example in Calabria, Sicily and Malta, thousands of harriers, buzzards and falcons (including the endangered Lesser Kestrel *Falco naumanni*), are routinely shot by local inhabitants (Giordano *et al.* 1998; Portelli 1994), with estimates of 60,000 raptors being killed annually in Malta (Fenech 1992). Bijlsma (1990) observed intense hunting in Turkey, and estimated that thousands of raptors were being shot annually in the north-east alone. Some tens of thousands have been annually shot in Lebanon, and foreign hunters have been estimated to shoot 10,000 – 100,000 birds per year in Syria as a result of a lack of birds in their own countries (Evans 1994). The Syrian military have also been reported to use migrating raptors for target practice (Baumgart *et al.* 1995, 2003).

Magnin (1991) estimated that, at that time, one-million birds were killed annually in the Mediterranean region including 100,000 raptors. However, this estimate was largely speculative; being primarily inferred from an estimate of the average hunting activity and success of an estimated 9-10 million hunters and 1 million trappers in the region. No further information is given on the claim that 100,000 of these would be raptors.

Hunting and trapping is also likely to be a significant threat in some eastern European and Asian countries. For example, in Georgia hunting and trapping is a common and traditional activity, with recent estimates of 1,500 – 3,000 birds being killed annually (van Maanen *et al.* 2001).

Unfortunately, there is a considerable lack of quantitative data on the numbers of raptors currently being shot within the region. However, it is likely that hunting levels have decreased since some of these studies were conducted, as a result of greater public awareness, protection under the Wild Birds Directive in EU countries and better enforcement of national laws. For example, in Lebanon in 1993 new legislation was ratified banning all hunting of birds between 15th March and 15th September, which should have reduced the impact on raptors considerably (Evans 1994). And in Kuwait, Gregory *et al.* (2001) note that there appears to have been a gradual decrease in shooting due to measures taken by the authorities to exclude hunters from some important ornithological sites, publicity in the media and educational programmes. However, the authors had no data to quantify the impact on bird shooting.

Nevertheless, despite some apparent declines in hunting pressure, hunting of migratory diurnal raptors remains widespread and largely indiscriminate. Although population level impacts have not been quantified in any species, the numbers taken annually are probably sufficient to have significant population level impacts in some species. Many shot birds are adults and this is of considerable concern because increased adult mortality has a much greater effect on populations of long-lived slow-reproducing species, such as raptors, than either reduced productivity or increased mortality/loss of juvenile age classes. Some species that are routinely shot in large numbers, e.g. Common Buzzard (*Buteo buteo*) and Honey Buzzard (*Pernis apivorous*) appear to have mainly stable breeding populations, which suggests that hunting may not be a significant mortality factor. But some species that are subject to high hunting pressures are declining, such as Lesser Spotted Eagle (*Aquila pomarina*) and hunting is thought to be contributing to this species' decline (Meyburg *et al.* 1995).

5.4 ACCIDENTAL MORTALITY

Raptors are known to be killed by a wide variety of accidental causes, but three of the most common appear to be collisions, electrocution and poisoning.

As many migratory raptors spend a considerable amount of time flying they have a relatively high risk of colliding with aerial structures such as power and telephone-lines, wireless communication aerials, tower support wires and wind turbines. Indeed, many of these structures are typically placed on ridges, which is where many raptors are likely to soar and congregate. Large and less manoeuvrable species such as *Aquila* eagles and vultures are particularly susceptible to accidental impacts. For example, in a staging area in Kazakhstan, casualties reported from a 11 km section of powerline in October 2000 included 200 Kestrels (*Falco tinnunculus*), 48 Steppe Eagles (*Aquila nipalensis*), 2 Imperial Eagles (*Aquila heliaca*), 1 White-Tailed Eagle (*Haliaeetus albicilla*) and 1 Black Vulture (*Aegypius monachus*) (Haas *et al.* 2003). Collision with powerlines is likely to be particularly significant in industrialised / urban environments with high densities of aerial structures, and in areas frequently used by large raptors (e.g. close to breeding colonies and favoured feeding areas, along ridges on migratory routes and near migration bottle-necks).

Collision risks are also high over parts of the Middle-East and North Africa due to the concentrations of migrating raptors along ridges and at bottleneck sites. Furthermore, expansion of the power supply industry and increases in power-line construction have been noted in Egypt (M. Baha El Din and S. Baha El Din *in litt.* to Birdlife International, 2005), and this is probably occurring over much of the region.

Collisions are unlikely to be a significant problem in the rest of Africa, due to the relatively low density of aerial structures at present. At present, even in the more developed areas, such as South Africa, collisions with powerlines and their supports are not a major cause of raptor mortality (van Rooyen 2000).

There is currently a great expansion of the wind energy industry across much of Europe, particularly in coastal areas. This will inevitably increase collision risks for some coastal raptors, such as White-tailed Eagle (e.g. Krone 2003) and birds migrating along coastal flyways. For example, the Bulgarian Government has recently approved three wind-farm developments comprising at least 80 turbines at Cape Kaliakra, a key Important Bird Area for pelicans, cranes, buzzards, eagles, and storks (Heath & Evans 2000).

Although the majority of studies indicate that collision mortality rates per turbine are low, this does not necessarily mean that collision mortality is insignificant, especially for rarer longer-lived species, and where wind farms comprise several hundreds or thousands of turbines (Langston & Pullan 2003).

Furthermore, relatively high collision rates have been recorded at several large, poorly sited wind farms where large raptors and other large soaring species congregate, most notably the Altamont Pass in California, but also Tarifa and Navarra in Spain. At these sites the numbers of deaths resulting from collisions are high, notably of Golden Eagle (*Aquila chrysaetos*) at the Altamont Pass, and Eurasian Griffon (*Gyps fulvus*) in Spain. It therefore seems likely that collision mortality at such poorly sited wind farms may have population level effects, and

cumulative mortality from multiple wind installations may also contribute to population declines in susceptible species. According to Langston and Pullan (2003) susceptible species are likely to include Red Kite (*Milvus milvus*), White-tailed Eagle (*Haliaeetus albicilla*), Lammergeier (*Gypaetus barbatus*), Eurasian Griffon (*Gyps fulvus*), Imperial eagle (*Aquila heliaca*), Golden Eagle (*Aquila chrysaetos*) and Bonelli's Eagle (*Hieraaetus fasciatus*).

Parts of the Middle-East, such as along Gulf of Suez and northern Red Sea coast, have a high wind energy resource, and wind farms are being developed or planned in the region (M. Baha El Din and S. Baha El Din *in litt.* to Birdlife International, 2005). If not carefully located these could place large numbers of the above vulnerable raptors, and other similar species such as Lesser Spotted Eagle (*Aquila pomarina*) and Steppe Eagle (*Aquila nipalensis*) at risk.

The electrocution of raptors as they perch on power-lines is well known and a significant cause of mortality in a number of larger species (Bevanger 1998; Haas *et al.* 2003). In particular, certain types of medium-voltage poles commonly used in Hungary and in Russia are a high mortality factor for all birds of prey, with the exception of harriers, which seldom perch or roost on power poles. For example, in the steppe areas of eastern Europe and Asia, electrocution of Steppe Eagles (*Aquila nipalensis*) and Long-legged Buzzards (*Buteo rufinus*) appears to be substantial, with past reports of an average of 15 casualties being found under every 10 km of power-line (Flint *et al.* 1983; Lopushkov 1988). More recently Moseikin (2003, cited in Birdlife International 2004b) reported at least 311 raptor electrocutions over a 100-km section of 10 kV power line in Kazakhstan over one year. Electrocution is also a significant problem elsewhere in Europe, such as in the Doñana National Park in south-west Spain (Ferrer *et al.* 2003), and in the Middle-East (Bahat 1997).

According to Hass *et al.* (2003) such losses can be high enough to cause population declines or extinctions. For example, electrocution is the commonest form of non-natural death in the endangered Spanish Imperial Eagle (*Aquila adalberti*), with 10-20 mainly juvenile and immature birds killed annually (Gonzalez 1996; Tucker & Heath 1994). In central Mongolia electrocution appears to be the primary cause of adult mortality in Saker Falcons (*Falco cherrug*) (Gombobaatar *et al.* 2004).

It is the combination of badly engineered insulator and conductor constructions and of the attractiveness of power poles for many birds that explains the high risk posed to birds. In particular, if the spacing of the energised wires (phases) is especially small, if only very short upright insulators are used or if protective gaps (arcing horns for lightning protection) are installed on a power pole, birds down to the size of Starlings (*Sturnus vulgaris*) or even smaller can often be electrocuted (Haas *et al.* 2003). Progress has been made in improving power line designs to avoid electrocution, but many old fashioned structures still remain.

The use of poison baits for the control of predators such as Red Fox (*Vulpes vulpes*), Wolf (*Canis lupus*), jackals (*Canis* spp.) and feral dogs is a widespread activity over much of the African-Eurasian region that often results in the accidental death of scavenging raptors, such as eagles, kites and vultures. For example, since 1991 more than 50% of mortality of Spanish Imperial Eagles (*Aquila adalberti*) from birds in breeding pairs has been attributed to illegal use of poison against predators (Ferrer *et al.* 2003). Accidental poisoning of raptors at rubbish tips is also a particular serious cause for concern in the Middle-East, due to the large

numbers of migrating raptors in the region, the large number of open tips and the practice of leaving poison baits out for feral dogs (R. Porter pers. com.). There is also a high risk of poisoning in parts of Africa. In particular in South Africa, where many scavenging birds, particularly vultures and Tawny Eagles (*Aquila rapax*), have declined as a result of direct poisoning by strychnine and benzene hexachloride (Barnes 2000), and migratory visitors are probably at risk there as well.

A threat that is not currently known in Africa or the Middle-East, but which could potentially cause devastating declines, is the poisoning of vultures which feed on Diclofenac-treated livestock. Diclofenac is an anti-inflammatory drug which is widely used in much of the Indian subcontinent for veterinary purposes, and has been found to be the cause of the recent catastrophic decline in vultures in the region (Oaks *et al.* 2004; Shultz *et al.* 2004). Diclofenac is lethal to *Gyps* vultures at concentrations found in carcasses of normally treated livestock. Other avian scavengers may be just as susceptible, but this has not been tested. Recent investigations made in West Africa, indicate that Diclofenac is used in Mali, though its use in other countries is uncertain and is being investigated (G. Rondeau pers. com.). Diclofenac is also used by vets in southern Africa in small quantities (R. Simmons pers com.).

5.5 PERSECUTION

Historically, human persecution has been a widespread cause of population declines and range contractions in many raptors. Farmers, game managers and gamekeepers have attempted to reduce perceived losses of livestock and game species to raptors through often intensive trapping, poisoning, egg and nest destruction and shooting. However, as a result of legal protection of most if not all raptors in almost all developed countries, deliberate killing has been greatly reduced over most of Europe (Thiollay 1994). Nevertheless, persecution continues in many European countries with otherwise well developed conservation legislation. For example, in the UK the Hen Harrier (*Circus cyaneus*) is especially heavily persecuted by grouse-moor gamekeepers (Holmes *et al.* 2000), and as a result they are completely absent from large areas of otherwise suitable habitat (Potts 1998).

Legal protection is particularly poorly enforced in many Mediterranean countries and in the Middle-East. For example, although protected by law, persecution is considered to have been one of the main causes of severe declines in many raptor populations in Israel over the past 50 years, and the extinctions of Greater Spotted Eagle (*Aquila clanga*), White-tailed Eagle (Haliaeetus albicilla), Lappet Faced Vulture (*Torgos tracheliotus*) and Lammergeier. (*Gypaetus barbatus*) (Bahat 2001).

In most tropical countries, raptors tend to be ignored by the law and are occasionally killed to protect poultry (Keran 1981; Thiollay 1994).

5.6 POLLUTION

Persistent organic pollutants (POPs) are now widespread in the environment, especially in industrialised and agricultural areas. They include industrial chemicals such as polychlorinated biphenyls (PCBs), pesticide residues and unwanted by-products such as dioxins, and many pose a particular threat to predators at high trophic levels because they can accumulate in the fat of their prey and then become further concentrated through the

food chain. Consequently, the widespread use of organochlorine pesticides, such as DDT, and other toxic pesticides had massive, well documented impacts on many raptors species. For example, the widespread post-1955 declines in European Peregrine Falcon (*Falco peregrinus*) populations were caused by food-chain contamination with POPs, mainly from agricultural organochlorine insecticides introduced during the 1940s-50s, though organo-mercury fungicides and industrials PCBs were probably also contributory factors (Newton *et al.* 1988; Ratcliffe 1993). Once such environmental impacts were identified, these persistent toxic pesticides were phased out over most of the developed world, and residues in raptors slowly declined. For example, in the UK organochlorine and mercury-based pesticide residues showed clear downward trends from the early 1960s to the 1990s, resulting in a simultaneous recovery in the breeding success and population size of most affected raptor species (Newton *et al.* 1993).

However, POP problems are not over in the African-Eurasian region. In Israel, for example, pesticide problems have decreased, since the 1980s, but there are still cases of raptor mortality from pesticides, including the death of 30 Eurasian Griffons (*Gyps fulvus*) in a single day in the north of Israel in 1998 (Bahat 2001; Shlosberg & Bahat 2001). The use of toxic pesticides is a particular problem in many developing countries, where they continue to be manufactured and widely used (Thiollay 1994). According to the FAO and WHO (cited in Mullie & Diop 2001) 30% of pesticides marketed in developing countries contain hazardous substances and impurities that have already been banned or severely restricted elsewhere, and the problem is particularly great in sub-Saharan Africa. For example, Mullie et al (1991b) observed extensive use of toxic pesticides in West Africa in rice-farming areas, and in the Sahel for locust control. DDT is widely used in Africa for mosquito control and Zimbabwe has recently resumed using it for tsetse fly control (R. Watson pers. com.).

But despite this, there is little evidence of impacts on raptors. There are documented cases of deaths of large numbers of non-target species, including raptors resulting from the control of Quelea and other granivorous bird pests in breeding colonies using fenthion (Keith & Bruggers 1998). However, Keith in Bruggers (1988) report that that many pesticide applications do not cause serious mortality. Only minimal raptor losses were reported following applications of malathion, fenitrothion, chlorpyrifos and other insecticides to control locusts and grasshoppers scattered over about 14 million hectares of north Africa. Similarly, applications of zinc phosphate bait on 430,000 hectares of the Sudan did not cause any known loss of raptors.

But care must be taken in drawing conclusions from this, because our understanding of pesticide use and its impacts on survival rates and breeding productivity in raptors in the Middle-East and especially Africa is very poor, and considerably more research is required into this issue. Similarly, further studies are required in the African-Eurasian region on many other toxic POPs, such PCBs, which are particularly widespread, as well as inorganic pollutants such as lead, mercury and cadmium, which can kill or incapacitate raptors when they reach high levels (Thiollay 1994).

There is good cause for concern over the recent use of bromdialone poisoned grain to control Brandt's Voles (*Microtus brandti*) in Mongolia (Batdelger & Potapov 2002). Batdelger and Potopov report a huge programme of poisoning covering at least 2/3 of Mongolia, and have observed deaths of large numbers of Demoiselle Cranes (*Anthropoides virgo*), from eating the poisoned grain, and raptors including Black Kite (*Milvus migrans*), Golden Eagle

(*Aquila chrysaetos*), Upland Buzzard (*Buteo hemilasius*) and Saker Falcons (*Falco cherrug*), presumably from secondary poisoning from the contaminated voles. A later report from Fox (2004) suggests that the widespread use of this poison has killed large numbers of Steppe Eagles (*Aquila nipalensis*), Upland Buzzards, and Saker Falcons. In fact the poisoning of Saker Falcons is considered to have had a bigger impact on their populations than all the illegal trapping and other factors put together, and contributed to a recorded drop off of 27% of the Saker population in Mongolia in 2003.

The ingestion of lead shot imbedded in carcasses is also a significant threat to scavenging raptors such as kites, harriers, buzzards, vultures and some *Aquila* eagles, including the Globally Threatened Spanish Imperial Eagle (*Aquila adalberti*) (Mateo *et al.* 2003; Miller *et al.* 2002; Pain & Amiardtriquet 1993; Pain *et al.* 2005; Pain *et al.* 1995). However, although elevated lead levels have been found in a wide range of species, these are usually a small proportion of individuals and levels are not usually sufficiently high to be likely causes of problems.

Another possibly significant but little researched cause of adult mortality in migrating raptors may be from oil contamination. Clark (1987) found oil-based asphalt on 55 individuals of nine species out of 1,052 raptors (5·2%) captured and examined in the spring of 1985 and 1986 at Eilat, Israel. Some were extensively contaminated and probably succumbed to the effects of ingested asphalt. The birds probably became contaminated while drinking water from pools with surface oil. Although the possible impact on populations is unclear it could be significant if such a high percentage of birds are affected.

5.7 DISTURBANCE

Many raptors, such as most *Aquila* eagles, are sensitive to human disturbance near to their nesting sites. And this can be a particular problem for raptors that nest in the close vicinity of man, such as in coastal areas and in other popular tourist areas. Thus disturbance from tourists is thought to be a problem at some nesting colonies of Eleonora's Falcon (*Falco eleonorae*) (Ristow & Wink 1985). Unrestricted rock-climbing during the breeding season can also be a problem for this and other cliff nesting species.

And as mentioned previously, forestry operations can disturb some species, such as Greater Spotted Eagle (*Aquila clanga*), which is particularly sensitive to such activities (Meyburg *et al.* 1999a).

In many areas, and especially parts of Africa, human populations continue to increase rapidly, which will lead to widespread increases in general disturbance levels. And in some countries, such as Zimbabwe and Kenya, this is being compounded by policies to redistribute land to small-holdings, which further spreads people across the landscape, leading to further disturbance and probably associated persecution of raptors.

5.8 CLIMATE CHANGE

Although this has been rarely mentioned in previous reviews of the threats to raptors (and is therefore not listed in Table 7), it is becoming increasingly clear that the most important future threat to these species, and all others, is climate change. The Inter-governmental Panel on Climate Change (IPCC) has now stated that there is no significant doubt that the

world's climate is changing as a result of human activities, and in particular the release of carbon dioxide and other 'greenhouse gases' into the atmosphere (IPCC 2001). The impacts of climate change on the world's ecosystems and habitats, and associated species are, however, much less certain.

Nevertheless, it is becoming clear that climate change will result in considerable changes in ecosystems, particularly in polar and temperate regions. As a result there will be profound detrimental impacts on associated species (Green *et al.* 2001). For example, one recent modelling study using projections of species distributions from future climate scenarios (based on mid-range climate change predictions) predicted that between 18% and 35% of global species are likely to go extinct (Thomas *et al.* 2004).

The future impacts of climate change on African-Eurasian migratory raptors are uncertain at the moment, but there is growing evidence that they are likely to be significantly impacted. For example, Wichmann *et al.* (2003) have modelled the probable impact of climate change on Tawny Eagle (*Aquila rapax*) populations in arid savannah regions of southern Africa, and predicted that even a slight change in rainfall would have significant impacts. With projected rainfall declines of 10% by 2010, as predicted for southern Africa by the IPCC (2001) the model predicted a survival time for the population of less than 100 years. Even a more optimistic model scenario with sustained long-term average rainfall but an increase in inter-annual variation in rainfall predicted a severe decrease in survival time. Overall they conclude that there will be substantial impacts from climate change in arid areas on raptor population dynamics and survival.

Simmons *et al.* (2004) have also pointed out that migratory species may be particularly vulnerable to climate change for two reasons. Firstly, because bird migration is genetically controlled, birds displaced to a new breeding locality as a result of climate change may migrate to an inhospitable non-breeding area. This risk would be greatest for long-lived species, such as some raptors, as a result of their longer generation times and hence slower adaptive evolutionary response.

Secondly, if migration timing is under photoperiodic control while food availability is influenced by spring temperature, then the two may fall out of synchrony, in which case migrants may arrive on their breeding grounds after the emergence of their main food resources. Recent studies suggest that such decoupling in temperate regions may be reduced or avoided by changes in migratory behaviour. But species migrating into Africa will have to contend with increased temperatures, reduced rainfall (and the insect events strongly associated with them) and more unpredictable weather events (IPCC 2001). Many Palearctic migrant raptors arriving in Africa depend on flushes of insects and small mammals that are triggered by rains. If these become less dependable, as predicted by the IPCC, food availability may become decoupled, with a potential consequent increase in mortality rates or reduced breeding condition.

On the other hand, it might be that migratory species will be better able to find and therefore colonise alternative suitable habitats in the future; but as with other climate change impacts, this is largely speculative. It is therefore appropriate to take a precautionary approach and assume that their migratory strategies will be detrimentally disrupted. Climate driven habitat change will also exacerbate existing human induced changes, which as described above, are already the most significant threats to most migratory raptors in the African-Eurasian region.

5.9 THREATS TO KEY SITES

For over 25 years Birdlife International has been developing a global programme of identifying Important Bird Areas (IBAs), which are sites of particular importance for birds, that should therefore be protected to some degree. The original European criteria for identifying IBAs (Grimmett & Jones 1989) have been updated and expanded globally. IBAs are now sites that are important for threatened species, congregatory species, assemblages of restricted-range species and assemblages of biome-restricted bird species. Sites qualify as IBAs if they meet any of the standard global criteria (Class A criteria) or regionally specific criteria (Class B criteria) (Heath & Evans 2000).

Of particular importance to raptors are the IBAs that are identified as being 'bottle-neck sites' i.e., where raptors (and other soaring birds) congregate to pass by a particular obstacle (e.g. to minimise a sea-crossing or avoid a high mountain range). Such IBAs may qualify as being of global importance for migratory raptors according to either Criteria A4.iv (a 'bottleneck' site where at least 20,000 storks, raptors, or cranes pass during spring or autumn migration); or they may qualify as being of European (or regional) importance under Criteria B4.iv (a 'bottleneck' site where over 5,000 storks, or over 3,000 raptors or cranes regularly pass on spring or autumn migration).

In addition IBAs may qualify as being of global importance for species of global conservation concern (Criteria A1) if the site regularly holds significant numbers of Globally Threatened species, or other species of global conservation concern.

Appendix 6 provides a list of all IBAs currently identified by Birdlife International for Europe, the Middle-East (including Iran and Afghanistan) and Africa that qualify as bottleneck migration sites of global or regional importance for raptors according to the above criteria. Those that also hold significant numbers of Globally Threatened raptors on passage are also indicated. This list of 100 sites should, however, be treated as a minimum list of internationally important areas requiring protection for migratory raptors. Other sites of equal or greater importance may be discovered with further knowledge.

The table also provides a summary of the national and international protection levels of each site, which is summarised below in Table 10. This indicates that a rather low proportion of these IBA sites currently enjoy a satisfactory level of protection; indeed, 42% of the sites have no legal protection at all.

Table 10: A summary of sites, and their protection status, in Europe, the Middle-East and Africa that qualify as Important Birds Areas for migratory raptors

(see Annex 6 for individual site data)

Site protection level	Percentage of 100 sites	
	National protection	International protection
High (H)	20	9
Partial (P)	29	13
Low (L)	9	2
None (N)	42	76

6 CONCLUSIONS

Despite the data limitations discussed above, it is clear that at least 32 species (53%) of the 60 species of migratory raptor that occur in the African-Eurasian region have an Unfavourable Conservation Status at a global or regional level in some part of their range (see Table 11), and 10 of these are Globally Threatened or Near Threatened. Furthermore, a high proportion of these 32 species are in continued long-term or rapid population declines.

Analysis of the known threats to raptors suggest that there are a substantial number and variety of factors causing Unfavourable Conservation Status, though for the majority of species the most important are probably the result of human induced habitat loss and degradation (including impacts from pesticide use and other forms of pollution). This is an almost universal threat to European populations, but also seems to be a widespread threat in Africa. Climate change is expected to exacerbate these habitat-related problems profoundly across the entire African-Eurasian region.

For some species accidental poisoning (e.g. from baits poisoned with strychnine), persecution, shooting for sport and trapping may also be key or contributory factors causing population declines (or long-term reductions in range), but the impacts of these losses on populations requires further study. Hunting, trapping and persecution levels are probably declining for most species, but the trapping of Saker Falcons (*Falco cherrug*) for falconry has greatly increased in the last decade and is now unsustainable.

We therefore conclude that most migratory raptors in the region are affected by a number of threats that would benefit from internationally coordinated action, as recommended by the World Working Group on Birds of Prey.

Table 11: Migratory raptors of the Africa-Eurasian region that have Unfavourable Conservation Status and that are priority species for further international conservation measures

See Table 1 for Global Status codes

Species	English Name	Global Status
Chelictinia riocourii	African Swallow-tailed Kite	LC
Milvus milvus	Red Kite	NT
Milvus migrans	Black Kite	LC
Haliaeetus albicilla	White-tailed Eagle	LC
Neophron percnopterus	Egyptian Vulture	LC
Aegypius monachus	Cinereous Vulture	NT
Circaetus gallicus	Short-toed Snake-eagle	LC
Circus maurus	Black Harrier	VU
Circus cyaneus	Northern Harrier	LC
Circus macrourus	Pallid Harrier	NT
Accipiter brevipes	Levant Sparrowhawk	LC
Buteo rufinus	Long-legged Buzzard	LC
Aquila pomarina	Lesser Spotted Eagle	LC
Aquila clanga	Greater Spotted Eagle	VU
Aquila nipalensis	Steppe Eagle	LC
Aquila rapax	Tawny Eagle	LC
Aquila adalberti	Spanish Imperial Eagle	VU
Aquila heliaca	Imperial Eagle	VU
Aquila chrysaetos	Golden Eagle	LC
Hieraaetus pennatus	Booted Eagle	LC
Pandion haliaetus	Osprey	LC
Falco naumanni	Lesser Kestrel	VU
Falco tinnunculus	Common Kestrel	LC
Falco vespertinus	Red-footed Falcon	NT
Falco eleonorae	Eleonora's Falcon	LC
Falco biarmicus	Lanner Falcon	LC
Falco cherrug	Saker Falcon	EN
Falco rusticolus	Gyrfalcon	LC
Otus brucei	Pallid Scops-owl	LC
Otus scops	Common Scops-owl	LC
Nyctea scandiaca	Snowy Owl	LC
Asio flammeus	Short-eared Owl	LC

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ANNEX 1

VI WORLD CONFERENCE ON BIRDS OF PREY AND OWLS
Budapest, Hungary, 18-23 May 2003

Resolution 3

RECALLING that the Convention on the Conservation of Migratory Species of Wild Animals 1979 (CMS) encourages international cooperative action to conserve migratory species;

CONSIDERING that migratory raptors constitute an important part of the global biological diversity which, in keeping with the spirit of the Convention on Biological Diversity 1992 and Agenda 21, should be conserved for the benefit of present and future generations;

AWARE of the environmental, ecological, genetic, scientific, aesthetic, recreational, cultural, educational, social and economic values of raptors in general;

CONSCIOUS that migratory raptors are particularly vulnerable because they migrate over long distances, with many species being reliant upon land-bridges and/or networks of fragile habitats that are declining in extent and becoming degraded through unsustainable human activities;

RECOGNISING the need to take immediate action to halt the decline of migratory raptor populations and their habitats in the geographic area of the African-Eurasian raptor migration systems;

CONVINCED that a multilateral agreement and its implementation through coordinated and concerted action would contribute significantly to the conservation of migratory raptors and their habitats in the most effective manner, and would deliver ancillary benefits for many other species of animal and plant;

URGES the CMS Secretariat and other bodies of CMS, notably the Scientific Council, urgently to consider establishing a multilateral agreement on the conservation of African-Eurasian migratory raptors;

ACKNOWLEDGES that effective implementation of such an agreement would require assistance to be provided to some range states for research, training and monitoring of migratory raptor species and their habitats, for the management of those habitats as well as for the establishment or improvement of scientific and administrative institutions for the implementation of such an agreement; and

FURTHER URGES all range states within the African-Eurasian geographic area actively to embrace this proposal and to work together to establish, ratify and implement such an agreement as a matter of urgency.

ANNEX 2

CLASSIFICATION OF MIGRATORY BEHAVIOUR AS USED IN THE GLOBAL RESISTER OF MIGRATORY SPECIES

For CMS, a migratory species has to cross political boundaries, while GROMS focuses on 'true migrants' covering more than 100 km. A species with intracontinental migration is not necessarily a CMS migrant, as migration might occur within one range state. Therefore, the respective category is put in brackets (+).

Category	Explanation	CMS-migrant	GROMS-migrant (> 100 km)
Major category			
Non-migratory	Non-migratory	–	–
GROMS migrant	Migratory according to GROMS definition	(+)	+
Technical migrant	Movements across borders by members of populations living in contiguous areas on either side of one or more national boundaries (border taxa)	+	(+)
Partial	Minor part of population migratory	(+)	(+)
Possibly migratory	Some references indicate possible migration		
Data deficient	Possible migrant for theoretical reasons, but no data available		
Subdivisions of GROMS migrants			
Intracontinental	Within continents	(+)	+
Intercontinental	Between continents	+	+
Nomadising	Following resources, often without predictable temporal patterns.	(+)	–
Emigration	Mass migrations after population explosions	–	–
Range extension	E.g. post-breeding dispersal of birds or bats	(+)	(+)

Species not listed as migratory in GROMS, but listed as migratory by Birdlife International WBDB

Aquila rapax Tawny Eagle

GROMS text: Resident in most areas but perhaps some seasonal movement into more arid areas in SW and NE Africa during the rainy season; also some birds perform seasonal N-S movements in W Africa. Often mixes with flocks of migrant *A. nipalensis*. Rare vagrant to Bangladesh, NW Thailand and perhaps Sri Lanka. (del Hoyo J Elliott A, Sargatal J (eds) 1994)

Conclusion: Migrant (although only some populations)

***Falco pelegrinoides* Barbary Falcon**
GROMS text: Not listed. Treated as a sub-species in del Hoyo *et al.*
Conclusion: Migratory status uncertain, but in the absence of any further information, follow Birdlife International and treated as a migrant.

***Milvus lineatus* Black-eared Kite**
GROMS Text: None, presumably because treated as subspecies of *Milvus migrans* by del Hoyo *et al.* 1994. But Del Hoyo state in text that subspecies *lineatus* is migratory.
Conclusion: Migratory (follow WBDB)

***Asio flammeus* Short-eared Owl**
GROMS Text: Not listed
Conclusion: Migratory (GROMS error)

ANNEX 3

RAPTORS THAT REGULARLY OCCUR IN THE AFROTROPICAL AND PALEARCTIC REALMS, THEIR MIGRATORY BEHAVIOUR AND GLOBAL CONSERVATION STATUS

Scientific name	Common name	W Pal & Afro-tropical	Migratory behaviour	Global status
SAGITTARIIDAE				
Sagittarius serpentarius	Secretarybird	Af	not a migrant	LC
ACCIPITRIDAE				
Aviceda cuculoides	African Baza	Af	full migrant (G)	LC
Aviceda madagascariensis	Madagascar Baza	Af	not a migrant	LC
Aviceda jerdoni	Jerdon's Baza		full migrant	LC
Aviceda leuphotes	Black Baza		full migrant	LC
Pernis apivorus	European Honey-buzzard	Af WP	full migrant	LC
Pernis ptilorhyncus	Oriental Honey-buzzard	WP	full migrant	LC
Macheiramphus alcinus	Bat Hawk	Af	not a migrant	LC
Elanus caeruleus	Black-winged Kite	Af WP	not a migrant (G)	LC
Chelictinia riocourii	African Swallow-tailed Kite	Af	full migrant	LC
Milvus milvus	Red Kite	Af WP	full migrant	NT
Milvus migrans	Black Kite	Af WP	full migrant	LC
Milvus lineatus	Black-eared Kite		full migrant (BL)	LC
Haliastur indus	Brahminy Kite		not a migrant	LC
Haliaeetus leucogaster	White-bellied Fish-eagle		not a migrant	LC
Haliaeetus vocifer	African Fish-eagle	Af	not a migrant	LC
Haliaeetus vociferoides	Madagascar Fish-eagle	Af	not a migrant	CR
Haliaeetus albicilla	White-tailed Eagle	WP	full migrant	LC
Haliaeetus pelagicus	Steller's Sea-eagle		full migrant	VU
Ichthyophaga humilis	Lesser Fish-eagle		not a migrant	NT
Gypohierax angolensis	Palm-nut Vulture	Af	not a migrant	LC
Gypaetus barbatus	Lammergeier	Af WP	not a migrant (G)	LC
Neophron percnopterus	Egyptian Vulture	Af WP	full migrant	LC
Necrosyrtes monachus	Hooded Vulture	Af	not a migrant	LC
Gyps africanus	White-backed Vulture	Af	not a migrant	LC
Gyps bengalensis	White-rumped Vulture		not a migrant	CR
Gyps rueppellii	Rueppell's Griffon	Af	not a migrant	LC
Gyps himalayensis	Himalayan Griffon		not a migrant (G)	LC
Gyps fulvus	Eurasian Griffon	Af WP	full migrant	LC

Scientific name	Common name	W Pal & Afro-tropical	Migratory behaviour	Global status
Gyps coprotheres	Cape Griffon	Af	not a migrant (G)	VU
Aegypius monachus	Cinereous Vulture	Af WP	full migrant	NT
Torgos tracheliotus	Lappet-faced Vulture	Af WP	not a migrant	VU
Trigonoceps occipitalis	White-headed Vulture	Af	not a migrant	LC
Sarcogyps calvus	Red-headed Vulture		not a migrant	NT
Circaetus gallicus	Short-toed Snake-eagle	Af WP	full migrant	LC
Circaetus cinereus	Brown Snake-eagle	Af	not a migrant	LC
Circaetus fasciolatus	Southern Banded Snake-eagle	Af	not a migrant	NT
Circaetus cinerascens	Banded Snake-eagle	Af	not a migrant	LC
Terathopius ecaudatus	Bateleur	Af	not a migrant	LC
Spilornis cheela	Crested Serpent-eagle		not a migrant	LC
Dryotriorchis spectabilis	Congo Serpent-eagle	Af	not a migrant	LC
Eutriorchis astur	Madagascar Serpent-eagle	Af	not a migrant	EN
Circus aeruginosus	Western Marsh-harrier	Af WP	full migrant	LC
Circus ranivorus	African Marsh Harrier	Af	not a migrant	LC
Circus spilonotus	Eastern Marsh-harrier		full migrant	LC
Circus macrosceles	Madagascar Harrier	Af	not a migrant	VU
Circus maillardi	Réunion Harrier	Af	not a migrant	EN
Circus maurus	Black Harrier	Af	full migrant (G)	VU
Circus cyaneus	Northern Harrier	WP	full migrant	LC
Circus macrourus	Pallid Harrier	Af WP	full migrant	NT
Circus melanoleucos	Pied Harrier		full migrant	LC
Circus pygargus	Montagu's Harrier	Af WP	full migrant	LC
Polyboroides typus	African Harrier-hawk	Af	not a migrant	LC
Polyboroides radiatus	Madagascar Harrier-hawk	Af	not a migrant	LC
Kaupifalco monogrammicus	Lizard Buzzard	Af	not a migrant	LC
Melierax metabates	Dark Chanting-goshawk	Af WP	not a migrant	LC
Melierax poliopterus	Eastern Chanting-goshawk	Af	not a migrant	LC
Melierax canorus	Pale Chanting-goshawk	Af	not a migrant	LC
Melierax gabar	Gabar Goshawk	Af	not a migrant	LC
Accipiter trivirgatus	Crested Goshawk		not a migrant	LC
Accipiter tachiro	African Goshawk	Af	not a migrant	LC
Accipiter castanilius	Chestnut-flanked Sparrowhawk	Af	not a migrant	LC
Accipiter badius	Shikra	Af WP	full migrant	LC
Accipiter brevipes	Levant Sparrowhawk	Af WP	full migrant	LC

Scientific name	Common name	W Pal & Afro-tropical	Migratory behaviour	Global status
Accipiter soloensis	Chinese Goshawk		full migrant	LC
Accipiter francesiae	Frances's Sparrowhawk	Af	not a migrant	LC
Accipiter erythropus	Red-thighed Sparrowhawk	Af	not a migrant	LC
Accipiter minullus	Little Sparrowhawk	Af	not a migrant	LC
Accipiter gularis	Japanese Sparrowhawk		full migrant	LC
Accipiter virgatus	Besra		full migrant	LC
Accipiter madagascariensis	Madagascar Sparrowhawk	Af	not a migrant	NT
Accipiter ovampensis	Ovampo Sparrowhawk	Af	full migrant (G)	LC
Accipiter nisus	Eurasian Sparrowhawk	Af WP	full migrant	LC
Accipiter rufiventris	Rufous-chested Sparrowhawk	Af	not a migrant	LC
Accipiter melanoleucus	Black Goshawk	Af	not a migrant	LC
Accipiter henstii	Henst's Goshawk	Af	not a migrant	NT
Accipiter gentilis	Northern Goshawk	WP	full migrant	LC
Urotriorchis macrourus	Long-tailed Hawk	Af	not a migrant	LC
Butastur rufipennis	Grasshopper Buzzard	Af	full migrant (G)	LC
Butastur teesa	White-eyed Buzzard		not a migrant	LC
Butastur liventer	Rufous-winged Buzzard		not a migrant	LC
Butastur indicus	Grey-faced Buzzard		full migrant	LC
Buteo buteo	Common Buzzard	Af WP	full migrant	LC
Buteo oreophilus	Mountain Buzzard	Af	full migrant (G)	LC
Buteo brachypterus	Madagascar Buzzard	Af	not a migrant	LC
Buteo rufinus	Long-legged Buzzard	Af WP	full migrant	LC
Buteo hemilasius	Upland Buzzard		full migrant	LC
Buteo lagopus	Rough-legged Hawk	WP	full migrant	LC
Buteo auguralis	Red-necked Buzzard	Af	full migrant	LC
Buteo augur	Augur Buzzard	Af	not a migrant	LC
Buteo archeri	Archer's Buzzard	Af	not a migrant	LC
Buteo rufofuscus	Jackal Buzzard	Af	not a migrant	LC
Ictinaetus malayensis	Black Eagle		not a migrant	LC
Aquila pomarina	Lesser Spotted Eagle	Af WP	full migrant	LC
Aquila clanga	Greater Spotted Eagle	Af WP	full migrant	VU
Aquila rapax	Tawny Eagle	Af WP	full migrant (BL)	LC
Aquila nipalensis	Steppe Eagle	Af WP	full migrant	LC
Aquila adalberti	Spanish Imperial Eagle	WP	full migrant	VU
Aquila heliaca	Imperial Eagle	Af WP	full migrant	VU

Scientific name	Common name	W Pal & Afro-tropical	Migratory behaviour	Global status
Aquila chrysaetos	Golden Eagle	Af WP	full migrant	LC
Aquila verreauxii	Verreaux's Eagle	Af WP	not a migrant	LC
Aquila wahlbergi	Wahlberg's Eagle	Af	full migrant (G)	LC
Hieraaetus fasciatus	Bonelli's Eagle	Af WP	not a migrant	LC
Hieraaetus spilogaster	African Hawk-eagle	Af	not a migrant	LC
Hieraaetus pennatus	Booted Eagle	Af WP	full migrant	LC
Hieraaetus ayresii	Ayres's Hawk-eagle	Af	not a migrant	LC
Hieraaetus kienerii	Rufous-bellied Eagle		not a migrant	LC
Polemaetus bellicosus	Martial Eagle	Af	not a migrant	LC
Lophaetus occipitalis	Long-crested Eagle	Af	not a migrant	LC
Spizaetus africanus	Cassin's Hawk-eagle	Af	not a migrant	LC
Spizaetus nipalensis	Mountain Hawk-eagle		full migrant	LC
Stephanoaetus coronatus	Crowned Hawk-eagle	Af	not a migrant	LC
PANDIONINAE				
Pandion haliaetus	Osprey	Af WP	full migrant	LC
FALCONIDAE				
Polihierax semitorquatus	Pygmy Falcon	Af	not a migrant	LC
Microhierax caerulescens	Collared Falconet		not a migrant	LC
Microhierax melanoleucos	Pied Falconet		not a migrant	LC
Falco naumanni	Lesser Kestrel	Af WP	full migrant	VU
Falco tinnunculus	Common Kestrel	Af WP	full migrant	LC
Falco newtoni	Madagascar Kestrel	Af	not a migrant	LC
Falco punctatus	Mauritius Kestrel	Af	not a migrant	VU
Falco araea	Seychelles Kestrel	Af	not a migrant	VU
Falco rupicoloides	Greater Kestrel	Af	not a migrant	LC
Falco alopex	Fox Kestrel	Af	full migrant (G)	LC
Falco ardosiaceus	Grey Kestrel	Af	not a migrant	LC
Falco dickinsoni	Dickinson's Kestrel	Af	not a migrant	LC
Falco zoniventris	Banded Kestrel	Af	not a migrant	LC
Falco vespertinus	Red-footed Falcon	Af WP	full migrant	NT
Falco amurensis	Amur Falcon	Af	full migrant	LC
Falco eleonorae	Eleonora's Falcon	Af WP	full migrant	LC
Falco concolor	Sooty Falcon	Af WP	full migrant	LC
Falco columbarius	Merlin	WP	full migrant	LC
Falco subbuteo	Eurasian Hobby	Af WP	full migrant	LC

Scientific name	Common name	W Pal & Afro-tropical	Migratory behaviour	Global status
Falco cuvierii	African Hobby	Af	not a migrant	LC
Falco severus	Oriental Hobby		not a migrant	LC
Falco biarmicus	Lanner Falcon	Af WP	Full migrant (G)	LC
Falco jugger	Laggar Falcon		not a migrant	NT
Falco cherrug	Saker Falcon	Af WP	full migrant	EN
Falco rusticolus	Gyrfalcon	WP	full migrant	LC
Falco peregrinus	Peregrine Falcon	Af WP	full migrant	LC
Falco pelegrinoides	Barbary Falcon	Af WP	full migrant (BL)	LC
Falco fasciinucha	Taita Falcon	Af	not a migrant	NT
TYTONIDAE				
Tyto soumagnei	Madagascar Red Owl	Af	not a migrant	EN
Tyto alba	Barn Owl	Af WP	not a migrant	LC
Tyto capensis	African Grass-owl	Af	not a migrant	LC
Tyto longimembris	Eastern Grass-owl		not a migrant	LC
Phodilus prigoginei	Congo Bay-owl	Af	not a migrant	EN
Phodilus badius	Oriental Bay-owl		not a migrant	LC
STRIGIDAE				
Otus icterorhynchus	Sandy Scops-owl	Af	not a migrant	LC
Otus ireneae	Sokoke Scops-owl	Af	not a migrant	EN
Otus spilocephalus	Mountain Scops-owl		not a migrant	LC
Otus hartlaubi	São Tomé Scops-owl	Af	not a migrant	VU
Otus brucei	Pallid Scops-owl	WP	full migrant	LC
Otus scops	Common Scops-owl	Af WP	full migrant	LC
Otus senegalensis	African Scops-owl	Af	not a migrant	LC
Otus sunia	Oriental Scops-owl		not a migrant	LC
Otus elegans	Elegant Scops-owl		not a migrant	NT
Otus magicus	Moluccan Scops-owl	Af	not a migrant	LC
Otus insularis	Seychelles Scops-owl	Af	not a migrant	EN
Otus rutilus	Malagasy Scops-owl	Af	not a migrant	LC
Otus pembaensis	Pemba Scops-owl	Af	not a migrant	LC
Otus capnodes	Anjouan Scops-owl	Af	not a migrant	CR
Otus moheliensis	Moheli Scops-owl	Af	not a migrant	CR
Otus pauliani	Grand Comoro Scops-owl	Af	not a migrant	CR
Otus bakkamoena	Collared Scops-owl		not a migrant	LC
Otus leucotis	White-faced Scops-owl	Af	not a migrant	LC

Scientific name	Common name	W Pal & Afro-tropical	Migratory behaviour	Global status
Bubo bubo	Eurasian Eagle-owl	Af WP	not a migrant	LC
Bubo ascalaphus	Pharaoh Eagle-owl	Af	not a migrant	LC
Bubo capensis	Cape Eagle-owl	Af	not a migrant	LC
Bubo africanus	Spotted Eagle-owl	Af	not a migrant	LC
Bubo poensis	Fraser's Eagle-owl	Af	not a migrant	LC
Bubo vosseleri	Usambara Eagle-owl	Af	not a migrant	VU
Bubo nipalensis	Spot-bellied Eagle-owl		not a migrant	LC
Bubo shelleyi	Shelley's Eagle-owl	Af	not a migrant	NT
Bubo lacteus	Verreaux's Eagle-owl	Af	not a migrant	LC
Bubo coromandus	Dusky Eagle-owl		not a migrant	LC
Bubo leucostictus	Akun Eagle-owl	Af	not a migrant	LC
Ketupa blakistoni	Blakiston's Fish-owl		not a migrant	EN
Ketupa zeylonensis	Brown Fish-owl	Af WP	not a migrant	LC
Ketupa flavipes	Tawny Fish-owl		not a migrant	LC
Scotopelia peli	Pel's Fishing-owl	Af	not a migrant	LC
Scotopelia ussheri	Rufous Fishing-owl	Af	not a migrant	EN
Scotopelia bouvieri	Vermiculated Fishing-owl	Af	not a migrant	LC
Nyctea scandiaca	Snowy Owl	WP	full migrant	LC
Strix leptogrammica	Brown Wood-owl		not a migrant	LC
Strix aluco	Tawny Owl	WP	not a migrant	LC
Strix butleri	Hume's Owl	WP	not a migrant	LC
Strix uralensis	Ural Owl	WP	full migrant	LC
Strix nebulosa	Great Grey Owl	WP	full migrant	LC
Strix woodfordii	African Wood-owl	Af	not a migrant	LC
Jubula lettii	Maned Owl	Af	not a migrant	LC
Surnia ulula	Northern Hawk Owl	WP	full migrant	LC
Glaucidium passerinum	Eurasian Pygmy-owl	WP	not a migrant	LC
Glaucidium brodiei	Collared Owlet		not a migrant	LC
Glaucidium perlatum	Pearl-spotted Owlet	Af	not a migrant	LC
Glaucidium tephronotum	Red-chested Owlet	Af	not a migrant	LC
Glaucidium sjostedti	Sjostedt's Owlet	Af	not a migrant	LC
Glaucidium cuculoides	Asian Barred Owlet		not a migrant	LC
Glaucidium capense	African Barred Owlet	Af	not a migrant	LC
Glaucidium castaneum	Chestnut Owlet	Af	not a migrant	LC
Glaucidium albertinum	Albertine Owlet	Af	not a migrant	VU

Scientific name	Common name	W Pal & Afro-tropical	Migratory behaviour	Global status
Athene noctua	Little Owl	Af WP	not a migrant	LC
Athene brama	Spotted Owlet		not a migrant	LC
Aegolius funereus	Boreal Owl	WP	full migrant	LC
Ninox scutulata	Brown Hawk-owl		full migrant	LC
Ninox superciliaris	White-browed Hawk-owl	Af	not a migrant	LC
Asio otus	Long-eared Owl	WP	full migrant	LC
Asio abyssinicus	Abyssinian Owl	Af	not a migrant	LC
Asio madagascariensis	Madagascar Owl	Af	not a migrant	LC
Asio flammeus	Short-eared Owl	Af WP	full migrant (BL)	LC
Asio capensis	Marsh Owl	Af WP	not a migrant	LC

ANNEX 4

THE CURRENT (VERSION 3.1) IUCN RED LIST CATEGORIES FOR GLOBAL THREAT STATUS

Full details of the current IUCN Red List Categories and criteria are provided in IUCN (2001). They can also be obtained together with guidelines on their use at http://www.redlist.org/info/categories_criteria.html

GLOBALLY THREATENED

Critically Endangered (CR): A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered, and it is therefore considered to be facing an extremely high risk of extinction in the wild. Criteria A to D relate to numerical thresholds for species in rapid decline, with small, fragmented, declining or fluctuating ranges, or with very small populations or ranges. Criterion E is an unfavourable PVA indicating a probability of extinction >50% within 10 years or 3 generations (whichever is longer).

Endangered (EN): A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to D for Endangered, and it is therefore considered to be facing a very high risk of extinction in the wild. Or under Criterion E, a PVA indicating a probability of extinction >20% within 20 years or 5 generations.

Vulnerable (VU): A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to D for Vulnerable, and it is therefore considered to be facing a high risk of extinction in the wild. Or under Criterion E, a PVA indicating a probability of extinction >10% within 100 years.

NOT GLOBALLY THREATENED

Near Threatened (NT): A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.

Least Concern (LC): A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category.

Data deficient (DD): A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status.

ANNEX 5

COUNTRIES WHERE GLOBALLY THREATENED AND NEAR THREATENED AFRICAN-EURASIAN MIGRATORY RAPTORS REGULARLY OCCUR

	Aegypius monachus	*Aquila adalberti*	*Aquila clanga*	*Aquila heliaca*	*Circus macrourus*	*Circus maurus*	*Falco cherrug*	*Falco naumanni*	*Falco vespertinus*	*Milvus milvus*	*Grand Total*
Afghanistan	+		+	+	+		+	+			6
Albania			+		+			+	+	+	5
Algeria					+			+	+	+	4
Angola					+			+	+		3
Armenia	+		+	+	+		+	+	+		7
Austria			+				+		+	+	4
Azerbaijan	+		+	+	+		+	+	+		7
Bahrain					+		+	+			3
Belarus			+		+		+		+	+	5
Belgium										+	1
Benin					+			+			2
Bosnia and Herzegovina			+	+				+	+	+	5
Botswana					+	+		+	+		4
Bulgaria	+		+	+	+		+	+	+	+	8
Burkina Faso					+			+	+		3
Burundi					+			+	+		3
Cameroon					+				+		2
Cape Verde										+	1
Central African Republic					+			+			2
Chad					+			+	+		3
China (mainland)	+		+	+	+		+	+			6
Congo								+			1
Congo, The Democratic Republic of the					+			+	+		3
Côte d'Ivoire					+			+	+		3
Croatia	+		+	+	+		+	+	+	+	8
Cyprus				+	+		+	+	+		5
Czech Republic				+	+		+		+	+	5
Denmark					+				+	+	3
Djibouti			+	+	+			+			4
Egypt			+	+	+		+	+	+	+	7
Eritrea			+		+			+			3
Estonia			+						+		2
Ethiopia			+	+	+		+	+	+		6
Finland			+		+				+		3
France			+		+			+	+	+	5
Gabon								+			1
Gambia					+			+			2
Georgia	+		+	+	+			+	+	+	7
Germany					+				+	+	3
Ghana					+						1

	Aegypius monachus	*Aquila adalberti*	*Aquila clanga*	*Aquila heliaca*	*Circus macrourus*	*Circus maurus*	*Falco cherrug*	*Falco naumanni*	*Falco vespertinus*	*Milvus milvus*	*Grand Total*
Gibraltar (to UK)								+		+	2
Greece	+		+	+	+		+	+	+	+	8
Guinea								+			1
Guinea-Bissau					+						1
Hungary			+	+			+		+	+	5
Iran, Islamic Republic of	+		+	+	+		+	+	+	+	8
Iraq			+	+	+		+	+	+		6
Israel	+		+	+	+		+	+	+		7
Italy			+		+		+	+	+	+	6
Jordan			+	+	+		+	+	+		6
Kazakhstan	+		+	+	+		+	+	+		7
Kenya			+	+	+		+	+	+		6
Kuwait			+	+	+		+	+			5
Kyrgyzstan	+						+		+		3
Latvia			+						+	+	3
Lebanon	+		+	+	+			+		+	6
Lesotho						+		+	+		3
Liberia					+			+	+		3
Libya					+		+	+	+	+	5
Liechtenstein									+	+	2
Lithuania			+							+	2
Luxembourg										+	1
Macedonia, the former Yugoslav Republic of			+	+	+			+	+	+	6
Malawi					+			+	+		3
Mali					+			+	+		3
Malta					+		+	+	+		4
Mauritania					+		+	+	+		4
Moldova			+	+	+		+	+	+	+	7
Mongolia	+		+	+	+		+	+			6
Morocco			+					+	+	+	4
Mozambique					+			+			2
Namibia					+	+		+	+		4
Netherlands										+	1
Niger					+			+			2
Nigeria					+			+	+		3
Oman			+	+	+		+	+	+		6
Palestinian Authority Territories					+			+			2
Poland			+						+	+	3
Portugal								+		+	2
Qatar			+		+			+			3
Romania				+	+		+	+	+	+	6
Russia	+		+	+	+		+	+	+	+	6
Rwanda					+			+	+		3
Saudi Arabia	+		+	+	+		+	+			6

	Aegypius monachus	*Aquila adalberti*	*Aquila clanga*	*Aquila heliaca*	*Circus macrourus*	*Circus maurus*	*Falco cherrug*	*Falco naumanni*	*Falco vespertinus*	*Milvus milvus*	*Grand Total*
Senegal					+			+	+		3
Serbia and Montenegro	+		+	+	+		+	+	+	+	8
Sierra Leone					+			+			2
Slovakia			+	+	+		+		+	+	6
Slovenia			+		+				+	+	4
Somalia					+			+			2
South Africa					+	+		+	+		4
Spain	+	+	+	+			+	+		+	7
Sudan	+		+	+	+		+	+	+		7
Swaziland					+						1
Sweden									+	+	2
Switzerland									+	+	2
Syria	+		+	+	+		+	+	+		7
Tajikistan	+						+		+		3
Tanzania			+	+	+			+	+		5
Thailand	+		+	+							3
Togo					+			+			2
Tunisia					+		+	+	+	+	5
Turkey	+		+	+	+		+	+	+	+	8
Turkmenistan	+			+				+	+	+	5
Uganda					+			+			2
Ukraine	+		+	+	+		+	+	+	+	8
United Arab Emirates			+	+	+		+	+			5
United Kingdom									+	+	2
Uzbekistan	+			+			+	+	+		5
Yemen			+	+	+		+	+			5
Zambia					+			+	+		3
Zimbabwe					+			+	+		3
Total	38	1	67	57	92	4	49	89	76	45	518

Source. Birdlife International's World Bird Database, www.birdlifeinternational.org (accessed 23 June 2005).

ANNEX 6

SITES IN EUROPE, THE MIDDLE-EAST AND AFRICA THAT QUALIFY AS IMPORTANT BIRD AREAS FOR MIGRATING RAPTORS AND THEIR PROTECTION STATUS

This should be treated as a minimum list of internationally important areas requiring protection for migratory raptors. Other sites of equal or greater importance may be discovered with further knowledge and appropriate protection measures will also be required for nationally and regionally important sites.

Key:
"X" indicates that sites qualifies according to the criteria.
Protection levels: H = High; P = Partial; L = Low; N = None; ? = uncertain; blank = not mentioned, and therefore probably none.
Types: NR = Nature Reserve; NP = National Park; NGR National Game Reserve; WR = Wildlife Refuge; SPA = EU Special Protection Area; Zap = Zapovednik; BR = Biosphere Reserve; R = Ramsar Site; WHR = World Heritage Site.

Country / IBA International name	Qualifying level and criteria			National protection		International protection	
	Global spp (A1)	Global (A4iv)	Regional (B4iv)	Level	Type	Level	Type
Bulgaria							
Atanasovo lake	X	X	X	H	NR	P	R
Mandra-Poda complex			X	P		N	
Denmark							
Gilleleje area			X	N		N	
Hellebæk			X	N		N	
Korshage, Hundested and surrounding sea area			X	L		H	SPA
Marstal Bugt and the coast of south-west Langeland			X	L		H	SPA
Skagen			X	N		N	
Stevns		X	X	N		N	
Djibouti							
Kadda Guéïni - Doumêra		X	---	N		N	
Egypt							
Ain Sukhna	X	X	---	N		N	
El Qa plain	X	X	---	N		N	
Gebel El Zeit	X	X	---	N		N	
Ras Mohammed National Park	X	X	---	H	NP	N	
Suez	X	X	---	N		N	
Finland							
Merenkurkku archipelago			X	N		P	R

Country / IBA International name	Qualifying level and criteria			National protection		International protection	
	Global spp (A1)	Global (A4iv)	Regional (B4iv)	Level	Type	Level	Type
France							
Basses Corbières		X	X	L		N	
Col de l'Escrinet		X	X	N		N	
Col de Lizarrieta			X	N		N	
Etangs de Leucate et Lapalme		X	X	L		N	
Etangs Narbonnais			X	P		N	
Gorges de la Dordogne			X	N		N	
Haute chaîne du Jura: défilé de l'écluse, Etournel et Mont Vuache		X	X	H		N	
Haute Soule : Forêt d'Irraty, Organbidexka et Pic des Escaliers		X	X	N		N	
Hautes Corbières			X	L		N	
Hautes garrigues du Montpellierais			X	N		N	
Massif du Canigou-Carança		X	X	P		P	
Montagne de la Clape			X	N		P	SPA
Montagne de la Serre			X	N		N	
Monts et Plomb du Cantal			X	L		P	SPA
Pointe de Grave			X	N		N	
Val d'Allier : Saint-Yorre-Joze			X	P		N	
Val de Drôme: Les Ramières-printegarde			X	P		P	SPA
Vallée de la Nive des Aldudes-Col de Lindux		X	X	N		N	
Georgia							
Kolkheti		X	X	H	NP	H	R
Meskheti	X		X	P	NR	N	
Gibraltar (to UK)							
Rock of Gibraltar	X	X	X	H		H	
Greece							
North, east and south Kithira island			X	P	WR	L	SPA
Iraq							
Samara dam			X	N		N	
Israel							
Cliffs of Zin and the Negev highlands			X	P		N	
Hula valley	X	X	X	H	NR	N	
Jezre'el, Harod and Bet She'an valleys	X	X	X	L	NR	N	
Judean desert	X		X	H	NR NP	N	
Judean foothills	X		X	N		N	

Country / IBA International name	Qualifying level and criteria			National protection		International protection	
	Global spp (A1)	Global (A4iv)	Regional (B4iv)	Level	Type	Level	Type
Northern Arava valley		X	X	P	NR	N	
Northern lower Jordan valley		X	X	P	NR	N	
Southern Arava valley and Elat mountains	X	X	X	P	NR	N	
Western Negev	X	X	X	P	NR	N	
Italy							
Aspromonte			X	P	NP	N	
Cape Otranto			X	N		N	
Costa Viola	X		X	N		N	
Maritime Alps			X	P	NR NP	N	
Mount Beigua			X	P	NP	N	
Mount Conero			X	H	NP	N	
Mount Grappa			X	N		N	
Peloritani mountains		X	X	N		P	SPA
Piave river			X	N		N	
Jordan							
Aqaba mountains	?	X	X	N		N	
Jordan valley			X	N		N	
Petra area			X	P	NP	L	WHR
Wadi Dana - Finan	X	X	X	H	NR	N	
Wadi Mujib			X	H	NR	N	
Kuwait							
Al-Jahra Pool Nature Reserve	X		X	P	NR	N	
Latvia							
Slitere Nature Reserve		X	X	H	NR	N	
Lebanon							
Ammiq swamp			X	H	NR	H	R
Lithuania							
Kuronian spit		?	X	H	NP	N	
Malta							
Buskett and Wied il-Luq			X	H	NR	N	
Morocco							
Cap Spartel - Perdicaris		X	---	H		N	
Jbel Moussa		X	---	N		N	
Palestinian Authority Territories							
Jericho	?	?	X	N		N	
Northern Lower Jordan Valley		X	X	P	NR	N	
Portugal							
South-west coast of Portugal			X	H	NP	H	SPA

Country / IBA International name	Qualifying level and criteria			National protection		International protection	
	Global spp (A1)	Global (A4iv)	Regional (B4iv)	Level	Type	Level	Type
Russia (European)							
Caucasus Biosphere Reserve			X	H	Z	H	BR
Chudsko-Pskovski Lake and adjacent areas		X	X	P	Z	P	R
Delta of the River Don	X		X	P	Z	N	
Irendyk ridge		X	X	N		N	
Teberdinski Nature Reserve	X		X	H	Z	N	
Saudi Arabia							
Taif escarpment			X	N		N	
Wadi Jawwah	X		X	N		N	
Wadi Rabigh springs			X	N		N	
Spain							
Bujeo, Ojén, del Niño and Blanquilla mountain ranges		X	X	H	NP	H	SPA
Cabras, Aljibe and Montecoche mountain range		X	X	H	NP	H	SPA
Cadí mountains			X	P	NGR NP	P	SPA
Ceuta	X	X	X	N		N	
De la Plata mountain range		X	X	N		N	
Guadalquivir marshes		X	X	P	NP	P	SPA R BR WHS
La Janda		X	X	N		N	
Roncesvalles-Irati-Abodi mountain range			X	L	NR	P	SPA
Tarifa	X	X	X	L		N	
Sweden							
Bay of Skälderviken			X	P	NR	P	SPA
Falsterbo-Bay of Foteviken		X	X	P	NR	P	SPA R
Switzerland							
Pre-alpine region of Gurnigel			X	P		N	
Syria							
Jabal Slenfeh			X	N		N	
Tunisia							
Djebel el Haouaria		X	---	P	HR	N	
Turkey							
Bosphorus		X	X	P	NR	N	
North-east Turkey		X	X	P	NR NP	N	
Nur mountains		X	X	P	NR	N	

Country / IBA International name	Qualifying level and criteria			National protection		International protection	
	Global spp (A1)	Global (A4iv)	Regional (B4iv)	Level	Type	Level	Type
Yemen							
Al-Kadan area	X		X	N		N	
Bab al-Mandab - Mawza		X	X	N		N	
Mafraq al-Mukha	X		X	N		N	
Wadi Rijaf			X	N		N	

Source: Birdlife International World Bird Database (accessed March 2005).

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