REVIEW REPORTS

CONCERTED ACTION SPECIES

PART III: BIRDS

INTRODUCTION

The present Rapid Review of Concerted Action Species was conducted by UNEP-WCMC and follows on from the exercise presented to the consideration of the CMS Scientific Council at its 12th Meeting. This version of the review sheets takes on board some of the feedback received at that meeting, and in particular it has reduced its reliance on information from the grey literature in favour more exclusively of peer-reviewed content. Similarly, following the advice received from the Council, the review sheets have been complemented with summary sheets, which indicate the overall perceived trend of the species in each country. A synopsis of the status and level of action for each species is also provided in each section.

As explained at the 12th meeting of the Council, there are a number of characteristics and methodological considerations that need to be kept in mind in order to understand the nature and purpose of the review sheets. In particular, it should be noted that these reviews are not intended as comprehensive compilations of the existing information on the species reviewed, nor are the analyses of trends and conservation status provided intended to supersede the global assessments produced by IUCN (which are included in each sheet for information). Instead, these reviews are produced with three goals in mind:

1. to examine **at the country level** the status and the known level of action for the species protected by the CMS (at this stage, the Species in Appendix I subject of Concerted Actions – Resolution 7.1)
2. to compile in a single document a **summary of the main sources of information accessible to the CMS** via the CMS Information Management System (CMS IMS) in general (including the expert information systems to which it is interconnected) and at UNEP-WCMC;
3. to provide a draft of the possible primary format and content of the **CMS Rolling Papers**, which once in electronic format on the internet (if they are indeed developed as such) could be used by Councillors and other appointed authorities to share and manage knowledge on the status and conservation actions concerning the species protected by the Convention.

The summary of actions reported for each species and contained in each review refers to the information provided in the National Reports to the CMS submitted by the Parties to the Convention in 2002 (COP7), as at the moment of producing these Reviews, the 2005 Reports had not been produced yet. In addition to the information on actions available through the CMS Reports, the Reviews also make reference to any other recent action reported by other actors identified during the review of literature. Importantly, it should also be noted that these Reviews do not include yet the action reported by Agreements and MoUs of the CMS which, needless to say, represent a fundamental component of the conservation effort orchestrated by totality of the CMS family.

These Reviews are thus only produced as working documents, for discussion at CMS meetings only, and should not be circulated elsewhere without prior permission.

Anyone wishing to use this information elsewhere should contact the Species Programme at UNEP-WCMC for advice on appropriate use of the information and on citation.

Members and observers of the Scientific Council are invited to:

a) contribute any relevant information they may with to share which may improve the content of these Reviews;
b) advise on the usefulness of the exercise in general, and on the convenience of extending the model to other species protected by the CMS;
c) advise on the convenience of making this information and format available online, within the CMS environment, as a tool for CMS users to share and manage knowledge on the status of ,and conservation actions for CMS species.

Key to general synopsis

IUCN Status:

As reported from the IUCN Red List of Threatened Species (www.redlist.org).

IUCN Trend:

The population is either increasing (↑), stable (→) or decreasing (↓). When no information about population trend is provided, there is a blank space in that column.

CMS Listed Range States:

The list of States in the distribution range of the taxon, according to the CMS Range List (2003). All range States were reviewed, including those marked as (Ex), (Ex?) and (?). When the European Union (EU) is listed as a range state by CMS, this is not included in the count but all the individual EU countries that are listed in brackets are counted.

All Range States:

The number of range states including range states reported in the literature reviewed, such as the Species Data Base (UNEP-WCMC), BirdLife International, IUCN/SSC publications, and other reliable publications. If a range state is included, which CMS does not currently list, a reference is provided.

CMS Parties Reporting Action:

This number represents the proportion of CMS Parties in the range that report conservation actions being undertaken for the taxon. This includes any actions reported in National Reports to CMS in 2002.

Range States Reporting Action:

This number represents the fraction of all range States (including those range States not included in the CMS range list but reported in the literature) in which conservation action was identified to be taking place.

Range States in Which Species Occurs in Protected Areas:

The fraction of all range states in which the species occurs in a protected area (P. A.). If a species has been reintroduced to a protected area, then this is still counted.

Key to specific synopses

The species summary sheets provide a concise overview of the information included in the more detailed Reviews. For each species, the summary sheet contains information on status, trends and conservation actions at the national level in each range state. These summary sheets do not intend to provide a comprehensive account of each taxon in question, but instead they are designed to produce a concise overview of the information on population status, trends and on conservation actions, that are readily available through the CMS IMS and in the literature.

Information contained in the summary sheets:

Range States
The range state list included range states registered in the CMS Range List as well as additional range States for which there are reliable references (e.g. BirdLife International, IUCN/SSC publications, etc.). CMS Parties are identified by use of upper-case font.

Status
The status at the national level is not represented using threat categories such as the IUCN Red List classification, since these categories are not standardised across different countries. A species is registered under a generic category of threat in a particular range state if it is included in a National Red List (or equivalent publication). Absence of information, however, should not be interpreted as an indicator that the species is not threatened in that country. Range states in which the species is registered as nationally threatened have a dot (●) in the 'Status' column, and range states for which the species is reported as extinct have an "**ex**" in the status column (or "**ex?**" if it is supposed to be extinct but information is lacking).

Trend
The apparent population trend in that range state is included, based on the information reviewed. The population is either increasing in that range state (↑), stable (→) or decreasing (↓). Intermediate trends stages are recorded using the symbols (↗) for stable to increasing, and (↘) for stable to decreasing. Range states for which no information on status was available or where the status is uncertain, are represented by an ? in the 'Trends' column.

CMS Actions
If conservation action(s) in a CMS Party range state were reported to CMS through National Reports in 2002 (note that at the time of producing this reports, 2005 National Reports had not been submitted), this is represented by a ✓ in the 'CMS Actions' column. If no action is reported this is represented with a ×. Range states that are not CMS Parties, have a blank space in that column section.

Other Actions
If recent conservation actions other than those reported to CMS were reported in the literature for a range State, whether this be a Party or not to CMS, a ✓ is used. If no other conservation action is reported, then the range state has a blank space in this column.

General Synopsis

Name	IUCN Redlist	IUCN Trend	Countries in CMS Range List	All Range States reported in literature	CMS Parties reporting action	Range States reporting action	Range States in which species occur in P.A.
Acrocephalus paludicola	VU	↓	32	48	10/40	15/48	13/48
Anser erythropus	VU	↓	48	60	3/40	16/60	18/60
Aythya nyroca	NT		98	107	14/66	26/107	23/107
Chlamydotis undulata	NT	↓	8	8	2/8	3/8	3/8
Chloephaga rubidiceps	LC		3	3	2/3	2/3	3/3
Eurynorhynchus pygmeus	EN	↓	13	16	0/2	6/16	6/16
Falco naumanni	VU	↓	99	118	11/64	19/118	27/118
Grus leucogeranus	CR	↓	10	13	2/4	6/13	6/13
Hirundo atrocaerulea	VU	↓	13	13	2/5	3/13	6/13
Numenius tenuirostris	CR	↓	42	57	4/35	7/57	7/57
Otis tarda	VU	↓	42	60	8/40	11/60	12/60
Oxyura leucocephala	EN	↓	39	50	4/38	15/50	15/50
Phoenicopterus andinus	VU	↓	5	5	4/4	4/5	4/5
Phoenicopterus jamesi	NT	→	5	5	4/4	4/5	4/5
Platalea minor	EN	↓	6	11	0/1	4/11	5/11
Sarothrura ayresi	EN	↓	5	5	0/1	2/5	1/5
Spheniscus humboldti	VU	↓	2	4	2/2	2/4	2/4
Sterna bernsteini	CR	?	5	7	0/1	2/7	2/7

***Acrocephalus paludicola* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Algeria		?		
Austria		?		
BELARUS		→ or ↓	×	✓
BELGIUM		?	×	
Bosnia and Herzegovina		?		
BULGARIA		?	✓	
CROATIA		?	×	
CYPRUS		?	×	
CZECH REPUBLIC		?	×	
DENMARK		?	×	
EGYPT		?	×	
Estonia		?		
FINLAND		?	×	
FRANCE		→	×	
GERMANY	●	↓	×	
GHANA		?	×	
GREECE		?	×	
HUNGARY	●	↑	✓	✓
Iran		?		
IRELAND		?	×	
ISRAEL		?	×	
ITALY		?	✓	
JORDAN		?	×	
Kazakhstan		?		
LATVIA	●	?	×	
LITHUANIA	●	?	✓	
LUXEMBOURG		?	×	
F.Y.R. Macedonia		?	×	
MALI		?	✓	
MALTA		?	×	
MAURITANIA		?	×	
MOLDOVA		?	×	
MOROCCO		?	×	
NETHERLANDS		?	×	
NORWAY		?	×	
Oman		?		
POLAND	●	↓	✓	✓
PORTUGAL		?	✓	
ROMANIA		?	×	
Russian Federation	●	?		✓
SENEGAL		?	✓	
Serbia and Montenegro		?		
SLOVAKIA		?	✓	
SLOVENIA		?	×	
SPAIN	●	?	×	✓
SWEDEN		?	×	
SWITZERLAND		?	×	

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
TUNISIA		?	×	
Turkey		?		
UKRAINE	●	↓	×	✓
UNITED KINGDOM	●	→	×	✓
UZBEKISTAN		?	×	
Western Sahara		?		

REVIEW OF CONCERTED ACTION SPECIES

AVES: MUSCICAPIDAE

SPECIES: *Acrocephalus paludicola* (Vieillot, 1817)

SYNONYMS: -

COMMON NAME: Aquatic Warbler (English); Phragmite aquatique (French); Carricerín Cejudo (Spanish)

RANGE STATES: BELARUS; Bosnia and Herzegovina; BULGARIA; CROATIA; CZECH REPUBLIC; EUROPEAN COMMUNITY (Austria, BELGIUM, DENMARK, FRANCE, GERMANY, ITALY, LUXEMBOURG, NETHERLANDS, PORTUGAL, SPAIN, UNITED KINGDOM); HUNGARY; LATVIA; LITHUANIA; MALI; MAURITANIA; MOLDOVA, REPUBLIC OF; MOROCCO; POLAND; ROMANIA; Russian Federation; SENEGAL; Serbia and Montenegro; SLOVENIA; SWITZERLAND; UKRAINE; UZBEKISTAN

RED LIST: VU A2c;A3c (BirdLife International, 2004)

CONSERVATION STATUS AND ACTIONS:

The Aquatic Warbler is a marshland specialist that breeds across a highly fragmented range, in lowland marsh habitats (mostly sedge fen mires) with a preferred water depth of 1-10 cm. The breeding distribution is fragmented because of habitat constraints (Heredia, 1995). Breeds from Lithuania, eastern Poland, Belarus and Ukraine east to Central Asia and also at very scattered localities in central and western Poland, eastern Germany and Hungary. Birds from Poland and eastern Germany migrate on a westerly heading along the Baltic coast in Poland and eastern Germany, then along the North Sea coast of western Germany, Netherlands, Belgium and sometimes England, thereafter heading south along the French and Iberian Atlantic coast (Schulze-Hagen, 1993). The winter quarters lie in West Africa south of the Sahara, and include wetlands and floodplains of Mauritania, Mali, Ghana and Senegal but little more is known about the species during winter (Heredia, 1995). Two small geographically isolated and genetically separate subpopulations of the Aquatic Warbler exist in Germany/north-west Poland and West Siberia (Russia) (Aquatic Warbler Conservation Team, 2004).

The Aquatic Warbler has suffered a very severe decline in Western Europe due to habitat loss (Heredia, 1995). The species became extinct in Western Europe during the twentieth century and has declined dramatically in central Europe. It formerly bred in France, Belgium, Netherlands, former West Germany, former Czechoslovakia, former Yugoslavia, Austria and Italy (Cramp, 1992).

According to BirdLife International (2004), the global population estimate is 27,000-42,000 (12,000-20,500 singing males) but it is declining and the estimated range of this species is 53,000km^2. Recent surveys have discovered previously unknown populations of this species (two-thirds of the known population has been discovered since 1995 (BirdLife International, 2004), resulting in a substantially increased population estimate from that made in 1994. Since 1970, it is likely to have declined significantly as a result of destruction of 80-90% of its habitat in the river systems of upper Pripyat, Yaselda (Ukraine and Belarus) and Biebrza/Narew (Poland). These systems hold approximately 75% of the European population (BirdLife International, 2004).

The most important threats are loss of breeding habitat owing to drainage for agriculture and peat extraction, damming of floodplains, unfavourable water management, canalisation of rivers and eutrophication (by waste water and resulting for mire drainage). Habitat degradation is widespread where traditional fen management has ceased allowing succession to unsuitable overgrown reedbed, scrub or woodland. Uncontrolled fires in spring and summer pose a direct threat to birds and nests, and can burn out the upper peat layer of fens (although controlled burning in winter or early spring can be an appropriate management technique for maintaining the habitat quality) (Aquatic Warbler Conservation Team, 2004). Other threats are road building (locally), unsuitable managing by cutting or grazing, disturbance caused by man and habitat loss and change at migration sites (Aquatic Warbler Conservation Team, 2004). In the wintering grounds, drought, wetland drainage, intensive grazing, succession to scrub, desertification and salinisation of irrigated soils are all potential threats (BirdLife International, 2004).

Differences in knowledge also occur from west to east across the breeding range. While occurrence and numbers are quite well known in Germany, Poland, Hungary, and, to a lesser extent, the Baltic States, almost nothing is known about these same aspects in Belarus, Ukraine or Russia (Heredia, 1995). CMS is supporting the development of a Memorandum of Understanding and an Action Plan.

Algeria (v)*:

Status: Occurrence reported by Ledant *et al.* (1981).

CMS actions: Not a Party to CMS.

Other actions:

Austria:

Status:

CMS actions: Not a Party to CMS.

Other actions:

BELARUS:

Status: Breeding reported (BirdLife International, 2004). The number of singing males reported is 6,600-12,500 (Aquatic Warbler Conservation Team, 2004). The population is recorded as stable or declining. A survey of the primeval Dekoe bog suggests a population of 1,500-3,000 males in 5,000ha that are currently unprotected (Heredia, 1995). Unfavourable man-made changes in the hydrological regime affect all the main breeding sites in Belarus (Dikoe, Zvanets and Sporova mires). This can lead for example to (1) lack of water, leading to reduced breeding success and population decline, (2) summer flooding with destruction of nests and (3) vegetation succession and loss of Aquatic Warbler habitat; breeding habitat changes due to uncontrolled burning have happened also in the Zvanets and Yaselda mires in Belarus (Aquatic Warbler Conservation Team, 2004). The Aquatic Warbler is classed as Data Deficient in the Red Data Book of Belarus (1993). In the forthcoming Red Data Book the species will be listed as Vulnerable in accordance with IUCN criteria (Aquatic Warbler Conservation Team, 2004).

CMS actions: None reported.

Other action: Key-breeding sites are within protected areas, there are monitoring programmes and studies on halting succession have been conducted (BirdLife International, 2004). Three State Reserves have been established: the Berezinsky Biosphere Reserve, the Pripyat Biological and Landscape Reserve and Belovezhskaya Pushcha State National Park (Vyazovich, 1993).

Considering the importance of the Belarusian mires for the conservation of the Aquatic Warbler, an international project was implemented in Belarus (1999-2002), to elaborate management plans for three key fen mires. Initiated by APB-BirdLife Belarus and the Royal Society for the Protection of Birds (UK), the project was funded by the Darwin Initiative for the Survival of Species (UK) and UNDP. As a result, the management plans for Zvanets, Sporovo and Dikoe have been successfully prepared (Aquatic Warbler Conservation Team, 2004).

BELGIUM:

Status: On migration, the Aquatic Warbler occurs regularly in coastal wetlands (reed beds) in late summer and autumn (Aquatic Warbler Conservation team, 2004).

CMS actions: None reported.
Other action:

Bosnia and Herzegovina:

Status:
CMS actions: Not a Party to CMS.
Other action:

BULGARIA:

Status: Regularly found during migration, mainly along the Black Sea coast. Numbers not studied (Bulgaria National Report, 2002). There is not any evidence for breeding in the country, and most of observations and captures origin from the period 1976 to 1988 (Aquatic Warbler Conservation Team, 2004).

CMS actions: Ringing activities conducted irregularly by the Bulgarian Academy of Sciences (Bulgaria National Report, 2002).
Other actions:

CROATIA:

Status:
CMS actions: None reported.
Other action:

CYPRUS (v)*:

Status: Occurrence reported (Flint and Stewart, 1989).

CMS actions: None reported.
Other action:

CZECH REPUBLIC:

Status: The Czech Republic hosts migrating populations only. Regularly migrating (Czech Republic National Report, 2002).

CMS actions: None reported.
Other action:

DENMARK:

Status: A very rare visitor (Denmark National Report, 2002).

CMS actions: None reported.
Other action:

EGYPT (v)*:

Status: Occurrence reported (Goodman and Meininger, 1981).

CMS actions: None reported.
Other action:

Estonia (v)*:
Status: Occurrence reported (Veromann and Leibak, 1994).

CMS actions: Not a Party to CMS.
Other action:
FINLAND (v)*:
Status: Occurrence reported (Solonen, 1985).

CMS actions: None reported.
Other action:
FRANCE:
Status: Large reedbeds on the coast (Channel, Atlantic and Mediterranean) or inland are regularly used during migration. The species is more numerous during the autumn passage than in spring. The number of birds ringed has remained fairly stable despite an increase in the ringing effort (EURING ACRO PROJECT). The number varies between 110 to 200 individuals caught each year (Heredia, 1995).

CMS actions: None reported.
Other action:
GERMANY:
Status: Breeding reported (BirdLife International, 2004). The number of singing males reported is 9-15 (Aquatic Warbler Conservation Team, 2004) and the population is thought to have declined by 21-50% between 1970 and 1990 (BirdLife International, 2004). The population is the westernmost and smallest of all the European countries. In 1992 there were only two isolated sites, both in the north-east corner of Germany close to the Polish border: near Greifswald and in the polders of the Odra river near Schwedt and Friedrichsthal. The two sites are separated by c.100km and numbers have been stable in recent years. Both populations are considered to be satellites of the nearby Polish breeding area, and to be unviable without it. One of the sites is within the Lower Odra Valley National Park and the other within the Freesendorfer Wiesen Nature Reserve. The former population at the Baltic Sea coast near Greifswald became extinct in 1998 as a result of overgrazing (Aquatic Warbler Conservation Team, 2004).
There are also small and fluctuating numbers of outlying pairs that are not protected (Schulze-Hagen and Wawrzyniak, 1993). The Aquatic Warbler is classed as Endangered in the German Red Data Book (Heredia, 1995).

CMS actions: None reported.

Other action: The Aquatic Warbler is legally protected (Heredia, 1995) and key breeding sites are within protected areas (BirdLife International, 2004).

GHANA (v)*:
Status: Occurrence reported (Hedenström *et al.*, 1990).

CMS actions: None reported.
Other action:
GREECE (v)*:
Status: Occurrence reported (Handrinos and Akriotis, 1997).

CMS actions: None reported.
Other action:
HUNGARY:

Status: The number of singing males reported is 600 and the population is thought to have increased by over 50% between 1970 and 1990 (BirdLife International, 2004). The only breeding population is in the Hortobágy National Park, where it is increasing from 19 singing males in 1971 to 700 singing males in 2001, but following a serious drought in 2002 and the burning of 30% of Aquatic Warbler habitats, only 386 singing males were recorded in that year (Aquatic Warbler Conservation Team, 2004). There may be further small populations still to be discovered in Hortobágy (Heredia, 1995). It is rare on passage in other regions of the country (Hungary National Report, 2002). It is listed as Endangered in the Hungarian Red Data Book (Heredia, 1995).

CMS actions: Monitoring is co-ordinated by the Hortobágyi National Park Directorate. The majority of the population breeds within the boundaries of protected areas; those breeding grounds that are yet unprotected are subject to future protection. The Hungarian population will all be included in Natura 2000 as Special Protection Area (Hungary National Report, 2002).

Other actions: The species is strictly protected under the Hungarian law for the conservation of nature (Heredia, 1995). Key breeding sites are within protected areas and there are monitoring programmes (BirdLife International, 2004). A monitoring scheme has been in effect for 15 years, longer than in any other country (Heredia, 1995).

Iran*:

Status: Occurrence reported (Scott *et al.,* 1975).

CMS actions: Not a Party to CMS.

Other actions:

IRELAND (v)*:

Status: Occurrence reported (Hutchinson, 1989).

CMS actions: None reported.

Other actions:

ISRAEL (v)*:

Status: Occurrence reported (Shirihai, 1996).

CMS actions: None reported.

Other actions:

ITALY:

Status: Very rare migrant, mostly in autumn, a total of 13 inviduals ringed in last 20 years (Italy National Report, 2002).

CMS actions: Actions to increase the presence of *Acrocephalus paludicola* are included in a LIFE project on the protection of priority bird species in the Po Valley (Anon., 2002).

Other actions:

JORDAN (v)*:

Status: Occurrence reported (Andrews, 1995).

CMS actions: None reported.

Other actions:

Kazakhstan (v)*:

Status: Occurrence reported (Gavrilov, 2000).

CMS actions: Not a Party to CMS.

Other actions:

LATVIA:

Status: Breeding reported (Heredia, 1995). Ten to fifty breeding pairs have been reported (BirdLife International, 2004). There are 36 confirmed records since 1940 (Aquatic Warbler Conservation team, 2004), and it has been recorded as a breeder at four coastal wetland sites: Lake Pape and adjoining marshland, Lake Liepaja, Bog Sarnate/Uzava and Lake Kanieris (Viksne, 1994). The breeding population of Aquatic Warbler in Latvia is very small (1–5 pairs) (Aquatic Warbler Conservation Team, 2004).
The species is listed as Endangered (Category 1) in the Latvian Red Data Book and is specially protected (Viksne, 1994).

CMS actions: Special searches for breeding populations of the species in 1997 at the ten most promising sites in the whole country remained unsuccessful, despite some suitable habitat areas being found. However, in 2000 and the following years (2001 and 2002) singing males (1–3 individuals) were observed at Lake Liepāja. Lake Liepajas is a specially protected Nature Area (Latvia National Report, 2002).

Other actions:

LITHUANIA:

Status: The number of singing males reported is 225-280 (Aquatic Warbler Conservation Team, 2004) and the population is thought to have declined by over 50% between 1970 and 1990 (BirdLife International, 2004). There are three main breeding localities, the Curonian Lagoon, the Nemunas delta and Zuvintas Nature Reserve. Altogether, habitat changes related to vegetation succession due to cessation of cutting (or other appropriate management like controlled burning) is the most important threat (Žuvintas), followed by changes in water table (Nemunas/Neman delta). In Zuvintas Nature Reserve sedge meadows are no longer cut for hay, thus reducing the amount of suitable habitat (Pranaitis, 1993). The Red Data Book classifies the species as especially protected and Vulnerable (Aquatic Warbler Conservation Team, 2004).

CMS actions: An action plan for the species and a management plan for Nemunas/Neman delta Regional Park have recently been prepared and now need implementation (Aquatic Warbler Conservation Team, 2004).

Other actions: Part of the Nemunas has been protected as a Nature Reserve (EUCC, 1993). The special protection area (as a Natura 2000 site) should be established in the Curonian lagoon area, and a management plan should be prepared for this area. It is still necessary to do a proper survey in the eastern parts of the country, because further suitable breeding habitats are known there (Aquatic Warbler Conservation Team, 2004).

LUXEMBOURG:

Status:

CMS actions: None reported.

Other actions:

F.Y.R. Macedonia (v)*:

Status: Occurrence reported (Matvejev and Vasic, 1973).

CMS actions: Not a Party to CMS.

Other actions:

MALI:
Status:

CMS actions: There was a Joint Mission (May 2002) by DNCN - ONCFS and Wetlands International for the annual counting of migratory water birds and for the training of officers in the identification of birds and wetlands in the region of Mopti. In addition, conservation projects and programmes for species of migratory birds in the wetlands will be implemented (Mali National Report, 2002).

Other actions:
MALTA (v)*:
Status Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:
MAURITANIA:
Status:
CMS actions: None reported.
Other actions:
MOLDOVA:
Status:
CMS actions: None reported.
Other actions:
MOROCCO:
Status:
CMS actions: None reported.
Other actions:
NETHERLANDS:
Status:
CMS actions: None reported.
Other actions:
NORWAY (v)*:
Status: Occurrence reported (Ree and Gjershaug, 1994).

CMS actions: None reported.
Other actions:
Oman (v)*:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.
Other actions:
POLAND:
Status: The number of singing males reported is 2,900-3,000 and the population is thought to have declined by over 50% between 1970 and 1990 (BirdLife International, 2004). There are three main populations: Biebrza, Chelm and the Odra estuary (Western Pomerania) (Heredia, 1995). Biebrza is the most important breeding area, with an estimated 2,040-2,080 singing males (Krogulec & Kloskowski, 2003). At Chelm, the total estimate is 200-400 singing males and the highest density is 4–6 males/ha; there could be further birds breeding in neighbouring areas (Heredia, 1995). At the Odra estuary the number of recorded singing males is 383 but the estimated total is c. 400. The number of recorded singing males was 383 in 1991, 217 in 1993, 226-231 in

1997, and 60-80 in 2002. There could be some more small populations still unknown (Aquatic Warbler Conservation Team, 2004).

Currently there are problems of loss of breeding habitat at some Polish sites, with drainage affecting small areas at Chelm, Biebrza and Narew valley, and larger proportion of Kramsk (Konin) and Mazuria (Heredia, 1995). Breeding habitat changes related to plant succession is an important factor in Poland (Biebrza and to some extent on the Odra river) (Heredia, 1995).

There are 10 sub-sites holding Aquatic Warblers, which are at present unprotected. Nearby is Wolinski National Park that could be extended to cover two islands of the Swina mouth (Heredia, 1995). In the North-east lake district (Mazury) there is a further known breeding site with 10 singing males, but there might be a more important population yet to be discovered. The Aquatic Warbler is listed in the Polish Red Data Book as Endangered (Glowacinski, 1992).

CMS actions: Poland is preparing to sign the Memorandum of Understanding on the Conservation and Management of the Aquatic Warbler in the near future. The Polish Society for the Protection of Birds has started to prepare a National Action Plan for the Aquatic Warbler (Poland National Report, 2002).

Other actions: The Aquatic Warbler is protected under the Nature Conservation Law of 1991 (Glowacinski, 1992). Key breeding sites are within protected areas, habitat is actively managed and there are monitoring programmes (BirdLife International, 2004). A National Park has recently been established at Biebrza and a Wroclaw University research project on the Aquatic Warbler has been going on for nearly 20 years (Heredia, 1995). A management plan has been produced for Chelm by OTOP (BirdLife partner in Poland). Two specific management actions have been done: cutting of scrub to create more open habitat and promote colonisation by the Aquatic Warbler (by OTOP); and cutting of trees to clear the habitat (by the Lublin Forest Authority) (Heredia, 1995). A Landscape Park has been established in the Inter Odra region, the first step for a future cross-border National Park with Germany to the south of Szczecin (Aquatic Warbler Conservation team, 2004). OTOP has established a private reserve in the island of Karsiborska Kepa (Heredia, 1995).

PORTUGAL:

Status: Every year up to four individuals are ringed during the autumn migration at Santo André lagoon (southern Portugal). The species is also being sighted in central Portugal (Paul do Taipal and Paul de Arzila) (Portugal National Report, 2002).

CMS actions: A ringing program is being conducted (Portugal National Report, 2002).

Other actions:

ROMANIA:

Status:

CMS actions: None reported.

Other action:

Russian Federation:

Status: Breeding reported (BirdLife International, 2004). The number of singing males reported is 10-500 in European Russia and possibly 2,000-11,000 in Western Siberia (BirdLife International, 2004). The species is rare and of erratic

occurrence in the European part of Russia, except at the Curonian Lagoon in the Kaliningrad region where there is a small population (not more than four singing males found) in close neighbourhood to the Lithuanian core population (Aquatic Warbler Conservation Team, 2004).
In a preliminary inventory of Important Bird Areas it is recorded only in the floodplains of the upper Mologa and Osen' rivers (Tver region) which is a partly unprotected Nature Monument. The Aquatic Warbler is included in the Red Data Book of 2000 in Category 4 (Insufficiently known) (Aquatic Warbler Conservation Team, 2004).

CMS actions: Not a Party to CMS.

Other action: The Aquatic Warbler is protected within three federally Protected Areas - two Zapovedniks ('Basegi' and Khoperskiy) – and one National Park ('Smolenskoe Poozerie') and was recorded within 5 Important Bird Areas in European Russia (Nemunas/Neman Delta and Curonian Lagoon Coast, Watershed of Bityug and Tsna rivers, Kamsko-Yayvenski wetland, Nizhne-Kamskaya flood-plain, and Bel'skaya flood-plain) (Aquatic Warbler Conservation Team, 2004).
Special attempts to find breeding birds in some parts of European Russia were made in 1993-1995 and especially 1998 (the most promising sites in Perm region and the Meschera mires in Ryazan, Moscow and Vladimir regions), but were unsuccessful, despite some suitable habitats being found especially along the Pra River (Ryazan region) (Aquatic Warbler Conservation Team, 2004).

SENEGAL:

Status: This species is encountered in the north of the country, particularly in the National Bird Park of Djoudj (Senegal National Report, 2002). There are 45 records mainly from the Djoudj National park (Aquatic Warbler Conservation Team, 2004).

CMS actions: Monitoring, protection and restoration of the habitat together with annual counting work are planned (Senegal National Report, 2002).

Other actions:

Serbia and Montenegro:

Status:

CMS actions: Not a Party to CMS.

Other action:

SLOVAKIA*:

Status: Occurrence reported (Trnka *et al.,* 1995). In the 1970s the species had been registered as accidental breeder in the eastern Slovakia (no estimations on population size have been done) and it had been observed regularly in a small number (up to 5 specimens) on migration in Western Slovakia as well. Since that time, no more regular registrations are available and in the Western Slovakia they are missing almost at all. Until that time it is registered only occasionally on migration (1-2 specimens) and almost exclusively in the Eastern Slovakia (Slovakia National Report, 2002).

CMS actions: There is an effort to monitor the occurrence of the species on appropriate localities, especially in the Eastern Slovakia and to prove the regular/irregular migration and probably breeding of the species on these sites. However, due to a small number of specimens only occasionally registered in the country,

no special efforts on monitoring and/or habitat protection activities have been implemented (Slovakia National Report, 2002).

Other actions:

SLOVENIA:

Status:

CMS actions: None reported.

Other action:

SPAIN:

Status: The Aquatic Warbler is a regular migrant, using both coastal and inland wetlands. It has been recorded in spring as well as in autumn; however, it is more abundant during autumn migration. The main identified site is the Laguna de la Nava (135 birds ringed there in 2002). The Ebro Valley acts as a connection corridor along the migration routes (Atieza et al., 2001). The species is catalogued as Vulnerable in The Spanish Birds Red Data Book (SEO/BirdLife, 2005), and thus the Autonomous Communities must elaborate Management Plans for the species (Aquatic Warbler Conservation Team, 2004).

CMS actions: None reported.

Other action: The majority of the areas where the species is regularly recorded are protected, including by Ramsar sites and Special Protection Areas (SPAs), National Parks (Doñana) and Protected Natural Areas of the Autonomous Communities (Aquatic Warbler Conservation Team, 2004).
The Laguna de la Nava benefits from a LIFE project, running from 2002-2006 and entitled "Conservation of the Aquatic Warbler in the Nava-Campos SPA". This is the first LIFE project with the specific object of Aquatic Warbler conservation in Europe, and includes, among other provisions, the restoration of lakes, land acquisition to increase the size of suitable habitats, improvement of water quality, studies of phenology and ecology of the species, and public awareness-raising campaigns (Aquatic Warbler Conservation Team, 2004).

SWEDEN*:

Status: Occurrence reported (Risberg, 1990).

CMS actions: None reported.

Other action:

SWITZERLAND:

Status: Rare migrant, which has been in constant decline since the 1960s due to loss of habitats in breeding sites (Switzerland National Report, 2002).

CMS actions: There are no planned actions for the species (Switzerland National Report, 2002).

Other actions:

TUNISIA*:

Status: Occurrence reported (Thomsen and Jacobsen, 1979).

CMS actions: None reported.

Other action:

Turkey*:

Status: Occurrence reported (Kirwan *et al.*, 1998).

CMS actions: Not a Party to CMS.

Other action:

UKRAINE:

Status: The number of singing males reported is 2,400-3,400 (BirdLife International, 2004), which are mainly concentrated in two different sites:

- The Desna-Dniepr population group breed along the Desna river, in Kyiv and Chernigiv regions (c. 500 - 580 males), with bigger subpopulations in the Uday valley (250 - 270) and the Supoy valley (180 - 200).
- The Pripyat population group: Upper Pripyat and tributaries (Volyn and Rivne regions) 1,850 - 2,500 males, with bigger subpopulations along the Pripyat between Ratno and Cyr mouth (1,120 - 1,450), Vizhery mire, lower Turiya (250), Stohid valley (70 - 150), Styr valley (150), some mires along the border with Belarus (90 - 200) and Shatsk National Park (25) (Aquatic Warbler Conservation Team, 2004).

Despite of the lack of reliable reference data one can assume that the Aquatic Warbler must have suffered a dramatic decline due to habitat loss (especially due to drainage, land reclamation for agriculture and peat excavation) in the whole Ukraine during the past decades (Aquatic Warbler Conservation Team, 2004).

It is included in the Red Data Book of Ukraine (Shcherbak, 1994).

CMS actions: None reported.

Other actions: Practically all Aquatic Warbler breeding sites of Desna-Dniepr population group are included in protected territories, with the exception of some small sites holding not more than 5% of the regional population. Another situation has to be stated in the Pripyat population group. Only about 50% of the population is disposed within protected territories (Aquatic Warbler Conservation Team, 2004)

UNITED KINGDOM:

Status: Southern Britain lies within the migration route, and the species is recorded almost exclusively in autumn, chiefly in southern England. Numbers were apparently maintained to at least 1985, despite the population decline (Cramp, 1992). They are best looked for in coastal reedbeds along the south coast, often feeding near the reedbed in low vegetation. The RSPB reserve at Marazion Marsh, Cornwall, records several aquatic warblers annually and they have also been seen at Radipole Lake and Lodmoor reserves in Dorset; up to 40 birds are seen annually (RSPB, 2004).

The Aquatic Warbler is identified as a Red List species owing to its status as globally threatened, and because more than 50% of the UK passage population is restricted to 10 or fewer sites (Aquatic Warbler Conservation Team, 2004)

CMS actions: None reported.

Other actions: A National Action Plan is already in preparation by RSPB and English Nature (Heredia, 1995). A biodiversity Action Plan has been drafted for this species (Biodiversity Steering group, 1995) and is being implemented as part of the UK's National response to the Biodiversity Convention; There are three Special Protection Areas (SPAs) already declared (Dungeness to Pett Level, Poole Harbour and Marazion Marsh) , wich are multi-species sites lying respectively on the eastern and western coasts of the English south coast (JNCC,2004).

UZBEKISTAN:
Status:
CMS actions: None reported.
Other actions:

Additional information –

Western Sahara (v)*:
Status: Occurrence reported (UNEP-WCMC, 2004).

Other actions: Not a Party to CMS.

REFERENCES:

Andrews, I. J. (1995). The birds of the Hashemite Kingdom of Jordan. Published by the author, Musselburgh, U.K

Anon. (2002). CMS Information System – *Acrocephalus paludicola.* Information from 2002 National Report, European Community. CMS. http://www.cms.int/bodies/COP/cop7/proceedings/pdf/national_reports/national_report_ec.pdf Downloaded on 22/09/2004.

Aquatic Warbler Conservation Team (2004) BirdLife International Aquatic Warbler Conservation Team web page http://www.aquaticwarbler.net Downloaded on 22/09/2004.

Atieza, J.C., Pinilla, J. and Justribo, J.H. (2001) Migration and Conservation of the Aquatic Warbler *Acrocephalus paludicola* in Spain. *Ardeola* 48: 199-208

Batten, L. A., Bibby, C. J., Clement, P., Elliott, G. D. and Porter, R. F., eds. (1990). *Red data birds in Britain: action for rare, threatened and important species*. London: T. and A. D. Poyser.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

Bulgaria National Report (2002). National Report to CMS.

Cramp, S. (ed.) (1992). *The birds of the western Palearctic*, VI. Oxford: Oxford University Press.

Czech Republic National Report (2002). National Report to CMS.

Denmark National Report (2002). National Report to CMS.

EUCC (1993). Baltic Coastal Corridor Programme. Leiden: European Union for Coastal Conservation. Unpublished.

Flint, P. R. and Stewart, P. F. (1991). The birds of Cyprus. 2nd edition. British Ornithologists' Union Checklist No. 6., London

Gavrilov, E. I. (2000). Guide to the birds of the Kazakhstan Republic (names, distribution, abundance).

Glowacinski, Z. (1992). *Polska czerwona ksiega zwierzat: Polish Red Data Book of animals*. Warsaw: Polish Academy of Sciences.

Goodman, S. M. and Meininger, P. L. (1989). The birds of Egypt. Oxford University Press, Oxford

Handrinos, G. and Akriotis, T. (1997). The birds of Greece. Christopher Helm, London.

Hedenström, A., Bensch, S., Hasselquist, D. and Ottosson, U. (1990). Observations of Palaearctic migrants rare to Ghana. *Bulletin of the British Ornithologists' Club,* 110:194-197.

Heredia, B. (comp.) (1995). Action Plan for the Aquatic Warbler (*Acrocephalus paludicola*) in Europe. Prepared by BirdLife International on behalf of the European Commission. http://europa.eu.int/comm/environment/nature/directive/birdactionplan/acrocephaluspaludicola.htm Downloaded on 24/02/2004.

Hungary National Report (2002). National Report to CMS.

Hutchinson, C. D. (1989). Birds in Ireland. Poyser. Calton, U.K.
Italy National Report (2002) National Report to CMS.
JNCC(2004) JNCC web page- The SPA species-Species accounts: *Acrocephalus paludicola.* http://www.jncc.gov.uk/UKSPA/Species/accounts/A6-100.pdf Downloaded on 22/09/2004.
Kirwan, G., Martins, R. P., Eken, G. and Davidson, P. (1998). A checklist of the birds of Turkey. Sandgrouse Suppl. 1, 31pp.
Krogulec, J. & Kloskowski, J. (2003) Monitoring Aquatic Warbler *Acrocephalus paludicola* in Poland. *Ornis Hungarica* 12-13, pp. 191-196.
Latvia National Report (2002). National Report to CMS.
Ledant, J.-P. Jacob, J.-P., Jacobs, P., Malher, F., Ochando, B. and Roché, J. (1981). Mise à jour de l'avifaune algérienne. *Gerfaut,* 71: 295-398.
Mali National Report (2002). National Report to CMS.
Matvejev, S. D. and Vasic, V. F. (1973). Catalogus Faunae Jugoslaviae, IV/3, Aves. Yugoslavia
Paltanavicius, S. (1992). *Red Data Book of Lithuania*. Vilnius: Environmental Protection Department of the Republic of Lithuania.
Poland National Report (2002). National Report to CMS.
Portugal National Report (2002). National Report to CMS.
Pranaitis, A. (1993). Changes in abundance and species composition of birds breeding in overgrowing marshy meadows in Zuvintas Nature Reserve. Abstract. Palanga: Baltic Birds–7 Conference.
Ree, V. and Gjershaug, J. O. (1994). Systematisk navneliste over norske fugler ajourfort pr. 1.1.1994. In J. O. Gjershaug et al. (eds.) Norsk Fugleatlas, Pages 511-527
Risberg, L. (1990). Sveriges Faglar. Sveriges Ornit. For., Stockholm.
RSPB (2004) RSPB web page. Aquatic warbler (*Acrocephalus paludicola*). http://www.rspb.org.uk/birds/guide/a/aquaticwarbler/index.asp Downloaded on 22/09/2004.
Scott, D. A., Hamadani, H. M. and Mirhosseyni, A. A. (1975). [The birds of Iran.]. Department of Environment, Tehran, Iran.
Schulze-Hagen, K. (1993). Winter quarters of the Aquatic Warbler and habitat situation: short review of recent knowledge. Unpublished.
Schulze-Hagen, K. and Wawrzyniak, H. (1993). Recent situation of the Aquatic Warbler in Germany and conservation activities. Unpublished.
Senegal National Report (2002). National Report to CMS.
SEO/BirdLife (2005) Libro Rojo de las Aves de España. Anexo I: Lista de taxones evaluados, categorias y criterios. http://www.seo.org/2005/librorojo/450.asp Downloaded on 21/02/2005.
Shcherbak, M.M. (1994) *Chervona knuga Ukrainu: tavarinniy svit (Red Data Book of Ukraine: Animal Kingdom)*. Ukraine Entsiklopediya, Kiev, Ukraine.
Shirihai, H. (ed.) (1996). The birds of Israel. Academic Press, London.
Slovakia National Report (2002) National Report to CMS.
Solonen, T. (1985). Suomen linnusto. Lintutieto, Helsinki.
Switzerland National Report (2002). National Report to CMS.
Thomsen, P. and Jacobsen, P. (1979). The birds of Tunisia. Peder Jacobsen, Copenhagen.
Trnka, A., Kristin, A., Danko, S., Harvancik, S., Kocian, L., Karaska, D. and Murin, B. (1995). [Checklist of the birds of Slovakia.]. *Tichodroma,* 8: 7-21.
UNEP-WCMC (2004). Species Database. www.unep-wcmc.org Downloaded on 24/02/2004.
Veromann, H. and Leibak, E (eds.) (1994). Birds of Estonia: numbers, distribution and phenology.
Viksne, J. (1994). *Putniem Nozímígás Vietas Latvijá*. Riga: Latvijas Ornitologijas biedríba.
Vyazovich, Y. (1993). Wetlands in the Republic of Belarus and their inventory under the International Project. Unpublished.

* Range State not yet included in the CMS range list for this species.

***Anser erythropus* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
ALBANIA		?	×	
Armenia		?		
Austria		?		
Azerbaijan		↓		✓
BELARUS		?	×	
BELGIUM		?	×	
Bosnia and Herzegovina		?		
BULGARIA	●	→	✓	✓
China		↓		
CROATIA		?	×	
CYPRUS		?	×	
CZECH REPUBLIC		?	×	✓
DENMARK		?	×	
EGYPT		?	×	
Estonia		↓	×	✓
FINLAND	●	↓	×	✓
FRANCE		?	×	
GEORGIA		?	×	
GERMANY		?	×	✓
GREECE		↓	✓	
HUNGARY		↓	✓	✓
INDIA		?	×	
Iran		↓		
Iraq		↓		
IRELAND		?	×	
ISRAEL		?	×	
ITALY		?	×	
JAPAN		?	×	
JORDAN		?	×	
Kazakhstan		↓		✓
D.P.R Korea		?		
Republic of Korea		?		
Kuwait		?		
LATVIA		↓	×	
LITHUANIA	●	↓	×	
LUXEMBOURG		?	×	
F.Y.R. MACEDONIA		?	×	
MOLDOVA, REPUBLIC OF		?	×	
MONGOLIA		?	×	
Myanmar		?		
NETHERLANDS		→	×	✓
NORWAY	●	↓	×	✓
Oman		?		
PAKISTAN		?	×	
POLAND		?	×	
ROMANIA	●	↓	×	
Russian	●	↓		✓

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Federation				
Serbia and Montenegro		?		
SLOVAKIA		?	×	✓
SPAIN		?	×	
SWEDEN		→	×	✓
SWITZERLAND		?	×	
SYRIA		?	×	
TAJIKISTAN		?	×	
Turkey		?		
Turkmenistan		?		✓
UKRAINE		↓	×	✓
UNITED KINGDOM		?	×	
United States		?		
UZBEKISTAN	●	↓	×	

REVIEW OF CONCERTED ACTION SPECIES

AVES: ANATIDAE

SPECIES: *Anser erythropus* (Linnaeus, 1758)

SYNONYMS: -

COMMON NAME: Lesser White-fronted Goose (English); Oie naine (French); Ánsar careto chico; Ansar Chico (Spanish);

RANGE STATES: ALBANIA; Armenia; Azerbaijan; BELARUS; Bosnia and Herzegovina; BULGARIA; China; CROATIA; CZECH REPUBLIC; EGYPT; Estonia; EUROPEAN COMMUNITY (Austria, BELGIUM, DENMARK, FINLAND, FRANCE, GERMANY, GREECE, IRELAND, LUXEMBOURG (?), NETHERLANDS, SWEDEN); GEORGIA; HUNGARY; INDIA; Iran (Islamic Republic of); Iraq; Japan; JORDAN; Kazakhstan; Korea, Democratic People's Republic of; Korea, Republic of; Kuwait; LATVIA; LITHUANIA; MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF; NORWAY; PAKISTAN; POLAND; Russian Federation; Serbia and Montenegro; SLOVAKIA; SWITZERLAND; TAJIKISTAN; Turkey; Turkmenistan; UKRAINE; UZBEKISTAN

RED LIST: VU A1acd+2bcd (BirdLife International, 2004)

CONSERVATION STATUS AND ACTIONS:

At least two, possibly three different populations have been distinguished. Based on phylogenetic analyses, the Fennoscandian population has been identified as clearly distinct from the western main population and also from the eastern flyway population (Ruokonen and Lumme, 1999). The Lesser White-fronted Goose is globally threatened (BirdLife International, 2004). Its total population size declined over the last 50 years from about 100,000 and is currently estimated as between 25,000 and 30,000 (Lorentsen *et al.*, 1999; BirdLife International, 2004). The Fennoscandian population suffered a dramatic decrease in breeding range and population size since the mid-20th century and this is continuing, at least at some staging areas in Fennoscandia, during recent decades (Norderhaug and Norderhaug, 1984).

The Lesser White-fronted Goose breeds in the sub-arctic/low-arctic zone from northern Scandinavia in the west to eastern Siberia in the east, with the range's centre of gravity lying in Central Siberia; the range in Fennoscandia has contracted markedly during the twentieth century, and the distributions in the western and eastern parts of the range have become fragmented (Madsen, 1996). Eastern breeders winter in Central China and Mongolia, and European and West Asian breeders around the Black and Caspian seas, mainly in Azerbaijan (BirdLife International, 2004), although according to Vinogradov (1990), massive shifts in winter distribution have occurred in the Caspian Region within the last 30 to 40 years. Small numbers occur on passage or in winter in Greece, Turkey, Hungary, Slovakia, Romania, Bosnia and Herzegovina, Albania and Bulgaria. There are important staging areas in Kazakhstan, Estonia, Lithuania and Poland (BirdLife International, 2004).

In Europe, the lesser white-fronted goose is classified as a vulnerable species (Anon., 2002). The size of the European Lesser White-fronted Goose population is apparently less than 500 pairs (probably even lower), and the rate of the population decline must have been at least

'moderate' (i.e. at least 20% decline in at least one third of the population) between 1970-1990 (UNEP-WCMC, 2003).

High mortality in autumn and winter, particularly of juveniles, indicates that hunting on the staging and wintering grounds is the primary threat (BirdLife International, 2004). Exploitation by man is the most severe threat throughout all the regions and affecting all flyways. Most severe is the hunting practised in Russia, China and Kazakhstan, the countries that are responsible for the well being of the large majority of the global population; despite the fact that the Lesser White-fronted Goose is protected throughout its range in the western Palaearctic, birds are still shot because of misidentification with other quarry species of geese or because of indiscriminate waterfowl shooting (Madsen, 1996). More than 95% of the Lesser White-fronted Goose population is being affected, if we take into account the Fennoscandian birds, some of which migrate east to Kanin, and others as far east as Taimyr (Tolvanen *et al.*, 1998). Habitat deterioration, as a result of land cultivation and increased water levels in the Caspian Sea, as well as predation, are further threats. Climate change and associated habitat shifts are expected to impact negatively on this species and others dependent on tundra habitat for breeding. Modelling indicates that 28% of the habitat for this species could be lost by 2070 (BirdLife International, 2004).

The Fennoscandian Lesser White-fronted Goose conservation project, led by WWF Finland and the Norwegian Ornithological Society has been the main initiator and promoter of various research activities throughout the range of the species. With a range of activities ranging from monitoring on breeding, staging and wintering sites, to genetic analyses, the group has covered almost the entire range of scientific research on the species. The Finnish WWF established a working group for this species in 1983. Its work has included interviewing reindeer herders and hikers visiting breeding areas, monitoring, conducting surveys in Lapland, and conducting research on the biology of the species. In 1997-1999, the Finnish Lesser White-fronted Goose Life-Nature project of the European Union was implemented to determine breeding, migration time, staging and wintering sites by satellite tracking, and improved conservation in these areas (UNEP-WCMC, 2003).

ALBANIA:

Status: Lamani and Puzanov (1962) reported that the species was very common in the 1940s but very rare by the 1960s. There have been no subsequent observations (Anon., 2003a).

CMS actions: None reported.

Other actions:

Armenia:

Status: A rare winter visitor and passage migrant (Adamian and Klem, 1997). Before 1900 it was very common but it is now rare with numbers ranging from one to 50 recorded from 1984 to 1995 (Aarvak *et al.*, 1997).

CMS actions: Not a Party to CMS.

Other actions:

Austria:

Status: Irregular passage migrant with only two records from 1980-1990 (Ranner *et al.*, 1995). Six were recorded on 7-8 November 1999 at Larye Lake (van den Bergh, 2000).

CMS actions: Not a Party to CMS.

Other actions:

Azerbaijan:

Status: A winter visitor recorded from the coast, Kizil Agach and the Kura River lowlands (Lorentsen *et al.*, 1999; Shelton, 2001). A total of 1,085 individuals

were counted in a survey conducted in 1996 and it was suggested that the wintering population varied between 1,500 and 7,000 (Aarvak *et al.*, 1996; Paynter, 1996). About 25,000 birds were reported in 1978, 1980 and 1982/83 but the numbers steadily declined in subsequent winters (Morozov and Poyarkov, 1997; Tkachenko, 1997).

CMS actions: Not a Party to CMS.

Other actions: The major wintering area in Azerbaijan was formerly a reserve with some shooting regulations and with farmland managed especially to attract Lesser White-fronted Geese, for example, unharvested seed crops (Madsen, 1996).

BELARUS:

Status: Kozulin and Mongin (1996) recorded about 250 individuals migrating through the Pripyat' River flood plain in spring 1995.

CMS actions: None reported.

Other actions:

BELGIUM:

Status: There are almost annual observations of single birds, most of them belonging to Swedish reintroduction programmes, with the unusually high number of 30 individuals during 1996-1997 (De Smet *et al.*, 1999). It is considered a rare winter visitor, usually found in the Flemish region (Belgium National Report, 2002).

CMS actions: None reported.

Other actions:

Bosnia and Herzegovina:

Status: A rare winter visitor (Matvejev and Vasic, 1973).

CMS actions: Not a Party to CMS.

Other actions:

BULGARIA:

Status: Wintering species, mainly found in feeding groups, occurring in mixed flocks with White-fronted geese and Red-breasted geese. These species are difficult to distinguish which causes inaccuracies when comparing population data. Wintering population estimated at one to 50 birds (Bulgaria National Report, 2002). The species regularly stages and possibly winters in traditional geese wintering sites near the Black Sea coast. Nankinov (1993) reported about 1,000 Lesser White-fronted Geese wintering in the Danube flood plain; Petkov *et al.* (1999) estimated the total number to be around 100 birds. The species is listed as Endangered in the Red Data Book of Bulgaria (Madsen, 1996), yet the extensive hunting pressure on all geese in the area particularly threatens it (Petkov *et al.* 1999).

CMS actions: Regular monitoring (two counts per month) made at most important wintering sites by BSPB (Bulgaria National Report, 2002).

Other actions: A special awareness-raising campaign has been launched to inform hunters about the threatened status of the species and how to distinguish the Lesser White-fronted Goose from the Greater White-fronted Goose (Kostadinova *et al.*, 1999). The major certain staging area, Shabla Lake, has recently been designated as a protected area (Madsen, 1996). A penalty, soon to be increased from US$2.30 to US$460, is imposed for shooting a Lesser White-fronted Goose (UNEP-WCMC, 2003).

Action has been taken to give better protection and habitat management to Lake Shabla (prepared by the Ministry of Environment, the Bulgarian Academy of Science and the Bulgarian Society for the Protection of Birds) (Madsen, 1996).

China:

Status: A passage migrant and winter visitor to eastern China, recorded in Heilongjiang, Jilin, Liaoning, Sichuan, Shandong, Henan, Anhui, Jiangsu, Zhejiang, Fujian, Jiangxi, Hunan and Guangxi. Significant counts have been made on passage at Xinghai Hu in Heilongjiang, and in winter near Qingdao in Shandongand by the Yellow River in Henan (BirdLife International, 2001). Occurrence reported in Taiwan (UNEP-WCMC, 2004).

During the 1930s the Lesser White-fronted Goose was considered to be the most abundant goose wintering on the Yangtze River but information on trends in abundance since then is difficult to interpret because of suspected identification problems (Aarvak *et al.*, 1997). The total numbers in the country were estimated as 1,000-10,000 by Perennou *et al.* (1994) However, in February 1997, 13,700 individuals were counted at Poyang lake (Aarvak *et al.*, 1997); in February 1999 a survey counted 11,800-16,800 individuals at East Dongting Lake (Markkola *et al.*, 2000) and in April 1999 a total of 16,500 birds were counted there (Lei, 2000).

The most severe threat to the Eastern flyway population is the change of the major wintering sites in China. The major wintering populations at East Dongting Lake and other lakes in the Yangtze valley are threatened by the construction of the Three Gorges Dam, which will change the seasonal flow of water in the Yangtze River and could significantly affect the wetlands downstream of the dam (Iwabuchi *et al.*, 1997; Lei, 2000). Suitable habitat in the main wintering area in China has been decreased by 50% over the last 50 years (Lei, 2000). The threat by hunting in the major wintering area in China is substantial. Shooting, netting and poisoning of waterfowl are common practices in the wintering areas. In the East Dongting lake area (even inside the East Dongting Lake Nature Reserve) the geese are poisoned with Funandan, (Lei, 2000; Markkola *et al.*, 2000).

CMS actions: Not a Party to CMS.

Other actions: The most urgent actions in the Lesser White-fronted goose conservation would be to establish an efficient guarding system against poaching in the core area of the East Dongting Lake National Nature Reserve (Lei, 2000).

CROATIA:

Status: A rare and irregular winter visitor (Kralj, 1997).

CMS actions: None reported. The Croatia country report to CMS (2002), does not consider the country as part of the species' range.

Other actions:

CYPRUS*:

Status: A small group of three adult Lesser White-fronted Geese was seen at the Akhna Dam in the east of the island at the end of November 2003 (UNEP-WCMC, 2003).

CMS actions: None reported.

Other actions:

CZECH REPUBLIC:

Status: Host to migrating populations only (Czech Republic National Report, 2002). Rare and irregular migrating individuals stop over in the lakes of southern Moravia (UNEP-WCMC, 2003). Wintering was recorded in that area several

times at the end of the 1950s and the beginning of the 1960s (Kren, 2000).

CMS actions: None reported.

Other actions: The Lesser White-fronted Goose has been taken out of the list of species that can be hunted (Czech Republic National Report, 2002).

DENMARK:

Status: A very rare visitor (Denmark National Report, 2002). A rare migrant with 30 individuals recorded before 1950 and 55 from 1950 to 1998 (Rasmussen, 1999).

CMS actions: None reported.

Other actions:

EGYPT:

Status: Vagrant (Goodman and Meininger, 1989). Scott and Rose (1996) noted that it was formerly a rare winter visitor in very small numbers, but that there had been no recent records.

CMS actions: None reported. The Egypt country report to CMS (2002), does not consider Egypt as part of the species' range.

Other actions:

Estonia:

Status: Until the 1960s the species occurred regularly in small numbers, with a maximum of 346 individuals but there were no confirmed records in the 1970s. Subsequently it has become a rare passage migrant, but there were unusually high numbers in 1997-1999 with nine on 11 October and 44 on 12 October 1997 at Tali, Pärnu district. A spring staging area was revealed in western Estonia at the end of the 1990s, with at least 32 birds seen during 26 April to 15 May 1998 at Haeska, Matsalu Nature Reserve, Lääne district (Aarvak *et al.*, 1999; Tolvanen, 1999). In 1999 at least 43 were counted at Haeska between 24 April and 8 May (Tolvanen *et al.*, 2000b) In 2000, 35 birds were recorded (Pynnönen and Tolvanen 2001), and in the years 2001-2003 about 15 individuals were counted annually (UNEP-WCMC, 2003). Colour ring readings have proved that these birds belong to the Fennoscandian breeding population (UNEP-WCMC, 2003).

CMS actions: Not a Party to CMS.

Other actions: In 2001-2003, the spring monitoring of Lesser White-fronted geese in western Estonia was carried out in co-operation between the Finnish WWF LWfG Conservation Project, the North Ostrobothnia Regional Environment Centre (Finland), and the staff of Matsalu Nature Reserve. Between 13 and 16 individuals were observed in the period 2001-2003(Tolvanen *et al.*, 2004a).

FINLAND:

Status: Important staging areas have been located on the west coast in the vicinity of the city of Turku and the town of Pori in southwest Finland, and on the northern coast of the Bothnian Bay near the town of Oulu. This area, including the isle of Hailuoto and the Bay of Liminganlahti, is the only area still regularly used (Timonen, 1999; Timonen, 2000), and has experienced a decrease by more than 85% since 1990 and this site hosted less than 10 individuals in Spring 2003 (Aarvak & Timonen, 2004). The sites in Hailuoto and others in the Bothnian Bay totalled about 20 to 30 birds in 2000 (Markkola, 2001). The sites are protected but autumn hunting in some of the sites continues to be a potential threat for the declining population. The species is listed in the Red Data Book for East Fennoscandia (Markkola *et al.*, 1998a).

CMS actions: None reported.

Other actions: Staging areas near Oulu are protected, but autumn hunting in part of these sites is still allowed. Coastal meadows are managed for the Lesser White-fronted Geese (grazing and mowing). Timonen and Niemelä (1999) refer to a management plan being developed for the coastal meadows of Säärenperä, 50km southwest of Oulu. Practically all potential breeding areas situated in the protected wilderness areas managed by the Forest and Park Service (UNEP-WCMC, 2003).

FRANCE:

Status: A rare vagrant with only four records from 1981-1993 (Dubois and Comité d'Homologation National, 1984, 1986, 1987, 1990).

CMS actions: None reported.

Other actions:

GEORGIA:

Status: A rare passage migrant, with 26 records since 1972, comprising 104 individuals at 12 localities, and it is recommended for inclusion in the second edition of the Georgian Red Data Book (UNEP-WCMC, 2003).

CMS actions: None reported.

Other actions: The species is under legal protection in Georgia (Aarvak & Timonen, 2004)

GERMANY:

Status: The species regularly passes through in small numbers. More than 20 records have been registered in 1998, eight of them from Brandenburg, most likely including birds of the Fennoscandian population (Deutsche Seltenheitskommission, 2002). The others might be part of the reintroduction programme or escaped birds. Birds tagged with satellite radio transmitters have been recorded in East Germany and could be located in Mecklenburg-Vorpommern and Brandenburg in the autumn migration. These birds, located by satellite tracking, are part of the Fennoscandian population migrating through Central and Eastern Europe (Lorentsen *et al.* 1998, Aarvak and Øien 2003). In Lower Saxony, Nordrhein-Westfalen and in Schleswig-Holstein birds from the reintroduction programme from Sweden have been increasingly recorded together with Greater White-fronted Geese. A total of 29 individuals were recorded in mid-November 1999 (van den Bergh, 2000). The main sites are Unterer Niederrhein (Nordrhein Westfalia), wetlands in northern Germany (Schleswig-Holstein, Lower Saxony) and eastern Germany (e.g. Galenbecker See in Brandenburg).
The species is fully protected in Germany but Greater White-fronted Geese are still hunted in places and in some instances both species are mixed, as has happened in East Germany (Lorentsen *et al.*, 1998).

CMS actions: None reported.

Other actions: Currently a programme is envisaged to alter the flyway of Swedish reintroduced geese to wintering places in the Lower Rhine Delta, but these plans still require the endorsement of the Swedish Naturvårdsverket. The important staging areas in Mecklenburg Vorpommern are protected as nature reserves and listed as Ramsar sites (UNEP-WCMC, 2003).

GREECE:

Status: Greece hosts very important wintering sites for the Fennoscandian population. Most geese winter in Lake Kerkini, Lake Mitrikou and in the Evros Delta area, on the border with Turkey. In recent years, most reports are from Thrace, mainly the Evros delta, but also from Ismaris and Lake Kerkini. The greatest number

ever recorded in Greece was at the Evros delta in 1963 (1,630 individuals) (Handrinos, 1991; Handrinos and Goutner, 1990; Handrinos and Akriotis, 1997).

In 1974 a total of 487 birds was recorded and in the period 1980-1990 the records have fluctuated between 30 and 150 individuals (Aarvak *et al.*, 1996, 1997). More recently, in the winter of 1998-1999, the maximum was a total of 71 individuals at Lake Kerkini, Lake Ismaris and the Evros delta (Lorentsen *et al.*, 1998), and during the first days of January 2004, 52 individuals were observed in the saltmarshes surrounding the Drana Lagoon, Evros Delta (Aarvak & Timonen, 2004). Illegal hunting near the species's feeding sites is a problem, particularly intense at lake Ismaris, but also in other areas in Greece where the Lesser White-fronted Geese feed outside of the protected zones (Bourdakis and Varetzidou, 2000).

CMS actions: Project LIFE00NAT/GR/7198 is aimed at the conservation and management of the Drana lagoon in the Evros delta and is significant as it concerns one of Europe's most important wetland areas, strategically located at the heart of an important migration route for *Anser erythropus* (Anon., 2002). The three most important sites, Evros delta, Kerkini Lake and Lake Mitrikou, are Ramsar sites and EU Special Protection Areas (RCB, 1990). Since 1993, hunting of all goose species has been banned, and this has probably led to the recent establishment of a small wintering population. Greece has established a species action plan (UNEP-WCMC, 2003).

Other actions:

HUNGARY:

Status: Hungary is only a staging ground during autumn and spring migration of the species. A total of 50-100 individuals are seen each year with a slightly declining number in the Hortobágy, and a slightly increasing number in the northwestern part. The latter increase is, at least in part, due to more frequent surveys (Hungary National report, 2002). The population in the Hortobágy Puszta National Park, a traditional staging area for the Fennoscandian population declined constantly over recent years from about 100,000 in the beginning of the 1950s (Sterbetz, 1982) to 400-500 in the mid 1980s (Aarvak *et al.*, 1996), to less than 100 individuals in the late 1990s, and about 100 in 2000 (Tar, 2001). The largest number to occur in recent years was 240, in October 1992 (Gorman, 1996).

CMS actions: Regular waterbird censuses are becoming more frequent. Most of the staging grounds are situated in protected areas. During autumn migration artificial shallow flooding of a fishpond is specially conducted for staging Lesser Whitefronts on the Hortobágy (Hungary National Report, 2002).

Other actions: In 1997, the Hortobágy Society for the Protection of Birds and Nature started the Lesser White-fronted Goose research and conservation programme (Tar, 2004).
The major autumn staging areas in Hungary are protected, including a general shooting ban on waterfowl. Goose hunting is no longer permitted at Ramsar sites, and this may be the cause of the recent increase in wintering and staging numbers of the Lesser White-fronted Goose. However, illegal hunting away from these areas may pose a threat (Madsen, 1996).
Special protection of the species included the inundation of the traditional roosting areas since 1997, the production of information material mainly addressed to hunters and field research, including monitoring of the population (Aarvak *et al.*, 1997; Tar, 2001).

INDIA:

Status: Vagrant with about 11 records 1859-1968 (BirdLife International, 2001).

CMS actions: None reported.
Other actions:

I.R. Iran:

Status: In the early 1970s, between 4,500 and 7,500 birds wintered in Iran, mainly in the Miankaleh protected region, but these disappeared suddenly in the late 1970s and, since then, only small flocks have been observed in the country (Scott and Rose, 1996). Regular large flooding events in the area, due to the rising of the water level in the Caspian Sea, as well as hardening winters, may be leading to a redistribution of the wintering population in this country and in Azerbaijan (Lorentsen *et al.*, 1999).

CMS actions: Not a Party to CMS.
Other actions:

Iraq:

Status: Formerly widespread and numerous in the area, currently the species is only present in small numbers or as a vagrant (Evans, 1994).

CMS actions: Not a Party to CMS.
Other actions:

IRELAND (v)*:

Status: One record (Hutchinson, 1989).

CMS actions: None reported. The Ireland country report to CMS (2002), does not consider Ireland as part of the species' range.
Other actions:

ISRAEL*:

Status: Vagrant with four records between1927-1994 (Shirihai, 1996).

CMS actions: None reported.
Other actions:

ITALY*:

Status: Irregular winter visitor and passage migrant (Brichetti and Massa, 1998).

CMS actions: None reported.
Other actions:

Japan:

Status: This species was a regular winter visitor until the nineteenth century but currently it is only a rare (but almost annual) visitor, usually with flocks of Greater White-fronted Geese (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

JORDAN:

Status: The only record is of two or three individuals seen from November 1993 to February 1994 at Aqaba (Andrews *et al.*, 1999).

CMS actions: None reported. The Jordan country report to CMS (2002) does not consider the country as part of the species's range.
Other actions:

Kazakhstan:

Status: At the end of the 19th and the early part of the 20th centuries the species occurred throughout the western, central and northern parts of the country. A dramatic decrease in numbers was noted by 1970 although no special research was conducted (UNEP-WCMC, 2003).

Currently, the main areas where the species occurs in large numbers during migration, especially in autumn, are Kustanay Oblast, Akmola Oblast and some areas in the northern part of the country. Considerable numbers also stage in the middle reaches of the Ural River in autumn and spring, and on small lakes near Aktyubinsk in autumn (UNEP-WCMC, 2003).

Tolvanen *et al.* (1999a) give an estimated count of 7,300 for 1998 and Tolvanen *et al.* (2000a) give an estimated count of 3,880 for 1999. In May 1997 a total of 2,000 birds were recorded in Kustanay Oblast (Markkola *et al.*, 1998b) and in September-October 2000 about 1,830 individuals were counted there. In 2002 and 2003, 5,000 and 900 geese respectively were estimated at Lake Kulykol during autumn staging (Aarvak *et al*., 2004).

Illegal hunting and disturbance through hunting pressure remain serious threats (Tolvanen *et al.*, 2000a). It is suspects that hunting pressure in Kazakhstan and other countries along the flyway to Central Asia to be responsible for the decline in range and population of the species (UNEP-WCMC, 2003).

CMS actions: Not a Party to CMS.

Other actions: In 1999, WWF Sweden launched a project to establish a network of wetland protection areas in North-Western Kazakstan, and in 2000 WWF Finland, supported by the Finnish Ministry of Foreign Affairs, joined the project. The WWF Kustanay project is aiming to provide scientifically justified recommendations on planning, creation, and improvement of the network of protected areas. In addition, the project aims to promote ecotourism as a sustainable alternative for the hunting tourism in the area. Major achievements of the WWf Kustanay project include the expansion of the Naurzum Nature Reserve in 103,000 hectares, the incorporation of the Lake Sarykopa as a Nature Reserve under the administration of the N.R. and the ban on spring hunting of geese and waterfowl in the region for the spring 2003 by the decision of the Department for forestry and game management of the Kustanay Oblast (Tolvanen *et al*., 2004b). The species is protected in this country (Madsen, 1996).

D.P.R. Korea:

Status: Listed as occurring by CMS, but Tomek (1999) stated that it had not been recorded there.

CMS actions: Not a Party to CMS.

Other actions:

Republic of Korea:

Status: A very rare winter visitor with six records between 1917 and 1997 (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Kuwait:

Status: Vagrant (Cramp, 1997).

CMS actions: Not a Party to CMS.

Other actions:

LATVIA:

Status: Rare but regular migrant, which has decreased in numbers during last years. Breeding has never been recorded in Latvia. Single individuals seen on migration. A flock of 90 was seen in 1958 and, more recently, a flock of 43 was

seen in 1996 (Aarvak *et al.*, 1997).

CMS actions: None reported.

Other actions: It is a specially protected species in Latvia (Aarvak *et al.*, 1997; Latvia National report, 2002).

LITHUANIA:

Status: There is little information on migrating geese from Lithuania, but it is assumed that the Fennoscandian population passes through in spring and also on autumn passage. Svazas (1996) and Svazas *et al.* (1997) reported that until the 1960s flocks of up to 800 Lesser White-fronted Geese were seen in coastal areas, especially at Kurshiu Lagoon and Nemunas River Delta. Subsequently, it was characterised as a very rare and irregular migrant with only single birds or small flocks recorded. However, recent findings indicate that it is still an uncommon but fairly frequent migrant in the west of the country, and recent information suggests there is an important staging area in the south-west (Madsen, 1996).

A staging flock of 200-230 birds was reported in the Nemunas Delta artea in October 1995 and small staging flocks were recorded in several coastal sites in autumn 1996 and 1997 (Stoncius and Markkola, 2000). Since July 2000 the species has been listed in the Red Data Book of the country (UNEP-WCMC, 2003). Several birds have been reported shot (Madsen, 1996).

CMS actions: None reported.

Other actions: It is protected from hunting (UNEP-WCMC, 2003).

LUXEMBOURG (?):

Status:

CMS actions: None reported.

Other actions:

F.Y.R. MACEDONIA:

Status: Listed as occurring by Anon. (2003b).

CMS actions: None reported.

Other actions:

REPUBLIC OF MOLDOVA*:

Status: A rare passage migrant, recorded on the Lower Prut Lakes (45°42'N 28°11'E) (UNEP-WCMC, 2003) and the Lower Dniester (Bejenaru *et al.*, 2003).

CMS actions: None reported. The Moldova country report to CMS (2002) does not consider that the country is a range state for the species.

Other actions:

MONGOLIA*:

Status: It is very likely that the Lesser White-fronted Goose passes regularly through Mongolia during migration between their Russian breeding and Chinese wintering grounds. The species was first recorded in Mongolia in September 2000, when a small flock was seen in Dornod (UNEP-WCMC, 2003).

CMS actions: None reported.

Other actions:

Myanmar (v)*:

Status: Vagrant, known by a single record (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

NETHERLANDS:

Status: Lesser White-fronted Geese regularly visit the wintering grounds in the Netherlands, mixed with Greater White-fronted Geese. They winter annually in Zuid Holland and Zeeland (Lorentsen *et al.*, 1999) and belong to the reintroduction programme in Sweden. In the winter of 1998/1999, 75 geese from the Swedish re-introduction programme were observed wintering in the Netherlands (UNEP-WCMC, 2003).

CMS actions: None reported.

Other actions: All geese have been protected from hunting throughout the year from 2000 onwards (de Waard, 1999). The main wintering areas are protected as nature reserves (UNEP-WCMC, 2003).

NORWAY:

Status: Four staging areas are known. Two of these used to be used by the very small population in Nordland County but none has been seen there since the 1980s, until one pair was observed in spring 2003. The remaining, important staging areas are in Finnmark County: a traditional one at the Valdak marshes in the Porsangen Fjord, where between 41 and 84 birds have been recorded in spring in the years 1993-2003, with the maximum in 1998 (Aarvak and Øien, 1999a, 2000, 2001), but the population development is negative, based on the data collected during spring staging (Aarvak & Timonen, 2004); Small numbers have been found staging in the Varangerfjord area and eastern Finnmark, ranging from 50 in 1995 to only 3 in 1999 (Tolvanen, 2000).
New threats in the Valdak marshes include use of 4WD motorbikes in the area as well as extensive daily airplane traffic to and from lakes nearby at very low altitude; at present a 66 kV power line cross directly through the core breeding area, and a new power line (300(420) kV) is now planned in parallel with the existing one; in this particular case, a technical encroachment like this could have considerable negative impact in the Lesser White-fronted Goose population development, due both to increased mortality risk, but also due to occupation of important breeding habitat for the remaining population in Fennoscandia. In the standard matrix used for Environmental Impacts Assessments in Norway, the planned power line was rated to have very big negative consequences, but no thorough environmental impact assessment has been carried out for it so far (Aarvak & Timonen, 2004).
The species is listed in the Red Data Book for East Fennoscandia (Markkola *et al.*, 1998).

CMS actions: None reported.

Other actions: Pre-nesting staging areas in the Porsanger Fjord, northern Norway, are protected; breeding areas are partly within national parks but the most important sites remain unprotected. However, not all of the remaining breeding area is yet protected, and adequate management has not been set in place to prevent disturbances. Norway established a Species Action Plan in 1996 (UNEP-WCMC, 2003).

Oman (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004). One individual was recorded between 18 November 1993 and 10 January 1994 (Anon., 1997)

CMS actions: Not a Party to CMS.
Other actions:

PAKISTAN:

Status: Vagrant with ten records 1871-1967 (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

POLAND:

Status: Migrating population only. Rarely (irregularly) migrating species (Poland National report, 2002). Very scarce migrant, possibly less frequent recently (Tomialojc, 1990). Hunting of geese is still common practice (UNEP-WCMC, 2003).

CMS actions: None reported.

Other actions: The species is protected only *pro forma* (UNEP-WCMC, 2003).

ROMANIA*:

Status: Occurrence reported (Cataneaunu, 1978). An unknown number of Lesser White-fronted Geese, associated with Greater White-fronted Geese, annually pass through Romania in the Dobrogja area in the southeast. The highest number recorded was 1,000 in 1989 (Munteanu *et al.*, 1991). The birds that pass through are part of the flocks that remain in eastern Bulgaria in the winter, and the percentage of Lesser White-fronted Geese is supposed to be similar to that in Bulgaria. Since Greater White-fronted Geese are intensively hunted it is likely that Lesser White-fronted Geese are also shot annually. It is classified as rare according to the Red List issued by Biosphere Reserve Danube Delta 2000 (Romania National Report, 2002)

CMS actions: None reported.

Other actions:

Russian Federation:

Status: A staging area on the Kanin Peninsula was rediscovered in 1994, and comprises about 50km² of annually flooded marshland between the mouths of the Mesna and Torna Rivers on the western coast of the Kanin Peninsula (68°01'N 44°20'E). Satellite telemetry and marking programmes suggest that this may be the gathering place for the whole Fennoscandian breeding population (Lorentsen *et al.*, 1998), i.e. 100-200 individuals, depending on the yearly variation in breeding success (Aarvak *et al.*, 1996).

A network of water bodies within the Kuma-Manych Basin is used as stopover sites both in spring and autumn, with a maximum of 600 birds recorded in autumn (Vinogradov, 1990; Nankinov, 1992). In the Nizheneye Dvuobye, within the borders of the Shuryshkarski District of the Tyumen Region, the birds use the flooded meadows, floodplains and scrub along the Ob River during autumn. Many thousand individuals were recorded there 30 years ago but no counts have made since then. In southern Transuralia birds use wetlands in south Tchelyabinsk region during spring migration with a maximum of 500-800 recorded (Korovin, 1997; Zakharov and Migun, 1997; Gordienko, 2001). Some staging areas are also known from the eastern shores of the Sea of Azov. (Lorentsen *et al.*, 1999).

Belkovsky and Fomin (1998) recorded the species on Bering Island in 1997 and 1998. Gerasimov and Gerasimov (1997, 1998) recorded this species at various sites in Kamchatka in the 1970s and 1980s, including up to 400 in spring 1981 and 1983.

Mischenko *et al.* (2003) recorded individuals in spring in four years (1987-2002) on the Faustovo floodplain, Moscow Oblast. The species is listed in

the Russian Red Data Book (RSFSR, 1983) and in the Red Data Book of Yakutia.

CMS actions: Not a Party to CMS.

Other actions: Part of the central breeding area in Taimyr is within the Taimyr State Reserve. In 1997 one year after the crucial finding of the stopover site on the Kanin Peninsula, the area was designated as a protected area. The spring hunting season on the species has been banned in Yakutia since 1995 (A. G. Degtyarev and V. I. Perfilev, *in litt.*1997). However, this measure is not as effective as intended due to the lack of control in most of these remote areas (UNEP-WCMC, 2003).

In Russia, the Goose and Swan Study Group of Eastern Europe and North Asia has undertaken several research studies to explore the conservation status of the Lesser White-fronted Goose in northern Russia. In particular Bolshezemelskaya Tundra, South Yamal, Taimyr and Yakutia have been the focus of the group in the last five years. Monitoring of the Bolshezemelskaya Tundra and Yamal population will continue for four further years. One important staging area in the Putorana Mountains monitoring is secured for three further years. The Russian Goose Group designed a GIS connected database to store all records of the Lesser White-fronted Goose (UNEP-WCMC, 2003).

Serbia and Montenegro:

Status: A rare winter visitor and passage migrant (Matvejev and Vasic, 1973).

CMS actions: Not a Party to CMS.

Other actions:

SLOVAKIA:

Status: The species is a rare visitor (vagrant), recorded in Slovakia only before 1990s (Slovakia National Report, 2002). Irregular passage migrant (Trnka *et al.*, 1995).

CMS actions: None reported.

Other actions: Since late 1990s the winter waterfowl accounting is being organised by the Society for Protection of Birds in Slovakia (SOVS). According to the character of this species in Slovakia, no special activities are being planned for the future (Slovakia National Report, 2002).

SPAIN*:

Status: Surprisingly, single groups of up to nine birds have frequently been seen visiting the Guadalquivir Delta. The reserves where Lesser White-fronted Geese have been observed recently are all protected and the geese are not hunted (Persson, 2000). According to H. Persson (*in litt.*) the area appears suitable for reintroducing Lesser White-fronted Geese, as in the Netherlands, but this has not been recommended due to the high hunting activity reported in neighbouring France.

In total, eight Lesser White-fronted Geese have been reported shot in Spain during the last 16 winters, all of them in the Doñana area. With the exception of an individual captured in summer, all observations of the species in Spain fall within the time frame typical for wintering Norwegian Greylag Geese *Anser anser sylvestris* (Persson, 2004), because a well-known behaviour among geese is that individuals of one species, singly or in small parties, are prone to join more numerous species.

CMS actions: None reported. The Spain National report to CMS (2002) does not consider the country to be part of the range of the species.

Other actions:

SWEDEN:

Status: In spring the Swedish native breeding population used to arrive from the Finnish side of the Gulf of Bothnia. There are several observations showing that flocks, after crossing the Gulf, used the green fields along the Swedish coast as staging sites until the breeding grounds were sufficiently free of ice and snow (Lorentsen *et al.*, 1999). Categorized as Critically Endangered in the 2000 Red List of Swedish Species (Gärdenfors, 2000).

CMS actions: None reported.

Other actions: Former breeding areas are partly within national parks. A reintroduction programme was launched in 1981, and is currently under reconsideration. The main focus in Sweden remains on the reintroduction of Lesser White-fronted Goose into the wild through using Barnacle Geese as foster parents. The project has had some success as the birds have been regularly returning to the places of their release. But recently the project became increasingly under scientific dispute, when genetic analyses demonstrated the distinct genome of the Fennoscandian population and the danger of mixing the last of the wild populations with a different genetic set, from White-fronted Goose (UNEP-WCMC, 2003). As a consequence, no geese have been released during last four years, although the number of broods was the highest between 2002 and 2003 (Andersson, 2004).

SWITZERLAND:

Status: Vagrant not reported since 1851 (Winkler, 1987).

CMS actions: No planned actions (Switzerland National Report, 2002).

Other actions:

SYRIA*:

Status: Vagrant: three records (Baumgart, 1995).

CMS actions: None reported.

Other actions:

TAJIKISTAN:

Status: Not reported as a range state by BirdLife International (2004).

CMS actions: None reported.

Other actions:

Turkey:

Status: The species occurs only occasionally. Only two reported records, both in 1993 (Kirwan and Martins, 2000), but birds wintering on the Greek side of the Evros Delta may well visit the Turkish side at times. Aarvak *et al.* (1997) reported a flock of 63 Lesser White-fronted Geese coming from the south-east (i.e. the Turkish side) and landing on the Greek side of the delta.

CMS actions: Not a party to CMS.

Other actions:

Turkmenistan:

Status: The species stages through in small numbers but is regarded as nearly extinct (Vasiliev and Gauzer, 2001a). Scott and Rose (1996) mapped two minor wintering sites (< 1% of flyway population) on the Iranian border but no further details have been traced. In March 1999, about 400 individuals were recorded in the International Water bird Census (Markkola, 2000).

CMS actions: Not a Party to CMS.

Other actions: A national action plan has been produced (Vasiliev and Gauzer, 2001b).

UKRAINE:

Status: Lesser White-fronted Geese have been increasingly observed with the increasing numbers of roosting geese in the Crimea. Total numbers have exceeded 1,000 birds, often in mixed flocks with Red-breasted Geese. Zhmud (1996) mentioned one individual that was collected in the Ukrainian part of the Danube Delta in 1983 and speculated that it was possible that single individuals might winter in the region with Greater White-fronted Geese. The species is highly threatened by poaching and illegal hunting, due to the novelty of its presence in the area, and to the lack of management experience (Ardamatskaya, 1996; Kondratyev *et al.*, 2000; Rudenko *et al.*, 2000; Grinchenko, 2001). The hunting on Crimea is rather intensive in many parts of the region with official hunting days on Wednesdays, Saturdays and Sundays (Aarvak *et al.*, 2004).

CMS actions: None reported.

Other actions: In the period 18 January 2002-2 February 2002, a winter survey for the species was carried out in co-operation between the Fennoscandian Lesser White-fronted Goose conservation project and the Asov-Black Sea Ornithological Station (Ukraine), covering west, central and eastern Sivash, the Kerch Peninsula, Karkinitska coastline, the western coast of Crimea up to lake Donuzlav, and the coastal areas of north Sivash. 12 Lesser White-fronted Geese were sighted, as single individuals interspersed in the flocks of White-fronted Geese. Reinforcement in the protection is needed to improve the conservation status of wintering geese in the area (Aarvak *et al.*, 2004)

UNITED KINGDOM (v)*:

Status: Vagrant, with 47 recorded up to 1957 and 89 recorded from 1958 to 2000 (BOU, 1992; Rogers and the Rarities Committee, 2001).

CMS actions: None reported.

Other actions:

United States (v)*:

Status: Reported as vagrant (AOU, 1983; 1988).

CMS actions: Not a Party to CMS.

Other actions:

UZBEKISTAN:

Status: It has been shown through satellite tracking that birds migrate along the shores of Lake Aral. Some birds might pass through Uzbekistan more regularly. A recent report on water birds in the country (Kreuzberg-Mukhina and Markkola, 2000; Kreuzberg-Mukhina and Lanovenko, 2003) revealed important wintering sites close to the Afghan and Tajikistan border areas.

From hunting bags, the numbers are estimated to be around 2,000 to 4,000. In the southern Aral region and at the lakes Dengizkul and Aydarkul there is a migrating and wintering population of 200 to 2,000 individuals (Red Data Book Uzbekistan, 2003), in southern Uzbekistan near Bukhara, Kashkadarya and Surkhandarya a new wintering site for geese has recently been found with a total of 144 Lesser White-fronted Geese in the winter of 2001, none in 2002, and 63 in 2003 (UNEP-WCMC, 2003). The species is included in the National Red Data Book of threatened species as Vulnerable. The staging areas in the southern Aral in Uzbekistan lake depression have been widely destroyed, subject to severe changes in the water regime (UNEP-WCMC, 2003).

CMS actions: None reported.
Other actions:

REFERENCES:

Aarvak, T., Øien, I. J. and Nagy, S. (1996). *The Lesser White-fronted Goose monitoring programme. Annual report 1996.* Norwegian Ornithological Society, Klæbu. NOF Rapportserie report No 7-1996. 30 pp.

Aarvak, T., Øien, I. J., Syroechkovski Jr, E. E. and Kostadinova, I. (1997). *The Lesser White-fronted Goose monitoring programme. Annual report 1997.* Norwegian Ornithological Society, Klæbu. NOF Rapportserie report No 5-1997. 68 pp.

Aarvak, T., Øien, I. J., Tolvanen, P. and Markkola, J. (1999). Two pieces of the spring migration puzzle of the Fennoscandian Lesser White-fronted Geese population in place. Pp. 27-30 in P. Tolvanen, J. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1998.* WWF Finland Report No 10 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-1999.

Aarvak, T. and Øien, I. J. (1999a). Monitoring and catching of staging Lesser White-fronted Geese at the Valdak marshes in 1998. Pp. 22-27 in P. Tolvanen, J. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1998.* WWF Finland Report No 10 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-1999.

Aarvak, T. and Øien, I. J. (2000). Monitoring of staging Lesser White-fronted Geese at the Valdak marshes, in 1999. Pp. 24-27 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1999.* WWF Finland Report No 12 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-2000.

Aarvak, T. and Øien, I. J. (2001). Monitoring of staging Lesser White-fronted Geese at the Valdak marshes, in 2000. Pp. 17-23 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 2000.* WWF Finland Report 13 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-2001.

Aarvak, T. and Øien, I. J. (2003). Moult and autumn migration of non-breeding Fennoscandian Lesser White-fronted Geese *Anser erythropus* mapped by satellite telemetry. *Bird Conservation International* 13: 213-226.

Aarvak, T. Grinchenko, A. Nordenswan, G. Popenko, V. & Pynnonen, J. (2004) Survey of wintering Lesser White-fronted Geese in Crimea, Ukraine, in 2002. In: Aarvak, T. & Timonen, S. (eds.): *Fennoscandian Lesser White-fronted Goose Conservation Project. Report 2001-2003*. WWF Finland Report No 20 & Norwegian Ornithological Society, NOF Rapportserie report no. 1-2004:27-28. http://www.wwf.fi/fennoscandian_lesser_2.html Downloaded on 30/09/2004.

Aarvak, T. Arkiomaa, A. Tolvanen, P. Oien, I.J. & Timonen, S. (2004) Inventories and catching attempts of Lesser White-fronted Geese Anser erythropus at Lake Kulykol, Kazakstan, in 2002 and 2003. In: Aarvak, T. & Timonen, S. (eds.): *Fennoscandian Lesser White-fronted Goose Conservation Project. Report 2001-2003*. WWF Finland Report No 20 & Norwegian Ornithological Society, NOF Rapportserie report no. 1-2004:27-28. http://www.wwf.fi/fennoscandian_lesser_2.html Downloaded on 30/09/2004.

Aarvak, T. & Timonen, S (eds.) (2004) *Fennoscandian Lesser White-fronted Goose Conservation Project, Report 2001-2003*. WWF Finland Report No 20 & Norwegian Ornithological Society, NOF Rapportserie report no. 1-2004. http://www.wwf.fi/fennoscandian_lesser_2.html Downloaded on 30/09/2004.

Adamian, M. S. and Klem, D. Jr (1997). *A field guide to birds of Armenia*. American University of Armenia.

Andersson, A (2004) The reintroduction of the Lesser-white Fronted Goose in Swedish Lapland- a summary for 2000-2003. In: Aarvak, T. & Timonen, S. (eds.): *Fennoscandian Lesser White-fronted Goose Conservation Project. Report 2001-2003*. WWF Finland

Report No 20 & Norwegian Ornithological Society, NOF Rapportserie report no. 1-2004:27-28. http://www.wwf.fi/fennoscandian_lesser_2.html Downloaded on 30/09/2004.

Andrews, I. J., Khoury, F. and Shirihai, H. (1999). Jordan Bird Report 1995-97. *Sandgrouse* 21: 10-35.

Anon. (1997). Oman bird list –Edition 4. Additions & corrections, 8 Dec 1997. Oman Bird Records Committee.

Anon. (2002). CMS Information System – *Anser erythropus.* Information from 2002 National Report, European Community. http://www.unep-wcmc.org/cms/index.html Downloaded on 25/02/2004.

Anon. (2003a). Lesser White-fronted Goose (*Anser erythropus*). Information extracted from the national reports provided by the Contracting Parties to the Convention on the Conservation of European Wildlife and Natural Habitats to the Group of Experts on Conservation of Birds and from National Biodiversity Strategies and Action Plans. http://www.birdlife.info/saps/sapDetails.asp?sid=377

Anon. (2003b) Emerald Network Pilot Project in "former Yugoslav Republic of Macedonia". Report. Document presented at the meeting of the Convention on the Conservation of European Wildlife and Natural Habitats, Strasbourg, 14 February 2003. http://www.coe.int/t/e/Cultural_Cooperation/Environment/Nature_and_biological_diversity/Ecological_networks/Agenda/tpvs_emerald03e_03.PDF?L=E

AOU (American Ornithologists' Union) (1983). Checklist of North American birds. 6th Edition. American Ornithologists' Union, New York.

AOU (American Ornithologists' Union) (1998). *Check-list of North American birds*. 7th edition. American Ornithologists' Union, New York.

Ardamatskaya, T. B. (1996) [Present status of geese populations in the northern Black Sea area.] *Casarca,* 2: 276-285. (In Russian with English summary.)

Artiukhov, A. I. (2003). Migrations and status of geese in the Bryansk Oblast over the last 25 years. Pp. 167-169 in *Management and conservation of waterfowl populations in northern Eurasia (with special focus on the White Sea-Baltic flyway)*. International Symposium, 23-28 April 2003, Okonets, Karelia, Russia. Abstracts.

Baumgart, W. (1995). *Die Vögel Syriens*. Kasparek, Heidelberg.

Bejenaru, I., Andrrev, A. and Sirodoev, G. (2003) Information Sheet on Ramsar Wetlands (RIS) – Republic of Moldova, Lower Dniester, 2003. http://www.ramsar.org/ris_moldova_lower_dniester.htm

Belgium National Report (2002) Belgium National report to CMS.

Belkovsky, A. N. and Fomin, V. V. (1998). [The spring migration of the Lesser White-fronted Goose on Bering Island.] *Casarca* 4: 197. (In Russian with English summary.)

BirdLife International (2001). *Threatened birds of Asia*. The BirdLife International Red Data Book. Cambridge, UK: BirdLife International.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

BOU (British Ornithologists' Union) (1992). Checklist of the birds of Britain and Ireland. 6th edition.

Bragina, T. M. (2000). The establishment of a network of protected areas for waterfowl and other wetland birds in north-western Kazakhstan. P. 48 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1999.* WWF Finland Report No 12 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-2000.

Brichetti, P. and Massa, B. (1998) Check-list degli uccelli italiani aggiornata a tutto il 1997. *Riv. Ital. Orn.*, 68: 129-152.

Bourdakis, S. and Varetzidou, S. (2000). Greece. Pp. 261-333 in M. F. Heath and M. I. Evans (eds.) *Important bird areas in Europe: priority sites for conservation 2; Southern Europe*. Cambridge (BirdLife International, BirdLife Conservation Series) 8.

Bulgakov, D. B. and Grishanov, G. V. (2001). [Spring migration of geese in the Kaliningrad Oblast.] *Casarca,* 7: 324-330. (In Russian with English summary.)

Bulgaria National Report (2002). National Report to CMS.

Cataneaunu, I. (1978). Aves. Fauna Respublicii Socialiste Romania. Editura Academiei RSR, Bucarest Volume XV, Number 1.

Cramp, S. (ed.) (1997) *The birds of the Western Palearctic.* Concise edition. Oxford: Oxford University Press.

Czech Republic National Report (2002). National Report to CMS.

Denmark National Report (2002). National Report to CMS.

De Smet, G., Pollet, J. and BAHC (1999). Zeldzame niet-zangvogels in België in 1996 en 1997. *Oriolus,* 65: 53-76.

Deutsche Seltenheitskommission (2002). Seltene Vogelarten in Deutschland 1998. *Limicola,* 16: 113-184.

de Waard, H. (1999). Gänseschäden in den Niederlanden unter besonderer Berücksichtigung der Provinz Friesland. *NNA Ber*., 12(3): 173-175.

Dubois, P. J. and Comité d'Homologation National (1984). Les observations d'espèces soumises à homologation en France en 1981 et 1982. *Alauda,* 52: 102-125.

Dubois, P. J. and Comité d'Homologation National (1986). Les observations d'espèces soumises à homologation en France en 1985. *Alauda,* 54: 286-310.

Dubois, P. J. and Comité d'Homologation National (1987). Les observations d'espèces soumises à homologation en France en 1986. *Alauda,* 55: 325-355.

Dubois, P. J. and Comité d'Homologation National (1990). Les observations d'espèces soumises à homologation nationale en 1989. *Alauda,* 58: 245-266.

Evans, M. I. (ed.) (1994). *Important Bird Areas of the Middle East*. BirdLife International, BirdLife Conservation Series 2. Cambridge , U.K.

Gärdenfors, U. (ed.) (2000) Rödlistade arter I Sverige – The 2000 Red List of Swedish Species. ArtDatabanken, SLU Uppsala.

Gerasimov, N. N. and Gerasimov, Y. N. (1997). [Spring migration of geese at Kharchinskoe Lake, Kamchatka.] *Casarca* 3: 384-387. (In Russian with English summary.)

Gerasimov, N. N. and Gerasimov, Y. N. (1998). [Lesser White-fronted Goose and Snow Goose records in Kamchatka.] *Casarca* 4: 314-318. (In Russian with English summary.)

Goodman, S. M. and Meininger, P. L. (1989). *The birds of Egypt*. Oxford: Oxford University Press.

Gordienko, N. S. (2001). [Lakes of southern Trans-Urals region as wetlands for waterfowl.] *Byulleten' Moskovskogo Obschchestva Ispytatelei Prirody Otdei Biologicheskii,* 106(6): 51-56. (In Russian.)

Gorman, G. (1996). *The birds of Hungary*. Christopher Helm, London.

Grinchenko, A. B. (2001). [Migration and wintering of Lesser White-fronted Geese in Crimea.] *Casarca,* 7: 130–136. (In Russian, with English summary.)

Handrinos, G. I. (1991). The status of geese in Greece. *Ardea,* 79: 175-178.

Handrinos, G. I. and Akriotis, T. (1997). *The birds of Greece*. London: Christopher Helm.

Handrinos, G. I. and Goutner, V. (1990). On the occurrence of the Lesser White-fronted goose *Anser erythropus* in Greece. *Journal für Ornithologie,* 131(2): 160-165.

Hungary National Report (2002). National Report to CMS.

Hutchinson, C. D. (1989). Birds in Ireland. Poyser, Calton, U.K .

IUCN (2004*). 2004 IUCN Red List of Threatened Species. www.redlist.org. Downloaded on 17/02/2004.*

Iwabuchi, S., Ikeuchi, T., Lei, G., Yung, J. and Sun Ping Yue (1997). Short report on survey of Lesser White-fronted Geese at Dongting Lake in China. *Bull. of the Sendai Science Museum,* 7: 103 –105.

Kirwan, G. and Martins, R. (2000). Turkey bird report 1992-1996. *Sandgrouse,* 22: 13-35.

Kondratyev, A., Buzun, V. A. and Grinchenko, A. (2000). New wintering area for Lesser White-fronted Goose in Crimea Peninsula, Ukraine. P. 60 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1999.* WWF Finland Report No 12 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-2000.

Korovin, V. A. (1997). [On the spring migration of the Lesser White-fronted Goose (*Anser erythropus*) in the steppes of Transuralye.] *Casarca,* 3: 196-197. (In Russian with English summary.)

Kostadinova. I., Øien, I. J and Aarvak, T. (1999). Awareness campaign for the Lesser White-fronted Goose. P. 11 in P. Tolvanen, J. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1998.* WWF Finland Report No 10 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-1999.

Kozulin, A. V. and Mongin, E. E. (2003). [Spring geese migration in the Pripyat' river flood-plain in 1995.] *Casarca* 2: 302-303. (In Russian with English summary.)

Kralj, J. (1997). Ornitofauna hrvatske tijekom posljednjih dvjesto godina. *Larus,* 46: 1-112.

Kren, J. (2000). *Birds of the Czech Republic*. Christopher Helm, London.

Kreuzberg-Mukhina, E. and Markkola, J. (2000). New information about wintering Lesser White-fronted Geese in Uzbekistan. P. 57 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1999.* WWF Finland Report No 12 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-2000.

Kreuzberg-Mukhina, E. and Lanovenko, E. (2003). New goose wintering site at the Uzbekistan-Afghanistan state border. Pp. 204-205 in *Management and conservation of waterfowl populations in northern Eurasia (with special focus on the White Sea-Baltic flyway)*. International Symposium, 23-28 April 2003, Okonets, Karelia, Russia. Abstracts.

Lamani, F. and Puzanov, V. (1962). [Inventory of birds of Albania]. *Buletini i Shkencave Natyrore,* 3(4): 87-101. (In Albanian.)

Latvia National Report (2002). National Report to CMS.

Lei, G. (2000). Status of the Lesser White-fronted Goose in China. Pp. 16-17 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1999.* WWF Finland Report No 12 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-2000.

Lorentsen, S.-H., Øien, I. J. and Aarvak, T. (1998). Migration of Fennoscandian Lesser White-fronted Geese *Anser erythropus* mapped by satellite telemetry. *Biological Conservation,* 84: 47-52.

Lorentsen, S.-H., Øien, I. J., Aarvak, T., Markkola, J., von Essen, L., Faragó, S., Morozov, V., Syroechkovsky, E., Jr and Tolvanen, P. (1999). Lesser White-fronted Goose *Anser erythropus*. Pp. 144-161 in J. Madsen, G. Cracknell and T. Fox (eds.) *Goose populations of the Western Palearctic. A review of status and distribution.* Wetlands International Publ. No. 48, Wetlands International, Wageningen, The Netherlands. National Environmental Research Institute, Rönde, Denmark.

Madsen, J. (1996) International Action Plan for the Lesser White-fronted Goose (*Anser erythropus*). In: Heredia, B., Rose, L. & Painter, M (1996) *Globally threatened birds in Europe, Action Plans*. Council of Europe Publishing: pp 67-78.

Markkola, J. (2000). Lesser White-fronted Goose protected in Turkmenia. P. 57 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1999.* WWF Finland Report No 12 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-2000.

Markkola, J. (2001). Spring staging of Lesser White-fronted Geese on the Finnish Bothnian Bay coast in 2000. Pp. 12-16 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 2000.* WWF Finland Report 13 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-2001.

Markkola, J., Bianki, V. and Zimin, V. (1998a). The Lesser White-fronted Goose (*Anser erythropus*). Pp. 220-224 in H. Kotiranta, P. Uotila, S. Sulkava and S. Peltonen (eds.) *Red Data Book of East Fennoscandia*. Helsinki: Ministry of the Environment, Finnish Environment Institute and Finnish Museum of Natural History.

Markkola, J., Pynnönen, P., Tolvanen, P., Veersalu, A. and Yerohov, S. (1998b). The second

international Lesser White-fronted Goose *Anser erythropus* expedition in NW Kazakhstan in May 1997. Pp. 21-22 in P. Tolvanen, K. Ruokolainen, J. Markkola and R. Karvonen (eds.) *Finnish Lesser White-fronted Goose Conservation Project. Annual report 1997.* WWF Finland Report No 9.

Matvejev, S. D. and Vasic, V. F. (1973). *Catalogus Faunae Jugoslaviae, IV/3, Aves,* Yugoslavia.

Markkola, J., Iwabuchi, S., Gang, L., Aarvak, T., Tolvanen, P. and Øien, J. J. (2000). Lesser White-fronted Goose survey at the East Dongting and Poyang lakes in China, February 1999. Pp. 9-15 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1999.* WWF Finland Report No 12 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-2000.

Mischenko, A. L., Sukhanova, O. V., Kharitonov, S. P., Zubakin, V. A. and Volkov, S. V. (2003). Monitoring of goose numbers on the Faustovo floodplain stopover, Moscow Oblast. Pp. 219-220 in *Management and conservation of waterfowl populations in northern Eurasia (with special focus on the White Sea-Baltic flyway).* International Symposium, 23-28 April 2003, Okonets, Karelia, Russia. Abstracts.

Morozov, V. V. and Poyarkov, N. D. (1997). [On wintering grounds of Lesser White-fronted Geese (*Anser erythropus*) in Azerbaijan.] *Casarca,* 3: 211-214. (In Russian with English summary.)

Munteanu, D., Weber, P., Szabó, J., Gogu-Bogdan, M. and Marinov, M. (1991). A note on the present status of geese in Romania. *Ardea,* 79: 165-166.

Nankinov, D. (1992). Lesser White-fronted Goose (*Anser erythropus*) migration routes, wintering sites and conservation in Western Eurasia. *Gibier Faune Sauvage,* 9: 257-268.

Nankinov, D. N. (1993). A new wintering area of the Lesser White-fronted Goose *Anser erythropus* in Bulgaria. *Ornis Svecica,* 3: 165-166.

Nechaev, V. A. (1996). [Peculiarities of geese migration in Sakhalin Island.] *Casarca,* 2: 268-275. (In Russian with English summary.).

Norderhaug, A. and Norderhaug, M. (1984). Status of the Lesser White-fronted Goose, *Anser erythropus*, in Fennoscandia. *Swedish Wildlife Research,* 13(1): 171-185.

Øien, I. J. and Aarvak, T. (2001). Conservation of the Lesser White-fronted Goose: new results from satellite telemetry. Pp. 67-75 in Riede, K. (ed.) *New perspectives for monitoring migratory animals*. Fed. Agency for Nature Conservation (BfN), Bonn.

Paynter, D. (1996). Counts of Lesser White-fronted Geese in Azerbaijan, January/February 1996. *Wetlands International Goose Specialist Group Bulletin,* 8: 7-8.

Perennou, C., Mundkur, T., Scott, D. A., Folkestad, A. and Kvenild, L. (1994). *The Asian Waterfowl Census 1987-91: distribution and status of Asian waterfowl*. AWB Publ. No. 86. IWRB Publ. No. 24. Kuala Lupmpur: AWB and Slimbridge, U.K.: IWRB.

Persson, H. (2000). Occurrence of the Lesser White-fronted Geese in Spain, up to 1999. Pp. 51-52 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1999.* WWF Finland Report No 12 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-2000.

Persson, H. (2004) Lesser White-fronted Geese shot in Spain in the winters 1985/86-2000/01. In: Aarvak, T. & Timonen, S. (eds.): *Fennoscandian Lesser White-fronted Goose Conservation Project. Report 2001-2003*. WWF Finland Report No 20 & Norwegian Ornithological Society, NOF Rapportserie report no. 1-2004:27-28. http://www.wwf.fi/fennoscandian_lesser_2.html Downloaded on 30/09/2004.

Petkov, N. Øien, I. J., and Aarvak, T. (1999). Occurrence of Lesser White-fronted Goose in north-east Bulgaria in February 1998. Pp. 9-11 in P. Tolvanen, J. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1998.* WWF Finland Report No 10 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-1999.

Poland National Report (2002). National Report to CMS.

Pynnönen, J. and Tolvanen, P. (2001). Monitoring of Lesser White-fronted Geese in western Estonia in spring 2000. Pp. 10-11 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 2000.*

WWF Finland Report No 13 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-2001.

Ramsar Convention Bureau [RCB] (1990). *Directory of wetlands of international importance. Ramsar Switzerland Conference 1990.* Gland, Switzerland: International Union for Conservation of Nature and Natural Resources.

Ranner, A., Laber, J. and Berg, H.-M. (1995). Nachweise seltener und bemerkenswerter Vogelarten in Österreich 1980-1990. *Egretta,* 38: 59-98.

Rasmussen, P. A. F. (1999). Sjældne fugle i Danmark og Grønland i 1998. *Dansk Orn. Foren. Tidsskr.*, 93: 127-140.

Rogers, M. J. and the Rarities Committee (2001). Report on rare birds in Great Britain in 2000. *British Birds*, 94: 452-504.

Romania National Report (2002). National Report to CMS.

Ruokonen, M. and Lumme, J. (1999). Phylogeography and population genetic structure of the Lesser White-fronted Goose. Pp. 51-52 in P. Tolvanen, J. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1998.* WWF Finland Report No 10 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-1999.

Ruokonen, M., Kvist, L., Tegelström, H. and Lumme, J. (2000). Goose hybrids, captive breeding and restocking of the Fennoscandian populations of the Lesser White-fronted Goose (*Anser erythropus*). *Conservation Genetics*, 1(3): 277-283.

Scott, D. A. and Rose, P. M. (1996). *Atlas of Anatidae populations in Africa and western Eurasia.* Wetlands International.

Semenov, N. N. (1998). [On the migration and status of geese and swans in the upper reaches of the Taz river (west Siberia.)] *Casarca,* 4: 343-346. (In Russian with English summary.)

Shelton, N. (2001). *Where to watch birds in Azerbaijan.* Baku: "Azerbaijan" Publishing House.

Shirihai, H. (1996). *The birds of Israel*. Academic Press, London.

Slovakia National Report (2002). National Report to CMS.

Spain National Report (2002). National Report to CMS.

Sterbetz, I. (1982). Peak numbers of geese and cranes on autumn migration in the Kardoskút Nature Reserve, southeast Hungary. *Ardea,* 89: 193-194.

Stoncius, D. and Markkola, J. (2000). New Lesser White-fronted Goose data from Lithuania. Pp. 58-59 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1999.* WWF Finland Report No 12 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-2000.

Svazas, S. (1996). The Lesser White-fronted Goose in Lithuania. *Wetlands International Goose Specialist Group Bulletin,* 7: 8-9.

Svazas, S., Stanevicius, V. and Cepulis, M. (1997). Status, numbers and distribution of swans and geese in Lithuania. *Acta Zoologica Lituanica, Ornithologia,* 6.

Switzerland National Report (2002). National Report to CMS.

Tar, J. (2001). The occurrence and protection of Lesser White-fronted Goose in Hortobagy, Hungary in 1996-2000. Pp. 34-36 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 2000.* WWF Finland Report 13 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-2001.

Tar, J (2004) Migration of Lesser White-fronted Goose in Hungary and protection of their Hungarian staging sites. In: Aarvak, T. & Timonen, S. (eds.): *Fennoscandian Lesser White-fronted Goose Conservation Project. Report 2001-2003.* WWF Finland Report No 20 & Norwegian Ornithological Society, NOF Rapportserie report no. 1-2004:27-28. http://www.wwf.fi/fennoscandian_lesser_2.html Downloaded on 30/09/2004.

Timonen, S. (1999) The spring migration of the Lesser White-fronted Geese at the Bothnian Bay in 1998. Pp. 18-20 in P. Tolvanen, J. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1998.* WWF Finland Report No 10 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-1999.

Timonen, S. (2000) The spring migration of the Lesser White-fronted Geese at the Bothnian Bay in 1999. Pp. 22-23 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1999.* WWF Finland Report No 12 and NOF Rapportserie report No 1-2000.

Timonen, S. and Niemelä, M. (1999). The management plan for the coastal meadows of Säärenperä. P. 21 in P. Tolvanen, J. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1998.* WWF Finland Report No 10 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-1999.

Tkachenko, E. E. (1997). [The Lesser White-fronted Goose (*Anser erythropus*) wintering on the west coast of the Caspian Sea.] *Casarca*, 3: 198-210. (In Russian with English summary.)

Tolvanen, P. (1999). A spring staging area for Lesser White-fronted Geese recovered in Matsalu, Estonia. Pp. 15-18 in P. Tolvanen, J. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1998.* WWF Finland Report No 10 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-1999.

Tolvanen, P. (2000). Monitoring Lesser White-fronted Geese in the Varangerfjord area and eastern Finnmark in 1999. Pp. 28-31 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1999.* WWF Finland Report No 12 and NOF Rapportserie report No 1-2000.

Tolvanen, P. and Pynnönen, J. (1998). Monitoring the autumn migration of Lesser White-fronted Geese *Anser erythropus* and other geese in NW Kazakhstan in October 1996. Pp. 19-20 in P. Tolvanen, K. Ruokolainen, J. Markkola and R. Karvonen (eds.) *Finnish Lesser White-fronted Goose Conservation Project. Annual report 1997.* WWF Finland Report No 9.

Tolvanen, P., Øien, I. J., Litvin, K., Aarvak, T. and Markkola, J. (1998). [New data on migration of Lesser White-fronted Goose from the Taimyr Peninsula.] *Casarca*, 4: 193-196. (In Russian with English summary.)

Tolvanen, P., Litvin, K. E. and Lampila, P. (1999a). Monitoring the autumn staging of Lesser White-fronted Geese in north-western Kazakhstan, October 1998. Pp. 42-46 in P. Tolvanen, J. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1998.* WWF Finland Report No 10 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-1999.

Tolvanen, P., Øien, I. J. and Ruokolainen, K. (eds.) (2000a). *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1999.* WWF Finland Report 13 and NOF Rapportserie report no. 1-2000.

Tolvanen, P., Karvonen, R., Pynnönen, P. and Leito, A. (2000b). Monitoring of Lesser White-fronted Geese in western Estonia in 1999. Pp. 18-21 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1999.* WWF Finland Report No 12 and NOF Rapportserie report No 1-2000.

Tolvanen, P., Aarvak, T. and Bragina, T. (2001). Conservation work for the wetlands and monitoring the autumn staging of Lesser White-fronted Goose in the Kustanay region. NW Kazakhstan, in 2000. Pp. 54-56 in P. Tolvanen, J. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 2000.* WWF Finland Report 13 and NOF Rapportserie report no. 1-2001.

Tolvanen, P., Toming, M. & Pynnönen (2004a) Monitoring of Lesser White-fronted Geese in western Estonia in 2001-2003. In: In: Aarvak, T. & Timonen, S. (eds.): *Fennoscandian Lesser White-fronted Goose Conservation Project. Report 2001-2003*. WWF Finland Report No 20 & Norwegian Ornithological Society, NOF Rapportserie report no. 1-2004:27-28. http://www.wwf.fi/fennoscandian_lesser_2.html Downloaded on 30/09/2004.

Tolvanen, P. Bragina, T. & Bragin, E. (2004b) Conservation work for the wetlands in Kustanay region, north-western Kazakstan, in 2001-2003. In: Aarvak, T. & Timonen, S. (eds.): *Fennoscandian Lesser White-fronted Goose Conservation Project. Report 2001-*

2003. WWF Finland Report No 20 & Norwegian Ornithological Society, NOF Rapportserie report no. 1-2004:27-28. http://www.wwf.fi/fennoscandian_lesser_2.html Downloaded on 30/09/2004.

Tomialojc, L. (1990). *Ptaki Polski rozmieszczenie I liczebnosc*. Warszawa: Panstwowe Wydawnictwo Naukowe.

Tomek, T. (1999). The birds of North Korea. Non-Passeriformes. *Acta zoologica cracoviensia*, 42: 1-217.

Trnka, A., Kristin, A., Danko, S., Harvancik, S., Kocian, L., Karaska, D. and Murin, B. (1995). Zoznam vtakov Slovenska [Checklist of the birds of Slovakia]. *Tichodroma*, 8: 7-21.

UNEP-WCMC (2003). Report on the status and perspective of the Lesser White-fronted Goose *Anser erythropus*. UNEP-WCMC, Cambridge, U.K.

UNEP-WCMC (2004). Species Database. www.unep-wcmc.org Downloaded on 24/09/2004.

van den Bergh, L. (2000). Observations of Lesser White-fronted Geese in central Europe in autumn 1999. P. 60 in P. Tolvanen, I. J. Øien and K. Ruokolainen (eds.) *Fennoscandian Lesser White-fronted Goose Conservation Project. Annual report 1999.* WWF Finland Report No 12 and Norwegian Ornithological Society, NOF Rapportserie report no. 1-2000.

Vasiliev, V. I. and Gauzer, M. (2001a). Status of waterbirds in the Caspian region of Turkmenistan, 1970-2000. *Threatened Waterfowl Specialist Group News*, 13: 72-73.

Vasiliev, V. I. and Gauzer, M. (2001b). *Status of the Lesser White-fronted Goose (*Anser erythropus*) in Turkmenistan: a regional action plan for the protection of the Lesser White-fronted Goose (*Anser erythropus*)*. Hameenlinna, Finland.

Vinogradov, V. (1990). *Anser erythropus* in the USSR. Pp. 199-203 in G. V. T. Matthews (ed.) *Managing waterfowl populations.* Proceedings of the IWRB Symposium, Astrakhan, 1989. Slimbridge, U.K.: International Waterfowl and Wetlands Research Bureau (IWRB Spec. Publ. 12).

Volkov, S. V., Rozenfeld, S. B., Zubakin, V. A., Sviridova, T. V. and Grinchenko, O. S. (1997). [Spring migration of geese in Moscow region.] *Casarca* 3: 326-346. (In Russian with English summary.)

Wetlands International (2002). *Waterbird Population Estimates*. Third Edition. Wetlands International Global Series No. 12, Wageningen, the Netherlands.

Winkler, R. (1987). Avifauna der Schweiz, eine kommentierte Artenliste. II. Non-Passeriformes. *Der Ornithologische Beobachter*, Beiheft 6: 129 pp.

Yerokhov, S. N., Beryozovikov, N. N., Kellomäki, E. N. and Ripatti N. L. (2000). [Lesser White-fronted and other geese species in Kazakhstan during migration.] *Casarca*, 6: 121-159. (In Russian with English summary.)

Zakharov, V. D. and Migun, N. N. (1997). [On the migration of the Lesser White-fronted Goose (*Anser erythropus*) in the south Ural.] *Casarca*, 3: 192-195. (In Russian with English summary.)

Zhmud, M. Y. (1996). [Current status of geese in the Ukrainian part of the Danube Delta and adjacent territories.] *Casarca*, 2: 292-301. (In Russian with English summary.)

* Range State not yet included in the CMS range list for this species.

***Aythya nyroca* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Afghanistan		?		
ALBANIA		↓	×	
Algeria		?		
Armenia		?		
Austria		→		✓
Azerbaijan		→		
Bahrain		?		
Bangladesh		→		
BELARUS	●	→	×	✓
BELGIUM		?	×	
BENIN		?	×	
Bhutan		?		
Bosnia and Herzegovina		?		
BULGARIA	●	?	✓	✓
BURKINA FASO		?	✓	
CAMEROON		?		
Cape Verde		?		
Central African Republic		?		
CHAD		?	✓	
China		?		
D.R.Congo		?		
CROATIA		→	×	✓
CYPRUS		?	×	
CZECH REPUBLIC		↓	✓	✓
DENMARK		?	×	
Djibouti		?		
EGYPT		?	×	
Eritrea		?		
Estonia		?		
Ethiopia		?		
FINLAND		?	×	
FRANCE		↓	×	✓
GAMBIA		?	×	
GEORGIA				
GERMANY	●	→	×	✓
GHANA		?	×	
GREECE	●	↓	✓	
GUINEA		?	×	
GUINEA BISSAU		?	×	
HUNGARY		→	✓	✓
INDIA		?	×	
Iran		↓		✓
Iraq		?		
IRELAND		?	×	
ISRAEL		→	×	
ITALY		↑	×	✓
Japan		?		

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
JORDAN		?	✓	
Kazakhstan		↓		
KENYA		?	✓	
Kuwait		?		
Kyrgyzstan		?		
LATVIA		?	×	
Lebanon		?		
LYBIA		?	×	
LIECHTENSTEIN		?	×	
LITHUANIA	●	↓	×	
LUXEMBOURG		?		
MACEDONIA		→	×	
Maldives		?		
MALI		?	×	✓
MALTA		?	×	
MAURITANIA		?	×	
MOLDOVA		↓	×	
REPUBLIC OF MONACO		?	×	
MONGOLIA		?	×	
MOROCCO		?	×	
Myanmar		?		
Nepal		?		
NETHERLANDS		↓	×	
NIGER		?	×	
NIGERIA		?	×	
NORWAY		?	×	
PAKISTAN		?	×	
POLAND	●	↓	✓	✓
PORTUGAL		?	✓	
Quatar		?		
ROMANIA	●	↓	✓	✓
Russian Federation		↓		
SAUDI ARABIA		?	×	✓
SENEGAL		?	✓	
Serbia and Montenegro		→	×	✓
Seychelles		?		
Sierra Leone		?		
SLOVAKIA		↓	✓	
SLOVENIA		↓	×	✓
SOMALIA		?	×	
SPAIN	●	↓	×	✓
Sudan		?		
SWEDEN		?	×	
SWITZERLAND		?	×	
SYRIA		?	×	
TAJIKISTAN		?	×	
Thailand		?	×	
TOGO		?	×	
TUNISIA		→	✓	✓

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Turkey		↓		
Turkmenistan		?		
UGANDA		?	×	
UKRAINE	●	↓	×	
United Arab Emirates		?	×	
UNITED KINGDOM		?		
UZBEKISTAN	●	↓	×	
Viet Nam		?		
Yemen		?		
Western Sahara		?		

REVIEW OF CONCERTED ACTION SPECIES

AVES: ANATIDAE

SPECIES: *Aythya nyroca* (Güldenstädt, 1770)

SYNONYMS: *Nyroca nyroca*

COMMON NAME: Ferruginous Duck; Ferruginous Pochard; White-eyed Pochard (English); Fuligule nyroca (French); Porrón Pardo (Spanish)

RANGE STATES: Afghanistan; ALBANIA; Algeria; Armenia; Azerbaijan; Bahrain; Bangladesh; BELARUS; BENIN; Bhutan; Bosnia and Herzegovina; BULGARIA; BURKINA FASO; CAMEROON; Central African Republic; CHAD; China; CONGO, DEMOCRATIC REPUBLIC OF THE; CROATIA; CYPRUS; CZECH REPUBLIC; Djibouti; EGYPT; Eritrea; Estonia; Ethiopia; EUROPEAN COMMUNITY (Austria, BELGIUM, DENMARK, FRANCE, GERMANY, GREECE, ITALY, LUXEMBOURG, NETHERLANDS, PORTUGAL, SPAIN, SWEDEN, UNITED KINGDOM); GAMBIA; GEORGIA; GHANA; GUINEA; GUINEA-BISSAU; HUNGARY; INDIA; Iran (Islamic Republic of); Iraq; ISRAEL; JORDAN; Kazakhstan; KENYA; Kuwait; Kyrgyzstan; LATVIA; Lebanon; LIBYAN ARAB JAMAHIRIYA; LIECHTENSTEIN; LITHUANIA; MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF; MALI; MALTA; MAURITANIA; MOLDOVA, REPUBLIC OF; MONACO; MONGOLIA; MOROCCO; Myanmar; Nepal; NIGER; NIGERIA; Oman; PAKISTAN; POLAND; Qatar; ROMANIA; Russian Federation; SAUDI ARABIA; SENEGAL; Serbia and Montenegro; Sierra Leone; SLOVAKIA; SLOVENIA; SOMALIA; Sudan; SWITZERLAND; SYRIAN ARAB REPUBLIC; TAJIKISTAN; Thailand; TOGO; TUNISIA; Turkey; Turkmenistan; UGANDA; UKRAINE; United Arab Emirates; UZBEKISTAN; Viet Nam; Yemen

RED LIST: NT A2cd + A3cd (BirdLife International, 2004).

CONSERVATION STATUS AND ACTIONS:

This species is a poorly known, partial migrant that breeds mainly in southwestern Asia (east to China and south to Pakistan and India), central and Eastern Europe, and North Africa (BirdLife International, 2004). Its wintering grounds overlap with part of its breeding grounds but also extend to the Middle East, western and northeast Africa and South-East Asia. Asia hosts most of the population although quantitative data are lacking (BirdLife International, 2003). Four main populations are recognised and migration occurs from early September to mid-October, whilst breeding grounds are re-occupied from mid-March to early May. The main part of the population occurs in Asia, where there is much suitable habitat and it remains common, although quantitative data are lacking (BirdLife International, 2004). The species is regularly recorded in 76 countries and in at least 23 others as a vagrant. It breeds in at least 41 countries (Robinson & Hughes, 2002).

The current population is estimated at between 49,000 and 70,000 individuals (BirdLife International, 2004).
An estimate for North Africa and Asia of 10,000 individuals in 1991 appears too low (BirdLife International, 2003). Wintering population in the western Palearctic have been

estimated at 50,000 in the mid 1980's, mostly in the central Mediterranean area. Wintering census in tropical Africa yielded a maximum of 6,450 individuals, with an estimated 7,000-10,000 birds in West Africa (del Hoyo *et al.*, 1992). In Europe, 27 countries contain sites regularly utilised by this duck (Callaghan, 1997) with approximately 14,250-23,400 pairs breeding in Europe, and it is thought the European breeding population constitutes about half the world population. During the winter, most individuals seem to migrate to Africa and the Middle East, leaving about 3,000-14,000 individuals in Europe (Callaghan, 1997).
During the first quarter of the 20th century, it was described as one of the most plentiful Anatidae species over a great part of its range. Since, it has undergone a large, long-term decline in Europe, and numbers continue downward in most countries (Callaghan, 1997). For example, in six zones of the Danube Delta (covering c.20% of the delta area), August counts declined from 979 individuals in 1978 to 89 in 1982 (Paspaleva *et al.* 1984). Although it is not globally threatened, it has suffered several reductions in number and in several parts of range has become extremely local (del Hoyo *et al.*, 1992).

In Europe, little information on the bird's status is available from some countries, including a number of countries formerly included within Yugoslavia and the Soviet Union (Callaghan, 1997) but overall, *Aythya nyroca* is considered a vulnerable species in Europe (Anon., 2002b) and the European population is falling alarmingly, especially in Eastern Europe (Russia and the Ukraine) (Callaghan, 1997).

The key threat is the loss of its wetland habitat, of well-vegetated shallow pools, including extensively managed fishponds. Hunting is also a serious threat and protection may not be effective either because of misidentification or because of ignorance of the law (BirdLife International, 2004). Other threats include introduction of non-native species (particularly Grass Carp *Ctenopharyngodon idella*), drowning in fishing nets, lead poisoning, disturbance, and climate change (Callaghan, 1997).

The species has received little international conservation action, although a number of national initiatives have developed recently (Callaghan, 1997). CMS, along with AEWA, has funded various activities such as the compilation of a review report, the organization of an international workshop, the development of a website and the updating and geographic extension of the existing Action Plan, which was published in 2000. An International Single Species Action Plan is being developed under the African-Eurasian Migratory Waterbird Agreement, which will lay out the framework for conservation action throughout the range of the species (BirdLife International, 2004).

Only 18% of important sites in Europe are protected (WWT, 2004) and most of the important wintering areas in Africa are unprotected. Some of the most important sites around the Black Sea and Caspian Sea are protected, but most are unprotected (Scott & Rose, 1996).

Afghanistan:

Status: Reported as breeding and wintering (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

ALBANIA:

Status: The species is generally scarce. The current population is estimated in 100-300 pairs (Ferruginous Duck Conservation Team, 2004). It seems important breeding sites once existed (e.g. Lake Shkodra and Lake Mikri Prespa), but these have been degraded heavily (Callaghan, 1997).

CMS actions: None reported.

Other actions: No specific conservation programmes have been conducted for the species

(Callaghan, 1997).

Algeria:

Status: About 600 pairs breed in the El Kala National Park (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Armenia:

Status: An uncommon resident, known only from Lake Sevan and adjacent Gilli Marsh, and the floodplain of the Araks River (Dement'ev and Gladkov, 1952; Adamian and Klem, 1997). Other possible sites include Lake Arpi, Vardakar Reservoir, Kechoot Reservoir, and Tolors Reservoir (Adamian and Klem, 1997). More than 500 individuals are observed each year on migration (Robinson & Hughes, 2002).

CMS actions: Not a Party to CMS.

Other actions: No specific conservation programmes have been conducted for the species (Callaghan, 1997).

Austria:

Status: An important and probably stable breeding population occurs at Lake Neusiedl, on the Hungarian/Austrian border (estimated at 50-150 pairs on the Austrian side) (Robinson & Hughes, 2002). At adjacent Seewinkel, an area with many shallow salt ponds, the species was widespread and common in the 1960s (approximately 50 pairs), but declined to effective extinction during the 1980s. However, the species has recolonised this site recently, with 10-15 pairs nesting annually.

CMS actions: Not a Party to CMS.

Other actions: Both Lake Neusiedl and Seewinkel are designated SPAs under the European Union Birds Directive. A study of habitat requirements, food and behaviour of the duck was conducted by WWT (Wildfowl and Wetlands Trust) and BirdLife (Austria) at Lake Neusiedl in 1995 (WWT, 2004), and a full census was carried out in 1996 (Callaghan, 1997).

Azerbaijan:

Status: Large winter counts have been made (9,000 birds) (BirdLife International, 2003). The Ferruginous Duck nests at lakes Aggel and Saraesy (Mil Steppe), Shilian Marsh (Shirvan Steppe), Lake Mahmund-chala (southern Mugan), Divichi Liman and possibly at smaller wetlands of the Samur-Divichi Lowland. The most important wintering site is Lake Saraesy, with smaller but regular numbers at Lake Aggel, Varvara Reservoir and lakes of southern Mugan (Mahmund-chala and Novogolovskaya-chala). Surveys in 1998 suggested a total breeding population on the five biggest lakes of Azerbaiajn of 1,400-1,600 breeding pairs. Significant numbers of Ferruginous ducks probably occur at other sites which hold important breeding concentration of ducks (e.g. Aggyol Lake, Shrogyol Lake in the Shirvan Reserve, and the shallow waters of the Kyzyl-Agach Reserve); If these sites hold similar densities of ferruginous ducks to the sites surveyed, the actual breeding population may be over 3,000 pairs (Sultanov, 2002). The main limiting factors during the breeding season are disturbance by fishermen and habitat degradation, and during the non-breeding season, legal and illegal hunting are the main threats (Sultanov, 2002).

CMS actions: Not a Party to CMS.

Other actions: No specific conservation programmes have been conducted for the species (Callaghan, 1997) but there have been winter counts (BirdLife International, 2003).

Bahrain:

Status: Reported as wintering (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Bangladesh:

Status: Either scarce or locally common in winter (BirdLife International, 2003). In Hail Haor, Sylhet, up to 4,000-5,000 birds are counted in years with good growth of aquatic vegetation (del Hoyo *et al.*, 1992). 90,000 ferruginous ducks were counted were among more than 200,000 water birds counted at Tangua Haor, a Ramsar Site in the Haor Basin, Bangladesh (World Birdwatch, 2002).

CMS actions: Not a Party to CMS.

Other actions:

BELARUS:

Status: Probably mainly a summer visitor to the southern part of the country. Dement'ev and Gladkov (1952) describe the species as "extremely rare" in Belorussia (now Belarus), and currently only 50-200 pairs are estimated to breed (Robinson & Hughes, 2002). The Pripyat floodplain is the most important area. There are several protected areas within the floodplain, but wider land-use changes may be a threat in the future (Callaghan, 1997). It is included in the National Red Data Book.

CMS actions: None reported.

Other actions: No specific conservation programmes seem to have been conducted for the species but it receives full legal protection (Callaghan, 1997).

BELGIUM:

Status: Up until the late 1970s, at least one pair of Ferruginous Ducks bred annually in Belgium, but there has been no confirmed record since (Devos *et al.*, 1989; Hecker, 1994). The species is also a rare and erratic passage and winter visitor (records rarely exceeding 10 *per annum*), and no site holds birds regularly *(contra* Hecker, 1994) (Callaghan, 1997).

CMS actions: None reported.

Other actions:

BENIN:

Status: Occurrence reported (Dowsett and Dowsett-Lemaire, 1993), considered as vagrant in this country (BirdLife International, 2004).

CMS actions: None reported.

Other actions:

Bhutan:

Status: Either scarce or locally common in winter, non-breeding (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Bosnia and Herzegovina:

Status: Breeding seems to be concentrated on fishponds in the north (on the border with Croatia and within the Sava Valley), with an estimated breeding population of 150-500 pairs, but the species is poorly known in this country (Robinson & Hughes, 2002). Flocks probably occur on passage, and have been recorded in mid-winter (Callaghan, 1997).

CMS actions: Not a Party to CMS.

Other actions:

BULGARIA:

Status: Mainly a summer visitor, with breeding pairs scattered throughout the country, though concentrated in the Danube Floodplain. On passage, numbers total several thousand (September-October), with a peak count of 1,000-3,000 at Mechka fishpond (Callaghan, 1997). Breeding, migratory and rarely a wintering species. The main breeding sites are along the Danube River, Black Sea coast and some inland wetlands, predominantly in extensive fish farms, shallow lakes with rich aquatic vegetation. During the 1970s and 1980s the breeding population was estimated in 200-300 breeding pairs (Petkov, 2002). The mean breeding population (after a census carried out in 2002) was established at 125-230 pairs (Robinson & Hughes, 2002), wintering 0-50 birds, but the trend varies (Bulgaria National Report, 2002). It is listed in the Red Data Book of Bulgaria (Callaghan, 1997).

CMS actions: The breeding biology, habitat requirements, feeding ecology and habitat management are studied by BSPB. There is regular monitoring of breeding numbers. National census of the species was conducted in 2002 by BSPB, supported by the CMS through BirdLife International. There is a National Species Action Plan (NSAP) prepared in line with CBD and Council of Europe requirements. BSPB coordinates the International working group of *Aythya nyroca* of BirdLife International. Future plans include habitat management measures (Bulgaria National Report, 2002).

Other actions: This species is legally protected (Callaghan, 1997). A national survey of the species organised by BSPB was completed in 1997, and the most important breeding site (Mechka Fishponds) has been suggested for protection. Management plans have been completed for some of the most important breeding sites, including the most important along the Black Sea coast. These were compiled either by BSPB or with its active participation within the framework of the Bulgarian-Swiss Biodiversity Conservation Programme (Callaghan, 1997).

Planned restoration activities at the Danube river wetlands of Kalimok and Belene island could increase breeding numbers at this previously important sites for the species (Petkov, 2002).

BURKINA FASO:

Status: Occurrence reported here (Dowsett and Dowsett-Lemaire, 1993).

CMS actions: There are plans for a publicity/information campaign (Burkina Faso National Report, 2002).

Other actions:

CAMEROON:

Status: Non-breeding here (BirdLife International, 2004).

CMS actions: None reported.

Other actions:

Cape Verde (v)*:

Status: Occurrence reported here (Hazevoet, 1995).

CMS actions: Not a Party to CMS.
Other actions:

Central African Republic:

Status: Non-breeding here (BirdLife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

CHAD:

Status: Non-breeding here (BirdLife International, 2004). The population size is unknown, but 3,800 non-breeding birds were estimated in 2000 (Robinson & Hughes, 2002). The species is distributed in Lake Tchad, in the lagoon basin and in Chari (Chad National Report, 2002).

CMS actions: Activities include the Foundation Working Group on International Waterbird and Wetland Research (WIWO), The Netherlands (1999, 2001 and 2002) (Chad National Report, 2002).
Other actions:

China:

Status: Twelve ferruginous duck were seen at a reservoir in the Tengchong area on 10th March 2002, and 330 or more at Lashiba Lake, Lijiang on 18th March 2002 (Anon., 2002a). 104 birds were reported in the Hong Kong Bird Report of 1991. The non-breeding population was estimated in more than 2,000 individuals, but no quantitative data are available (Robinson & Hughes, 2002).

CMS actions: Not a Party to CMS.
Other actions:

D.R. CONGO:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:

CROATIA:

Status: The country holds the most important breeding population of ferruginous duck in Central Europe (2,000-3,000 pairs), with 3,400-5,200 roosting birds. About 90% of the ferruginous duck population in Croatia breeds in large carp fish ponds (Schneider-Jacoby, 2002). A large breeding population is concentrated in the north, while important numbers are recorded in the winter and, in particular, in passage. Crna Mlaka is one of the most important autumn passage sites in Europe, with up to 5,000 birds estimated. It is unprotected (Callaghan, 1997), but hunting has been banned there for more than ten years, and the Croatian breeding population appears to be stable in contrast to the Central European population that is shrinking rapidly (Schneider-Jacoby, 2002). Threats at key sites in Croatia include illegal killing, which takes place annually leading to an estimated loss of more than 1,000 ferruginous ducks per season, and the impact of the raising water fees on carp fish farms, which is ruining many of them (Schneider-Jacoby, 2002).

CMS actions: None reported.

Other actions: The numbers and seasonal activity of the duck have been studied over recent years at Draganici Fishponds, and preliminary ecological work has been undertaken at Kopacki Rit and the Podunavlje Fishponds in Baranja (Getz, 1996). Monitoring is being undertaken at Draganici, Crna Mlaka and

Lipovljana, partly supported by Euronatur (Callaghan, 1997).
Euronatur has supported research on ferruginous Duck in Croatia (after the first workshop in Hungary) and an assessment of hunting pressure in the Neretva delta (Schneider-Jacoby, 2002).

CYPRUS:
Status: Non-breeding here (BirdLife International, 2004), recorded as migrant.

CMS actions: None reported.
Other actions:

CZECH REPUBLIC:
Status: Although once frequent, currently 0-3 pairs nest annually. The species is also scarce during passage, with up to five birds recorded annually. The reasons for the decline and near extinction are unclear (Callaghan, 1997; Czech Republic National Report, 2002).

CMS actions: The most important sites are designated as wetlands of international importance (Ramsar sites) and most of them are protected by national legislation. Potential breeding sites are legally protected (Czech Republic National Report, 2002).

Other actions: Fully protected by law but no specific conservation programmes have been conducted or are planned for the species, owing to its sporadic occurrence in small numbers. All sites were the species breeds regularly are within protected areas (Callaghan, 1997).

DENMARK:
Status: Occurrence reported (Dybbro, 1978). A very rare visitor (Denmark National Report, 2002).

CMS actions: None reported.
Other actions:

DJIBOUTI:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:

EGYPT: *Status:*
Non-breeding here (BirdLife International, 2004), 7,500 birds were reported in migration in 1996 (Robinson & Hughes, 2002), but no quantitative data is available.

CMS actions:
Other actions: None reported.

Eritrea:
Status: Non-breeding here (BirdLife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Estonia:
Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Ethiopia:
Status: Non-breeding here (BirdLife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

FINLAND (v)*:
Status: Occurrence reported (Gore, 1990).

CMS actions: Not a Party to CMS.
Other actions:

FRANCE:
Status: A rare migrant and winter visitor to France and a sporadic breeder (Cruon *et al.,* 1992). It seems equally rare in Corsica. The most regular site in France is the Camargue, where the duck is seen annually between October and January (Hecker, 1994); sightings are usually of one to five individuals (Isenmann, 1993). One or two individuals are also recorded annually at La Dombes (Ain), and also there are regular sightings at Marais de Brière (Loire Atlantique) (Hecker, 1994). There are very few breeding records in the 20th century, the most recent being in 1993 at La Dombes, where the female possibly mated with a Tufted Duck *Aythya fuligula* (Hecker, 1994; Roux, 1994). It is scarce in winter, but since the early 1970s has occurred regularly on the Untersee area of Lake Constance (Bezzel, 1985; Hecker, 1994).

CMS actions: None reported.

Other actions: An unsuccessful re-introduction was conducted in the 1970s in Villars des Dombes. Currently, a re-introduction is being attempted at Le Marais de Ganne (Saint Andre des Eaux), where an open enclosure of pinioned birds is used to breed fully winged juveniles. If 50 wild breeding pairs are not established within ten years of the start of the project, it will be terminated (Pourreau and Rambaud, undated). In 1996, ten pinioned pairs raised ten fully winged individuals. A flock of about 20 birds has recently developed at Lake Constance (Bödensee), and small post-breeding groups gather also in the Danube and Rhein areas (Schuster *et al.,* 1983; Hölzinger, 1987; Hecker, 1994). Other than that, no specific conservation programmes have been conducted for the species (Callaghan, 1997).

GAMBIA:
Status: Occurrence reported (Gore, 1990).

CMS actions: None reported.
Other actions:

GEORGIA:
Status: Reported as breeding in valleys of the Akhalkalaki Plateau (Dement'ev and Gladkov, 1952), and possibly elsewhere. Passage and winter numbers may be significant in the lowlands, especially during winters of cold weather north of the Caucasus. Lake Paleostomi is probably the most important site. During passage and winter, hunting is very intensive at sites used by this duck, with little enforcement of regulations (Callaghan, 1997).

CMS actions: None reported.

Other actions: No specific conservation programmes seem to have been conducted for the species (Callaghan, 1997).

GERMANY:
Status: The Ferruginous Duck is the rarest breeding bird in Germany with only a

few pairs and irregular breeding success (Schneider-Jacoby, 2002b). The duck has bred sporadically across most of the country, but most regularly in the east (eg. in the Elabe, Oder and Havel valleys and in the fishponds of Uckermark and Oberlausitz). A moulting flock of about 20 birds has recently developed at Lake Constance (Bödensee), and small post-breeding groups gather also in the Danube and Rhein areas (Schuster *et al.*, 1983; Hölzinger, 1987; Hecker, 1994). It is scarce in winter, but since the early 1970s has occurred regularly on the Untersee area of Lake Constance (Bezzel, 1985; Hecker, 1994). Today, the most important site for moulting Ferruginous Duck is the 105 Ha Mindelsee, which is totally protected (Schneider-Jacoby, 2002). It is included in Category 1 of the German Red Data Book.

CMS actions: None reported.

Other actions: Fully protected under the Federal Conservation Law. No specific conservation programmes have been conducted for the species (Callaghan, 1997). Priorities for future management of the Lake Constance for Ferruginous Duck and other waterfowl include the preservation of the shallow open water areas and flooded reedbeds, and the creation and management of a system of protected zones on and around the lake. The most important protected areas for the species at lake Constance are managed by the NGOs BUND (Mindelsee) and NABU/BirdLife Germany. Monitoring of breeding and wintering birds at lake Constance has been organised since the late 1950s by the Ornitholgischen Arbeitsgemeinsachaft Bodensee (OAB), a working group of volunteers from all three countries bordering the lake (Schneider-Jacoby, 2002).

GHANA:

Status: Occurrence reported (Grimes, 1987).

CMS actions: None reported.

Other actions:

GREECE:

Status: The ferruginous duck was formerly a widely distributed breeding species, but is now confined to a few wetlands of Ipeiros (mainly the Amvrakikos Gulf), Macedonia and Thrace, with occasional isolated pairs elsewhere on the mainland. Also, artificial reservoirs within the former Lake Karla (Thessalía) have been utilised increasingly. The greek breeding population is currently estimated at 130-250 breeding pairs with one large population at the Amvrakikos wetlands in western Greece (Zogaris & Handrinos, 2002). Most other breeding sites are located in northern Greece. The duck occurs in significant numbers during both autumn passage (mainly October) and spring passage (mid-March to early May), but larger numbers occur in autumn, for example over 2,000 at Spercheios Delta on 30th October 1988. Large flocks formerly occurred on the sea off Crete and more recent data suggest regular offshore passage in autumn (Handrinos and Acriotis, 1997). Small numbers also winter in Crete, and in recent years it has also been seen regularly on the mainland in winter. The maximum year count on the mainland was 108 and the maximum site count was 93 at Lake Kerkini (both in 1988), which is the main regular wintering site apart from the Amvrakikos Gulf (Handrinos and Acriotis, 1997).

Freshwater habitats for the species have declined and water regime changes continue to degrade important wetlands. Poaching at the end of the breeding season is common in parts of Greece, including Amvrakikos,

and this may have contributed to the decline of the breeding population in this area (Zogaris and Handrinos, 2002). Included in the Red Data Book as *Vulnerable* (Handrinos, 1992).

CMS actions: LIFE Project 99/72588 on the conservation and management of the wetlands of Amvrakikos in Greece involves *Aythya nyroca*, as well as other species. The Cheimaditida and Zazari wetlands in Greece, managed under project LIFE00NAT/GR/7242, host *Aythya nyroca* as well as other major species (Anon., 2002b).

Other actions: Protected from hunting (Handrinos and Acriotis, 1997). No specific conservation programmes have been conducted for the species (Callaghan, 1997).

GUINEA: *Status:* Occurrence reported (UNEP-WCMC, 2004).

CMS actions:

Other actions: None reported.

GUINEA-BISSAU: *Status:* Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

HUNGARY:

Status: Once distributed widely throughout the country, the ferruginous duck has undergone a sharp decline in the 20th century in many areas of Hungary (BirdLife International, 2003). The species breeds in marshes and fishponds surrounded by dikes in eastern Hungary, in closed-valley-fishponds in western Hungary, and in ox-bow lakes in Bodrogzug and Taktakoz in northeast Hungary (Szabo and Vegvari, 2002). However, high concentrations of breeding birds remain locally (eg. Somogy region, Kisbalaton, Pusztaszer region, and Pacsmag fishponds). About 585-675 pairs breed in Hungary, which may be a slight underestimate (Szabo & Vegvari, 2002). The main populations are those of the Hortobágy (around 100 pairs), Pacsmag (60 pairs), southern Danube, Gemenc (50 pairs), Mórichely (45 pairs), Kis-Sárrét (40 pairs) and the Pusztaszer Landscape Protection Area (40-50 pairs) (Hungary National Report, 2002).

The overall Hungarian population seems stable, with increasing bird numbers in some areas and declining in others (this latter mainly in the Kis-Balaton region due to serious unsolved management problems of the lake system). Occasionally, birds are killed through illegal hunting, which causes the death of around 30 birds annually (Hungary National Report, 2002).

The most important threat to the species in Hungary is illegal hunting, especially by hunters from other countries, such as Italy. Around 95% of shot birds are juveniles (Szabo & Vegvari, 2002).

CMS actions: There are regular water bird censuses. Those habitats that possess large flocks and are not yet protected, as for example the Mórichely-lake, are considered for protection in the near future. For designation of Special Protected Areas as part of Natura 2000, ferruginous duck populations are taken into consideration (Hungary National Report, 2002).

Other actions: Strictly protected by national legislation. No specific conservation programmes have been conducted for the species. However, a full census of breeding numbers and some research activity was carried out in 1997, conducted by the Hungarian Wetland Specialist Group (Callaghan, 1997).

INDIA:

Status: Either scarce or locally common in winter (BirdLife International, 2003). Breeds in Baluchistan, Kashmir and Ladakh at about 1,500 m altitude on the Hokarsar, Dal and other lakes (Petkov *et al*., 2002). Recorded as a widespread winter visitor to the subcontinent south to northeast Tamil Nadu. In the Delhi region this species was recorded as a fairly common winter visitor. It has been recorded as a scarce winter visitor to Okhla, with about 20 being recorded during January 2002 (Urfi, 2003). Maximum available figures in India of 630 individuals counted in 17 lakes in Central Rajasthan in Nov 1982, and 670 in Khijadia Lakes, Gujarat (del Hoyo *et al.*, 1992).

CMS actions: None reported.

Other actions:

I.R. Iran:

Status: The Ferruginous Duck is found in the north and southwest of Iran, regularly occurring on 24 sites and breeding on five. The breeding population has declined steadily over the past 30 years, from around 30 pairs in the late 1970s to less than five pairs today. According to the mid-winter counts, between 1,000 and 1,300 Ferruginous Ducks winter in Iran, although the latest count at the 24 sites where it occurs found only 201 birds in 2002 (Petkov *et al*., 2002).

CMS actions: Not a Party to CMS.

Other actions: A winter census was conducted in 1991 (BirdLife International, 2003). Hunting and trapping is strictly forbidden throughout the country. Research on the Ferruginous Duck has been limited to general studies of distribution and mid-winter censuses (Petkov *et al*., 2002).

Iraq:

Status: Reported wintering here (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

IRELAND (v)*:

Status: Occurrence reported (Hutchinson, 1989).

CMS actions: None reported.

Other actions:

ISRAEL:

Status: Reported as resident and breeding here (BirdLife International, 2003). An average of 300 wintering birds have been recorded in Israel (del Hoyo *et al.*, 1992).

CMS actions: None reported.

Other actions:

ITALY:

Status: In the 19th century, the Ferruginous Duck was a common breeder in Tuscany (Maremma) and was a confirmed or probable breeder in Piemonte, Veneto, Toscana, Sicily and the Po Delta. Following land reclamation between 1850 and 1950, the species lost many important breeding areas. Currently, the duck is distributed sporadically over much of the lowlands, with highest breeding numbers occurring in the Po Basin. Breeding was confirmed at 19 sites in 2002. In that year, there were a total of 78-107 breeding pairs. Breeding numbers have increased in recent years at the Bologna plain, gulf of Manfredonia and Lesina lake (Petkov *et al*., 2002). Large flocks occur on

passage sporadically, and can over-winter in milder years (Brichetti *et al.*, 1984; Brichetti *et al.*, 1992; Chelini, 1984; Hecker, 1994).
In the last decade both breeding and wintering populations of Ferruginous Duck have increased while the ranges have not significantly changed (Petkov *et al*., 2002).
At least 65 Ferruginous Ducks were part of a haul seized from a bird trader in northern Italy during October 2003. The birds represent a tiny fraction of the trade in wildfowl corpses that are traded between Albania and restaurants in Italy (WWT, 2004).

CMS actions: None reported.

Other actions: Completely protected under the national law of wildlife protection and hunting (National Law no. 968/1977) (Hecker, 1994). Ecological research on the species is currently being conducted in the Ravenna wetlands. WWF Italy has launched a reintroduction project and during 1991-1994, 117 birds had been released in seven WWF reserves. By 1994, a total of 15 pairs of released birds had bred (Hecker, 1994).

Japan (v)*:

Status: Occurrence reported (Brazil, 1991).

CMS actions: Not a Party to CMS.

Other actions:

JORDAN:

Status: Reported as passing (BirdLife International, 2004). The last observation was in 2001 at Aqaba sewage station (Jordan National Report, 2002).

CMS actions: There will be a regular waterfowl census (Jordan National Report, 2002).

Other actions:

Kazakhstan:

Status: Numbers of breeding birds have declined (BirdLife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

KENYA:

Status: Occurrence reported (Zimmerman *et al.*, 1996). Scarce and rare Palaearctic migrant in Kenya. The species has not been spotted in Kenya for some time now (Kenya National Report, 2002).

CMS actions: No specific research has been conducted on the species. The species is monitored within the framework of bi-annual waterfowl counts. In future more inventories need to be carried out and there will be a request for information from around the region to get some idea if there are any recent records (Kenya National Report, 2002).

Other actions:

Kuwait:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Kyrgyzstan:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions:

LATVIA:

Status: No regular records. The ferruginous duck is an irregular breeder. The last record is of one pair in 1992 (Latvia National Report, 2002).

CMS actions: The ferruginous duck is a specially protected species in Latvia (Latvia National Report, 2002).

Other actions:

Lebanon:

Status: Reported as Non-breeding and wintering here (BirdLife International, 2004), with an estimated number of less than 100 individuals (Robinson & Hughes, 2002).

CMS actions: Not a Party to CMS.

Other actions:

LIBYAN ARAB JAMAHIRIYA:

Status: Reported as passing here (BirdLife International, 2004).

CMS actions: None reported.

Other actions:

LIECHTENSTEIN:

Status: Reported as vagrant (BirdLife International, 2004).

CMS actions: None reported.

Other actions:

LITHUANIA:

Status: Lithuania is on the extreme northern boundary of the breeding range of the ferruginous duck. Pairs are concentrated in the south, and numbers have declined in some areas. For example, in Zuvintas Nature Reserve, there were 15-20 breeding pairs in 1920-1930, but only 3-8 during 1966-1985. Odd birds occur during migration and there are few winter records (Zalakevicius, 1995). It is included in the Red Data Book of Lithuania.

CMS actions: None reported.

Other actions: No specific conservation programmes have been conducted for the species (Callaghan, 1997).

LUXEMBOURG:

Status: Occurrence reported (Conzemius, 1995).

CMS actions: None reported.

Other actions:

MACEDONIA:

Status: The only known breeding site is Lake Prespa, where about 3-5 pairs nest annually. Birds also occur during passage and winter, for example at Lake Ohrid (>70 birds recorded on passage) and Lake Prespa (>20 birds on passage and <10 wintering) (Callaghan, 1997).

CMS actions: None reported.

Other actions: Only legally protected during the breeding season (1st March to 31st July). No specific conservation programmes have been conducted for the species (Callaghan, 1997).

Maldives (v)*:

Status: Reported as vagrant (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

MALI:

Status: Lake Horo, in the inner Niger delta seems to be the most important refuge (del Hoyo *et al.*, 1992), with up to 14,000 birds wintering there. The species has been sighted occasionally in the Gourma region, in small numbers (Petkov *et al*., 2002).

CMS actions: The latest data are not accessible at the moment because they contain an inventory error (Mali National Report, 2002).

Other actions: There has been a Joint Mission (May 2002) by DNCN and ONCFS and Wetlands International for the annual counting of migratory water birds and for the training of officers in the identification of birds and wetlands in the region of Mopti. There are plans to implement conservation projects and programmes for species of migratory birds in the wetlands of Mali (Mali National Report, 2002).

MALTA:

Status: Reported as Non-breeding here (BirdLife International, 2004).

CMS actions: None reported.

Other actions:

MAURITANIA:

Status: Reported as wintering here, in wetlands of south and southeast Mauritania, with no more than tens of birds (BirdLife International, 2004; Petkov *et al*., 2002).

CMS actions: None reported.

Other actions:

MOLDOVA:

Status: A recent, massive decline has occurred in the breeding population, from 1,000-1,300 pairs in the 1980s (Tucker and Heath, 1994), to 20-100 pairs currently. The reasons include habitat loss and degradation, disturbance, and since 1991, a sharp increase in poaching as a result of the deterioration of the national economy. During winter, the species occurs mainly in the lower Dniester and Prut rivers. Spring and autumn passage through the country remains substantial, particularly in areas with large areas of open water (eg. reservoirs and barrages). The duck is hunted illegally during autumn migration. Rare, nesting and migrating species. Included in the Red Book of Republic of Moldova (Moldova National Report, 2002).

CMS actions: None reported.

Other actions: No specific conservation programmes have been conducted for the species (Callaghan, 1997).

REPUBLIC OF MONACO:

Status:

CMS actions: None reported.

Other actions:

MONGOLIA:

Status: Recent surveys have found high numbers, perhaps into the tens of thousands, in inner Mongolia (BirdLife International, 2003).

CMS actions: None reported.
Other actions:

MOROCCO:

Status: Reported as non-breeding here (BirdLife International, 2004).

CMS actions: None reported.
Other actions:

Myanmar:

Status: At total of 809 birds were counted on 21 and 22 January 2003 at Indawgyi Lake (birds in the centre of the lake might have been overlooked) (Chan, 2003). Either scarce or locally common in winter (BirdLife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

Nepal:

Status: Either scarce or locally common in winter (BirdLife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

NETHERLANDS:

Status: The ferruginous duck has been a rare breeding bird throughout the 20th century. Prior to 1970, there were 10 confirmed breeding records and during 1973-1977 the annual numbers were estimated at 1-5 pairs (Teixeira, 1979). Subsequently, however, numbers have totalled 0-1 pairs annually (SOVON, 1988; Hecker, 1994). The species was a more numerous non-breeding visitor earlier in the 20th century, for example at Zwarte Meer up to 100 annually occurred on autumn passages. Currently, however, it is a rare and sporadic non-breeding visitor and although up to 35 have been recorded annually since 1979, there are no sites that regularly hold birds (SOVON, 1987; Hecker, 1994).

CMS actions: None reported.

Other actions: Fully protected under the Bird Protection Act (Teixeira, 1979). No specific conservation programmes have been conducted for the species, because of its current sporadic occurrence (Callaghan, 1997).

NIGER:

Status: Reported as Non-breeding here, in wetlands of southern Niger, a few tens of birds (BirdLife International, 2004; Petkov *et al*., 2002).

CMS actions: None reported.
Other actions:

NIGERIA:

Status: Reported as Non-breeding here, in the Hadejia-Nguru wetlands (BirdLife International, 2004; Petkov *et al*., 2002).

CMS actions: None reported.
Other actions:

NORWAY (v)*:

Status: Occurrence reported (Ree and Gjershaug, 1994).

CMS actions: None reported.
Other actions:

Oman:

Status: Reported as wintering and passing here (BirdLife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

PAKISTAN:

Status: Reported as breeding (Urfi, 2003). Either scarce or locally common in winter (BirdLife International, 2003).

CMS actions: None reported.
Other actions:

POLAND:

Status: The species breeds in Poland. There are probably 30-40 pairs left (Poland National Report, 2002). There has been a population decline (BirdLife International, 2004). The first notable decrease was observed after the severe winter in 1962/63, and it has been accompanied by an increase in the numbers and range of the Tufted Duck *Aythya fuligula*, which prefers similar habitat (Petkov *et al*., 2002). The species is distributed in small numbers throughout much of the country during the breeding season, with by far the highest concentration located at Milicz fishponds (Wrockaw). Small groups are regularly recorded on passage sporadically (Callaghan, 1997). It has been listed in the Polish Red Data Book for Animals since 2001 (Petkov *et al*., 2002).

CMS actions: A National Action Plan for this species is being prepared (Poland National Report, 2002).

Other actions: Protected from hunting. No specific conservation programmes have been conducted for the species (Callaghan, 1997). Almost half of the Ferruginous Duck's breeding sites in Poland are protected in some way; however, the level of protection varies – from natural reserves and national parks to protected landscape areas. Only the first two of these offer full protection (Petkov *et al*., 2002).

PORTUGAL:

Status: Reported as wintering here (BirdLife International, 2004). A few individuals have been sighted in some lagoons in central and southern Portugal (Portugal National Report, 2002).

CMS actions: The species is monitored as part of the annual waterbird counts (Portugal National Report, 2002).

Other actions:

Qatar:

Status: Reported as wintering and passing here (BirdLife International, 2004).

CMS actions: Not a Party.
Other actions:

ROMANIA:

Status: The species is widely distributed, but concentrated in the eastern lowlands (in particular the Danube Delta). Early in the 20th century it was considered abundant, but has undergone a sharp decline owing mainly to habitat loss, over-hunting and disturbance (particularly of large areas of the Danube Floodplain) (Callaghan, 1997; Petkov *et al*., 2002). Some 6,000-10,000 pairs were estimated to breed in Romania during the early 1990s, but currently

2,000-6,000 breeding pairs are thought to breed, and more than 50% of fishponds in Romania have been abandoned in the last decade. It is listed on the Romanian Red List (Petkov *et al*., 2002).

CMS actions: The conservation project LIFE99/NAT/99/RO/006394 for the Satchinez Marshlands in Romania is aimed at this species among others (Anon., 2002b). The Satchinez Marshlands in Romania is a major wintering area for ducks and geese, including *Anser erythropus* (Anon., 2002b).

Other actions: The species has been protected in Romania since 2001. It is listed on Annex 3 of the Law of Protected Areas (LEX No. 462/2001) and hunting the species is prohibited (Petkov *et al*., 2002)

Russian Federation:

Status: Occurrence reported in Western Russia (BirdLife International, 2003). The USSR breeding population was evaluated at c. 140,000 pairs in 1970 but had fallen down to c. 5,200 pairs in 1984 (del Hoyo *et al.,* 1992) during breeding, patchily distributed, with the highest concentrations in the south. It is generally not found above 55-60°N. In total, there are only 10 known breeding sites and four staging areas; The number of breeding pairs is estimated in 500-700 pairs (Petkov *et al*., 2002). Large post-breeding flocks often gather in several southern deltas (especially the Volga), and smaller numbers may remain to winter in milder years (Dement'ev and Gladkov, 1952). Numbers of the species are falling alarmingly (Anon., 2002b), mainly due to destruction of breeding habitat, and climate change leading to drought conditions, as hunting is unlikely to be an important factor in the species decline in Russia (the Ferruginous Duck is not a popular quarry species) (Petkov *et al*., 2002). The species will be included within the forthcoming 2nd edition of the National Red Data Book.

CMS actions: Not a Party to CMS.

Other actions: No specific conservation programmes have been conducted for the species (Callaghan, 1997).

SAUDI ARABIA:

Status: Winter 1991 census yielded 95 birds in Saudi Arabia (BirdLife International, 2003). No more than 1-3 breeding pairs are estimated (Petkov *et al*., 2002).

CMS actions: None reported.

Other actions: There was a census in 1991 (BirdLife International, 2003).

SENEGAL:

Status: Reported as Non-breeding here (BirdLife International, 2004). Present in the north of the country (Senegal Delta) (Senegal National Report, 2002).

CMS actions: Plans for the future include monitoring, protection and restoration of the habitat together with annual counting work (Senegal National Report, 2002).

Other actions:

Serbia and Montenegro:

Status: The present breeding population in Serbia is almost completely situated within the Vojvodina region, except for individual pairs in the Negotinska Krajina, Posavina and Pomoravlje areas. The species probably breeds in 40

sites in total. In recent times (1991-2002), the total breeding population is estimated to be 270-400 pairs. Recent data suggest that an increasing proportion of the national Serbian population breeds in artificial wetlands (currently 83%), whilst the remaining 17% breed on natural ponds and marshes (Petkov *et al*., 2002).
During spring and autumn migration and the post-breeding period, Ferruginous Ducks congregate on large carp fishponds in Vojvodina, and rarely on reservoirs or open parts of rivers. There is a regular passage, and about 500 birds over-winter at Lake Skadar (Callaghan, 1997).
In Serbia, the Ferruginous Duck is considered vulnerable. The main threats are eutrophication, pollution, habitat loss and natural marsh habitats becoming overgrown. Disturbance on breeding and staging sites and poaching are also a problem (Petkov *et al*., 2002).

CMS actions: Not a Party to CMS.

Other actions: No specific conservation programmes seem to have been conducted for the species (Callaghan, 1997). Since 1993, the Ferruginous Duck has been protected throughout Serbia, and since April 2002, it can not be legally hunted anywhere in Serbia (Petkov *et al*., 2002).
In recent times, numerous habitat restoration projects have started at key sites for Ferruginous Duck, for example at Obedska Bara, Carska Bara and Ludasko Jezero Ramsar sites. In 2001, the Society for the Protection and study of Birds of Vojvodina began a project to educate fishponds workers and managers throughout Vojvodina about bird conservation, and especially the conservation of Ferruginous Ducks (Petkov *et al*., 2002).

Seychelles (v)*:
Status: Reported as Non-breeding here (BirdLife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Sierra Leone:
Status: Occurrence reported (Dowsett and Dowsett-Lemaire, 1993).

CMS actions: Not a Party to CMS.
Other actions:

SLOVAKIA:
Status: The ferruginous duck was widespread and abundant as a breeding bird during the first half of the 20th century. Now, however, it is locally distributed and no sites hold more than a few breeding pairs. Key areas include the Danube Lowlands, the East Slovakia Lowlands, and the Košice Basin (including the Slovakian Karst area). In mild winters, up to 40 birds remain within the country, but more usually very few or none winter (Callaghan, 1997).

Trnka (1997) evaluates the species as breeding, and regular migrating and wintering species in the period 1990–1997. The number of breeding pairs is estimated on 20–40, while the population trend within 1973 to 1994 is evaluated as "moderate decrease of population by 20 to 50%" (Murin *et al*., 1994). In Western Slovakia the species bred near the Gabcíkovo a Cícov, Kalivodová et Darolová evaluate the species as rare and uncommon breeder of Danubian area (Slovakia National Report, 2002).

At the present time (2000 and 2001) the species was not recorded as breeding in Western Slovakia. In Záhorie Lowland the species bred near Jakubovo, currently breeding of the species is not known. In Eastern Slovakia the species bred more frequently on several sites (Medzibodro ie, inundation

area of the Latorica river Senné-Inacovce fishpond area and NNR Senné-fishponds). The species in NNR Senné-fishponds and surrounding fishpond area sporadically breeds in the number of 10 11 pairs (in 1975-1994). Currently the breeding of the species in the same area is expected but exact number is not known (Slovakia National Report, 2002).
The reasons for the rapid decline and/or fluctuations of Ferruginous Duck in Slovakia over the past 10-15 years include channelling of river Danube, intensification of fishpond management, low annual precipitation causing wetlands to dry out, and competition with other *Aythya* species (Petkov *et al*., 2002). Construction of barrages on the Danube and declining water levels in the East Slovakian Lowlands are expected to cause further declines.

CMS actions: The Senné-fishponds NNR in cooperation of SNC SR and SOVS are protected and managed. Future activities will be concentrated on the monitoring and protection of historical and other suitable nesting sites (Slovakia National Report, 2002).

Other actions: Full legal protection. No specific conservation programmes seem to have been conducted for the species (Callaghan, 1997).

SLOVENIA:

Status: Breeding is restricted to Lake Cerknica (central Slovenia) and the sub-Panonnian region (north-east Slovenia) (Geister, 1995). About 2-5 pairs nest annually at Lake Cerknica. Numbers in the northeast are also small, and seem to be concentrated on floodplain wetlands of the Drava and Mura rivers (including fishponds) (Callaghan, 1997).

There is a regular spring and autumn passage through the country, for example at Lake Cerknica (where 35 birds were recorded on 8th April 1996) and in the northeast (where <25 birds occur currently). In winter, birds are scarce (Sovinc 1994), with <10 usually being recorded (mainly on reservoirs bordering the River Drava and on the Adriatic coast) (Callaghan, 1997). In 2002, Ferruginous Ducks were present in northeast Slovenia throughout the breeding season on three sites: Podvinci fishpond (one pair), Medvedce fishpond (one pair) and a waste water reservoir near Ormoz (one pair) (Petkov *et al*., 2002).

During the last 10 years, numbers in the Northeast have declined dramatically, possibly due, at least in part, to the introduction of Grass Carp *(Ctenopharyngodon idell*a) and consequent degradation of feeding areas. Illegal hunting and habitat destruction have also probably contributed to the decline (Callaghan, 1997).

CMS actions: None reported.

Other actions: Full legal protection. The Bird Watching and Bird Study Association of Slovenia (DOPPS) (Callaghan, 1997) is conducting censuses currently.

SOMALIA:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

SPAIN:

Status: Once distributed widely and abundant in the south and east, with up to 500 pairs breeding in the Guadalquivir Marshes (Valverde, 1960; Hecker, 1994). Currently, the species is on the verge of extinction as a breeding bird (0-4 pairs annually) (Callaghan, 1997). Small groups and individuals occur regularly on passage and during winter, but the species is scarce generally

(Amat and Soriguer, 1982; Dolz *et al.*, 1989; Blanco and Gonzalez, 1992; Hecker, 1994). It is listed as Critically Endangered in the Red Data Book of Spanish Birds (SEO/BirdLife, 2005).

CMS actions: None reported.

Other actions: A re-introduction programme was launched by the Instituto para la Conservación de la Naturaleza (ICONA) in southwest Spain in 1992. In the Acebuche-Huerto-Pajas area of the Guadalquivir Marshes, 49 individuals were released in 1992 and 1993, from which three pairs bred in 1993. A further 45 were released in southwest Spain during 1994 and 1995, and over 30 in 1996 (Callaghan, 1997).

Sudan:

Status: Reported as Non-breeding here (BirdLife International, 2004). No counts of the species have been conducted in the wetlands of southern Sudan. In the mid 1990s, Greek hunters estimated at least 5,000 birds in a wetland area along the Nile between Khartoum and the Sud (Petkov *et al*., 2002).

CMS actions: Not a Party to CMS.

Other actions:

SWEDEN:

Status: Occurrence reported (Risberg, 1990). Reported as vagrant by BirdLife International (2004).

CMS actions: None reported.

Other actions:

SWITZERLAND:

Status: There are two breeding records in the 20th century, in 1991 and 1992 at a small pond close to Frauenfeld. During 1989-1993, a mean of 18 birds wintered in the country, and there are a few sites that regularly hold small numbers (most notably Untersee-Ende und Rhein) (Callaghan, 1997). The species is a sporadic winter visitor to Switzerland. In mid-January there are between 5 and 27 individuals. In 1991 and 1992 there has been evidence of nesting (Switzerland National Report, 2002).

CMS actions: The species is federally protected. There are no planned actions because the population is too small (Switzerland National Report, 2002).

Other actions: No specific conservation programmes have been conducted for the species, owing to its sporadic occurrence in small numbers (Callaghan, 1997).

SYRIAN ARAB REPUBLIC:

Status: Reported as wintering and passing here (BirdLife International, 2004).

CMS actions: None reported.

Other actions:

TAJIKISTAN:

Status: Reported as breeeding here (BirdLife International, 2004).

CMS actions: None reported.

Other actions:

Thailand:

Status: Either scarce or locally common in winter (BirdLife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

TOGO:

Status: Reported as Non-breeding here (BirdLife International, 2004).

CMS actions: None reported.
Other actions:

TUNISIA:

Status: Reported as wintering here (BirdLife International, 2004). The species has been mainly recorded in small numbers during winter and summer, but with some notable concentrations; In October 2001, 1,682 Ferruginous Ducks were seen in Tunisia, probably the greatest number ever recorded there (WWT, 2004). Nevertheless, in most years, Tunisia is thought to hold 10-60 wintering individuals. An overview of confirmed breeding sites suggests that Tunisia holds up to 80 breeding pairs (Petkov *et al*., 2002).

CMS actions: There are plans for a study of ecology, an inventory and the devising of an Action Plan for the conservation of this species (Tunisia National Report, 2002).

Other actions: The Ferruginous Duck was included as a protected species in the annual hunting decree 2002/2003. Most sites where the species has been recorded during the last years are " Réserve de chasse" and excluding from any hunting activity (Petkov *et al*., 2002).

Turkey:

Status: The species is very rare in the southeast, and locally distributed elsewhere, although high concentrations occur locally. There is a regular passage of small groups and individuals, and large flocks occasionally, particularly in the west. Some 600-700 pairs of ferruginous Duck breed in Turkey, and 1,000-1,500 individuals winter. The species occur in 18 IBAs, six of which have no protection (Petkov *et al*., 2002).

There seems to have been a marked decline of both breeding and wintering numbers, probably owing mainly to wetland degradation (Kasparek, 1992; Callaghan, 1997).

CMS actions: Not a Party to CMS.

Other actions: Fully protected from hunting under Terrestrial Hunting Legislation No. 3167. No specific conservation programmes have been conducted for the species (Callaghan, 1997).

Turkmenistan:

Status: Large winter counts have been made (20,833 birds) (BirdLife International, 2003).

CMS actions: Not a Party to CMS.
Other actions:

UGANDA:

Status: Occurrence reported (Dowsett and Dowsett-Lemaire, 1993).

CMS actions: None reported.
Other actions:

UKRAINE:

Status: During the 1950s, about 70,000-80,000 pairs nested in the Ukraine, but

numbers have declined sharply to about 1,000 breeding pairs (Petkov *et al*., 2002). These are largely within the Danube Delta, with smaller numbers in the Dnepr Delta (c. 140 pairs), west Ukraine (c. 40 pairs) and north Krym (c. 150 pairs). Important numbers also nest in the Dnestr Delta. Large post-breeding flocks occur frequently in the larger estuaries of the Black Sea coast, for example the Dnestr and Danube where about 200-400 birds moult (Callaghan, 1997).

A sizeable population (c. 500-1,500 birds) also over-winters, unless particularly hard weather develops. Reasons for the decline are unclear, but probably include wetland loss and degradation (particularly reclamation), and hunting (Callaghan, 1997). In 1967, 18,000 individuals were counted in the Black Sea region of Ukraine (Rüger *et al.*, 1986), but only up to 1,500 between 1979 and 1988 (Ardamatskaya and Sabinevsky, 1990). Numbers of the species are falling alarmingly (Anon., 2002b). This species is included in the national Red Data Book (Callaghan, 1997).

CMS actions: None reported.

Other actions: Protected from hunting. Although hunting is forbidden, birds are still regularly shot by hunters No specific conservation programmes have been conducted for the species (Callaghan, 1997).

United Arab Emirates:

Status: Reported as wintering and passing here (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

UNITED KINGDOM:

Status: Occurrence reported (BOU, 1992).

CMS actions: None reported.

Other actions:

UZBEKISTAN:

Status: It occurs in the basin of the Amudarya, Syrdarya and Zaravshan rivers. It inhabits the plain water-reservoirs with well-developed submerged bank vegetation. Up to 7,000 wintering individuals have been counted. Limiting factors are destruction of habitats as a result of the changes of water-regime in the basins of the Syrdarya and Amudarya rivers, and poaching. Catalogued as Near Threatened (Academy of Sciences Uzbekistan *et al*., 2003).

CMS actions: None reported.

Other actions:

Viet Nam:

Status: Reported as Non-breeding here (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Yemen:

Status: Reported as wintering and passing here (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Additional Information – Western Sahara*:

Status: Occurrence reported (UNEP-WCMC, 2004).

Other actions: Not a Party to CMS.

REFERENCES:

Academy of Sciences of the Republic of Uzbekistan, State Committee For Nature Protection of the Republic of Uzbekistan and Uzbek Zoological Society (2003) *The Red Book of the Republic of Uzbekistan. Volume II: Animals*. Chinor ENK, Uzbekistan.

Adamian, M.S. and Klem, D. Jnr. (1997). *A field guide to the birds of Armeni*a. American University of Armenia, Yerevan, Armenia.

Amat, J.A. and Soriguer, R.C. (1982). Datos sobre selección de hábitat y ecología alimenticia del Porrón Pardo *(Aythya nyroc*a). *Doñana Acta Vertebrata*, 9: 388-394.

Anon. (2002a). Ferruginous Duck in China. *Oriental Bird Club Bulletin*, 36, December 2002.

Ardamatskaya, T.B. and Sabinevsky, B.V. (1990). The distribution and status of waterfowl in the northern Black Sea region in winter. In: Matthews, G.V.T. (ed.). *Managing waterfowl population*s. IWRB Special Publication 12. IWRB, Slimbridge, UK. pp39-42.

Anon. (2002b). CMS Information System – *Aythya nyroca.* Information from 2002 National Report, European Community.

Bezzel, E. (1985). *Kompendium der VögelMitteleuropas; Nonpasseriformes - Nishtsingvöge*l. Wiesbaden, Aula-verlag.

BirdLife International (2003). Red Data Book Threatened Birds of Asia. http://www.rdb.or.id/index.html Downloaded on 23/02/2004.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

Blanco, J.C. and Gonzále, J.L. (eds.) (1992). *Libro rojo de los vertebrados de España.* Colección Técnica, ICONA.

Brazil, M. (1991). The birds of Japan. Christopher Helm, London.

Brichetti, P., Canova, L. and Saino, N. (1984). Status and distribution of breeding Anatidae in Italy and Corsica. *Avocetta*, 8: 19-42.

Brichetti, P., Francheschi, P. and Baccetti, N. (1992). *Fauna d'Italia.* Uccelli I. Edizioni Cablerini, Bologna.

BOU (British Ornithologists' Union) (1992). Checklist of the birds of Britain and Ireland. 6th edition. British Ornithologist' Union, Tring.

Bulgaria National Report (2002). National Report to CMS.

Burkina Faso National Report (2002). National Report to CMS.

Callaghan, D.A. (comp.) (1997). European Species Action Plan - Ferruginous Duck (*Aythya nyroca*). Report prepared for the European Commission. http://europa.eu.int/comm/environment/nature/directive/birdactionplan/action_2.pdf Downloaded on 20/02/2004.

Chad National Report (2002). National Report to CMS.

Chan, S. (2003). *Aythya nyroca* - Additional Species Info. Red Data Book Threatened Birds of Asia. http://www.rdb.or.id/index.html Downloaded on 23/02/2004.

Chelini, A. (1984). *La Anatre Selvatiche. Vita,ambiante e abitudini specie per specie*. E Olimpia, Firenze.

Conzemius, T. (1995). Liste der Vögels Luxembergs. *Regulus*, 14: 41-56.

Cruon, R., Erard, C., Lebreton, J.D. and Nicolau-Guillaumet, P. (1992). Liste des oiseaux de France. *L'Oiseau et la R.F.O.*, 62: 97-116.

Czech Republic National Report (2002). National Report to CMS.

del Hoyo J Elliott A, Sargatal J (eds) (1992). Handbook of the birds of the world. Vol. 1:

Ostrich to Ducks 640pp Barcelona.
Dement'ev, G.P. and Gladkov, N.A. (eds.) (1952). *Birds of the Soviet Union.* Vol. IV. Sovetskaya Nauka, Moscow.
Denmark National Report (2002). National Report to CMS.
Devos, K., Meire, P. and Kuijken, E. (1989). Witoogeend *Aythya nyroc*a. In: Vlavico, M. (ed.). *Vogels in Vlaandere*n. IMP, Bornem.
Dolz Garcia, J.C., Ripoll, G.M and Pedrero, J.H. (1989). Status of some threatened Anatidae species in the Comunidad Valenciana, east Spain. *Threatened Waterfowl Research Group Newsletter*, 1: 7-8.
Dowsett, R. J. and Dowsett-Lemaire, F. (1993). A contribution to the distribution and taxonomy of Afrotropical and Malagasy birds. *Tauraco Research Report*, 5.
Dybbro, T. (1978). Oversigt over Danmarks fugle. Dansk Ornithologisk Forening, Denmark.
Getz, D. (1996). Preliminary research of Ferruginous Duck *(Aythya nyroc*a) ecology in the area of special preservation "Kopacki Rit" and the fishponds "Podunavlje" in Baranja. *Šumarski List*, 120: 319-326.
Gore, M. E. J. (1990). The birds of the Gambia. 2nd ed. British Ornithologists' Union Check List No. 3. BOU, London.
Green, A.J. El Hamzaoui, M. Aziz El Agbani, M. and Franchimont, J (2002) The conservation status of Moroccan wetlands with particular reference to waterbirds and to changes since 1978. *Biological Conservation* 104(1), pp. 71-82.
Grimes, L. (1987). The birds of Ghana. B.O.U. Check-list No. 9. British Ornithologists' Union, London.
Handrinos, G.I. (1992). Birds. In: Karandeinos, M. and Legakis, A. *[The red data book of threatened vertebrates of Greece*]. Hellenic Zoological Society of Athens, Athens. (In Greek).
Handrinos, G. and Acriotis, T. (1997). *The birds of Greece.* Helm, London.
Hazevoet, C. J. (1995). The birds of the Cape Verde Islands. British Ornithologists' Union, Tring, U.K.
Hecker, N. (1994). Ferruginous Duck *Aythya nyroc*a. In: van Vessem, J. (ed.). *Actions to prevent avoidable mortality for threatened waterbirds in the European Unio*n. Unpublished Report. IWRB, Slimbridge, UK. pp 67-106.
Hölzinger, J. (1987). *Die Vögel Baden-Würtenberg*s. 1.2. Gefährdung und Schutz, Karlsruhe. pp 725-1420.
Hungary National Report (2002). National Report to CMS.
Hutchinson, C. D. (1989). Birds in Ireland. Poyser, Calton, U.K.
Isenmann, P. (1993). *Oiseaux de Camargue.* Société d'Etudes Ornithologiques, Brunoy, France.
Jordan National Report (2002). National Report to CMS.
Kenya National Report (2002). National Report to CMS.
Latvia National Report (2002). National Report to CMS.
Mali National Report (2002). National Report to CMS.
Moldova National Report (2002). National Report to CMS.
Paspaleva, M., Kiss, B.J. and Talpeanu, M. (1984). Sur la dynamique de quelques espèces d'oiseaux dominants dans le Delta du Danube. *Travaux du Muséum d'Histoire Naturelle Grigore Antipa*, 25:313-329.
Patrikeev, M. (1996). The status of the Ferruginous Duck in Azerbaijan. *Threatened Waterfowl Specialist Group News*, 9: 30-32. The Wildfowl and Wetlands Trust, Slimbridge, UK.
Petkov, N. (2002) Status and distribution of Ferruginous Duck in Bulgaria. In: Petkov, N. Hughes, B. and Gallo-Orsi, U. (eds.) *Ferruginous duck: from research to conservation*. Sofia: BirdLife International-BSBP-TWSG.
Petkov, N. Hughes, B. and Gallo-Orsi, U. (eds.) (2002) *Ferruginous duck: from research to conservation*. International Meeting proceedings, 11-14 Ocotber 2002 Sofia: BirdLife International-BSBP-TWSG. http://www.bspb.org/nyroca/spdata.php downloaded on 5/10/2004.

Poland National Report (2002). National Report to CMS.
Portugal National Report (2002). National Report to CMS.
Pourreau, J. and Rambaud, P. undated. *Projet de réintroduction du Fuligule Nyroca* (Aythya nyroca*) en Brièr*e. Unpublished Report. LPO, Rochefort, France.
Ree, V. and Gjershaug, J. O. (1994). Systematisk navneliste over norske fugler ajourfort pr. 1.1.1994. In J. O. Gjershaug et al. (eds.) Norsk Fugleatlas. Pages 511-527.
Risberg, L. (1990). Sveriges Faglar. Sveriges Ornit. For., Stockholm.
Robinson, J.A. and Hughes, B. (2002) The global status and distribution of the ferruginous duck. Pp. 8-17 in: Petkov, B., Hughes and Gallo-Orsi, U. (eds.) *Ferruginous duck: from research to conservation*. Sofia: BirdLife International-BSBP-TWSG.
Roux, F. (1994). Fuligule nyroca *(Aythya nyroc*a). In: Yeatman-Berthelot, D. and Jarry, G. (eds.). *Nouvel atlas des oiseaux nicheurs de France 1985-1989.* Société Ornithologique de France, Paris. pp 730-731.
Rüger, A., Prentice, C. and Owen, M. 1986. *Results of the IWRB International Waterfowl Census 1967-198*3. IWRB Special Publication 6. IWRB, Slimbridge, UK.
Schneider-Jacoby, M. (2002a) Lack of Ferruginous Duck protection in Croatia: A reason for the decline in Central Europe? In: Petkov, N. Hughes, B. and Gallo-Orsi, U. (eds.) *Ferruginous duck: from research to conservation*. Sofia: BirdLife International-BSBP-TWSG.
Schneider-Jacoby (2002b) Ferruginous Duck in Germany – Distribution and protection of Germany's rarest breeding bird. In: Petkov, N. Hughes, B. and Gallo-Orsi, U. (eds.) *Ferruginous duck: from research to conservation*. Sofia: BirdLife International-BSBP-TWSG.
Schuster, S., Blum, B., Jacoby, H., Knötzsch, G., Leuzinger, H., Schneider, M., Seitz, E. and Willi, P. (1983). *Die Vögel des Bodenseegebiete*s. Ornithologische Arbeitsgemeinschaaft Bodensee, Stuttgart.
Scott, D.A. & Rose, P.M. (1996) *Atlas of Anatidae Populations in Africa and Western Eurasia*. Wetlands International Publication No. 41, Wetlands International, Wageningen, The Netherlands.
Senegal National Report (2002). National Report to CMS.
SEO/BirdLife (2005) Libro Rojo de las Aves de España. Anexo I: Lista de taxones evaluados, categorias y criterios. http://www.seo.org/2005/librorojo/450.asp Downloaded on 21/02/2005.
Slovakia National Report (2002). National Report to CMS.
SOVON (1987). *Atlas van de Nederlandse Vogel*s. Arnhem.
SOVON (1988). [New estimates of breeding bird numbers in the Netherlands]. *Limosa,* 61: 155-162. (In Dutch).
Sultanov, E. (2002) Current status and conservation of the Ferruginous Duck in Azerbaijan. In: Petkov, N. Hughes, B. and Gallo-Orsi, U. (eds.) *Ferruginous duck: from research to conservation*. Sofia: BirdLife International-BSBP-TWSG.
Switzerland National Report (2002). National Report to CMS.
Szabo, B. and Vegvari, Z. (2002) Population trends, habitat selection and conservation status of the Ferruginous Duck in Hungary. In: Petkov, N. Hughes, B. and Gallo-Orsi, U. (eds.) *Ferruginous duck: from research to conservation*. Sofia: BirdLife International-BSBP-TWSG.
Teixeira, R.M. (ed.) (1979). *Atlas van de Nederlandse Broedvogels.* Natuurmonumenten, 's-Gravenland.
Tucker, G.M. and Heath, M.F. (1994). *Birds in Europe: their conservation status*. BirdLife Conservation Series No. 3. BirdLife International, Cambridge, UK.
Tunisia National Report (2002). National Report to CMS.
UNEP-WCMC (2004). Species Database. www.unep-wcmc.org Downloaded on 24/02/2004.
Urfi, A.J. (2003). The birds of Okhla barrage bird sanctuary, Delhi, India. *Forktail, Journal of Oriental Ornithology*, 19:39-50.
Valverde, J.A. (1960). Vertebrados de las Marismas del Guadalquivir: introducción a su estudio ecológico. *Arch. Inst. Aclim. Almería,* 9: 1-168.

van Dijk, A.J., Hustings, F., Sierdsema, H. and Verstrael, T. (1997). Rare and colonially breeding birds in the Netherlands in 1992-1993. *Limosa*, 70: 11-26. [In Dutch with English summary].

Woets, D. (1994). De witoogeend: broedvogel in De Weerribben? *Noordwesthoek*, 21: 33-35.

WWT (2004) Wildfowl and Wetlands Trust web page – Ferruginous duck. http://www.wwt.org.uk/threatsp/pastwwt/ferrduck.htm Dowloaded on 5/10/2004.

Zalakevicius, M. (1995). *Birds of Lithuani*a. Special Issue (Volume 11) of Acta Ornithologica Lituanica.Institute of Ecology, Vilnius, Lithuania.

Zimmerman, D. A., Turner, D. A. and Pearson, D. J. (1996). Birds of Kenya and northern Tanzania. Christopher Helm, London.

Zogaris, S. and Handrinos, G. (2002) The breeding status of the Ferruginous Duck in Greece and habitat use as its national stronghold. In: Petkov, N. Hughes, B. and Gallo-Orsi, U. (eds.) *Ferruginous duck: from research to conservation*. Sofia: BirdLife International-BSBP-TWSG.

* Range State not yet included in the CMS Range list for this species

***Chlamydotis undulata* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Algeria		?		
LYBIA		?	×	
MALI		?	×	
MAURITANIA		?	×	
MOROCCO		?	×	✓
NIGER		?	×	
SPAIN	●	↓	✓	
TUNISIA		↓	✓	

REVIEW OF CONCERTED ACTION SPECIES

AVES:OTIDIDAE

SPECIES: *Chlamydotis undulata* (Jacquin, 1784)

SYNONYMS: *Chlamydotis macqueenii*

COMMON NAME: Houbara; Houbara Bustard (English); Houbara ondulé; Outarde houbara (French); Avutarda hubara; Hubara (Spanish)

RANGE STATES: Algeria; LIBYAN ARAB JAMAHIRIYA; MALI; MAURITANIA; MOROCCO; NIGER; SPAIN; TUNISIA. Only Northwest African populations qualify.

RED LIST: NT A2cd; A3cd (BirdLife International, 2004).

CONSERVATION STATUS AND ACTIONS:

Chamydotis undulata occurs over a huge range from northern Africa to China but CMS provisions cover only the Northwest African populations. The global population has been estimated at 49,000-62,000 individuals, but it is likely to exceed 100,000 birds (BirdLife International, 2003). The population is declining (IUCN, 2004). *C. u. undulata* (9,800 birds) is resident in north Africa (BirdLife International, 2004).

The main threats are habitat loss and degradation as desert areas are developed for agriculture and infrastructure projects. These are compounded by high hunting pressure from falconers and poachers. There are no reliable data for rates of decline, but given the substantial threats declines are likely to be significant and possibly widespread (BirdLife International, 2004).

Algeria:

Status: Reported as breeding (BirdLife International, 2004). The Houbara Bustard had been generally common in the latter part of the nineteenth century and early part of this century; however, numbers had started to decline by the 1920s as more arid areas were brought into cultivation and oil exploration took place (Goriup, 1997).

CMS actions: Not a Party to CMS.

Other actions:

LIBYAN ARAB JAMAHIRIYA:

Status: Reported as breeding. *C. u. undulata* has declined in Libya (BirdLife International, 2004). Current status unknown. It seems to have been fairly common up to the 1940s when flocks of 50 and even 100 birds were reported (Goriup, 1997).

CMS actions: None reported.

Other actions:

MALI:

Status: Although CMS considers Mali to be a range state, UNEP-WCMC (2004) does not.

CMS actions: None reported.

Other actions:

MAURITANIA:

Status: Breeding resident in the north of the country on the borders with Western Sahara, Morocco and Algeria, but current status unknown (Goriup, 1997; BirdLife International, 2004).

CMS actions: None reported.

Other actions:

MOROCCO:

Status: Reported as breeding (BirdLife International, 2004). It is a breeding resident with a wide distribution in the east and south of the country, including some plains and wider valleys of the Atlas range, but generally scarce. Most of the flatter pre-Saharan areas have been allocated to falconers from Saudi Arabia, U.A.E. and Bahrain over the past 25 years, where bags of several hundred birds are reported and there have been severe declines of the populations subject to hunting (Goriup, 1997).

CMS actions: None reported.

Other actions: The Emirates Center for Wildlife Propagation (ECWP) was created in October 1995 by his highness Sheikh Zayed bin Sultan Al Nahyan, president of the United Arab Emirates, with the aim of ensuring a self-sustaining use of houbara bustard populations in eastern Morocco. The project is based in eastern Morocco, near Missour and is managing an area of about 40,000 km² (Lacroix, 2003). The ECWP has four main objectives:

- To establish and manage a self-sustaining captive-breeding programme for houbara bustards.
- To undertake research in wild populations.
- To determine suitable areas for protection and as release sites.
- To conduct a release and monitoring program for captive-bred houbara bustards.

Only small-sized releases have been conducted for the moment, in order to fine-tune the release procedures. Since 1998, 348 birds were released, with 240 in 2002 (Lacroix, 2003).

King Hassan created a substantial Royal Game Sanctuary on the Tamlelt Plain aiming at conserving wild houbara populations (Goriup, 2001).

NIGER:

Status: Although CMS considers Mali to be a range state, UNEP-WCMC (2004) does not.

CMS actions: None reported.

Other actions:

SPAIN:

Status: Reported as breeding in the Canary Islands (BirdLife International, 2004), where *Chlamydotis undulata fuertaventurae* is endemic to the archipelago, and is found on the islands of Fuerteventura, Lobos, Lanzarote and Graciosa. The population is estimated at 700-750 birds (241 on Fuerteventura and Lobos, and 285 on Lanzarote and Graciosa) (Palacios & Tella, 2003).

The main threat for the species is the touristic and residential use of the steppes areas, especially in Fuerteventura, and the increase in the number of goats and sheeps, which affects native and endemic flora negatively (Palacios & Tella, 2003). The species is protected by Spanish legislation and is classified as an endangered species in the National Red Data Book (SEO/BirdLife, 2005a).

CMS actions: A rehabilitation plan has been underway since 1985 and a management plan for this species has been approved (Anon., 2002). A census covering the whole of the Houbara's range in the islands has been organised (Heredia, 1995).

Other actions: A LIFE Project is about to start in IBAs of Lanzarote and Fuerteventura, and it aims to establish conservation measures for the Houbara bustards and its habitats (SEO/BirdLife, 2005b).

TUNISIA:

Status: The Sude Tunisien (South Tunisian) population is currently threatened with extinction (limited movement) (Tunisia National Report, 2002). Jbil National Park holds a breeding population of houbara bustard (BirdLife International, 2004).

CMS actions: Study of the ecology of the species in Tunisia, inventories and action plan for its conservation are being conducted (Tunisia National Report, 2002).

Other actions:

REFERENCES:

Anon. (2002). CMS Information System - *Chlamydotis undulata*. Information from 2002 National Report, European Community.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambrdige, U.K: BirdLife International.

Goriup, P (2001) Houbara bustard conservation makes progress. *Oryx* 33(2) pp186-187.

Goriup, P. (1997) The World Status of the Houbara bustard *Chlamydotis undulata*. *Bird Conservation International*, 7: pp.373-397.

Heredia, B. (comp.) (1995). Action Plan for the Houbard Bustard in the Canary Islands (*Chlamydotis undulata fuertaventurae*). Report prepared by BirdLife International on behalf of the European Commission. http://europa.eu.int/comm/environment/nature/directive/birdactionplan/chlamydotisundulata.htm

Lacroix, F. (2003) The Emirates Center for Wildlife Propagation: developing a comprehensive strategy to secure a self-sustaining population of houbara bustards in eastern Morocco. *Houbara News* (Newsletter of the Houbara Bustard Working Group of IUCN's Species Survival Comission), Issue 5, May 2003. http://www.erwda.gov.ae/eng/pages/resources/publications/iucn/newsletter5v1.pdf Downloaded on 7/10/2004.

Palacios, C.J. and Tella, J.L. (2003) Aves esteparias de Canarias: una comunidad en peligro. *Quercus* 209, pp. 14-21.

IUCN (2004). 2004 IUCN Red List of Threatened Species. www.redlist.org Downloaded on 17/02/2004.

SEO/BirdLife (2005a) Libro Rojo de las Aves de España. Anexo I: Lista de taxones evaluados, categorias y criterios. http://www.seo.org/2005/librorojo/450.asp Downloaded on 21/02/2005.

SEO/BirdLife (2005b) El Escribano Digital. Pp. 13. http://www.seo.org/escribano/escribanodigital53.pdf Downloaded on 6/05/2005.

Tunisia National Report (2002). National Report to CMS.

UNEP-WCMC (2004). Species Database. www.unep-wcmc.org Downloaded on 24/02/2004.

* Range State not yet included in the CMS range list for this species.

***Chloephaga rubidiceps* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
ARGENTINA	●	↓	✓	✓
CHILE		↓	✓	
UNITED KINGDOM		→	×	

REVIEW OF CONCERTED ACTION SPECIES

AVES: ANATIDAE

SPECIES: *Chloephaga rubidiceps* (Sclater, 1861)

SYNONYMS: -

COMMON NAME: Ruddy-headed Goose (English); Ouette à tête rousse (French); Cauquén colorado (Spanish)

RANGE STATES: ARGENTINA; CHILE; UNITED KINGDOM (Falkland Islands (Malvinas))

RED LIST: LC (BirdLife International, 2004)

CONSERVATION STATUS AND ACTIONS:

The ruddy-headed goose exists in two well-defined populations: a sedentary one restricted to the Falkland (Malvinas) Islands and a migratory one that nests in southern Patagonia (Chile and Argentina), and winters in southern Buenos Aires province (Blanco *et al.*, 2003). During the breeding season, the range extends into continental Chile through the coastal area of the Magellan Straight (Estrecho de Magallanes), approximately from San Juan to Pali Aike (Region XII og Magallanes) and throughout the north of Tierra del Fuego in Argentina and Chile (Gibbons *et al.*, 1998). Most of the indivivuals are concentrated around San de San Gregorio (39-49% of the recorded individuals) and San Juan (1-15%), and in the north of the Chilean sector of Tierra del Fuego (29-51%) (Blanco *et al.*, 2001). It has a large range, with an estimated global extent of occurrence of 53,000 km² (BirdLife International, 2004).

In the north of Tierra del Fuego, the Ruddy-headed Goose was very common until the end of the 1950s, with a population numbering 1,000 individuals (Rumboll, 1975). Since then there has been a significant decrease in the population size (Humphrey *et al*, 1970; Rumboll, 1975; Rumboll, 1979; Canevari, 1996). Recent results obtained by Wetlands International, with the support of the CMS (Blanco, 2000, Gibbons *et al.*, 1998), have confirmed the critical situation of the Tierra del Fuego population, which consists of around 900 individuals. The species has a large global population estimated to be 43,000-82,000 individuals (BirdLife International, 2004).

In Tierra del Fuego and southern Chile, the main threat is predation on eggs and chicks by *Pseudalopex griseus*, the pampa fox. The scarcity of safe nesting sites, allowing protection from terrestrial predators, is thought to limit the reproductive output of the species, mainly on the Tierra del Fuego Island (Gibbons *et al.*, 1998).The species has been considered a crop plague (especially for wheat, main cultivated species in its wintering area) in Argentina and Chile,but some studies demonstrated that the species rarely affects crop production (Blanco *et al*., 2001). Sport hunting, even though limited, also represents a threat to this species, particularly in Chile. Competition with other species of geese in breeding areas has also been suggested as a cause of the decline (Blanco *et al.*, 2001). The overlap between the species wintering distribution and the main wheat cropping areas of Argentina results in serious threats to this goose (Blanco *et al.*, 2003).

ARGENTINA:

Status: The wintering grounds of the Ruddy-headed Goose are restricted to an area of 13,000ha in the south of the Buenos Aires province. More than 80% of the recorded population concentrates in the south of the 'Ruta provincial 228' and in the area of the Arroyo Cristiano Muerto. The migratory routes of the

Ruddy-headed Goose are not known with certainty but are thought to include the coastal departments of the provinces of Santa Cruz, Chubut, Río Negro and Buenos Aires (Blanco *et al.*, 2001).
However, the status of this goose in its wintering grounds in the southern Buenos Aires province is less known, and no historic population estimates exist. It has been classified as a species 'in danger of extinction' in the Patagonian Region (Consejo Asesor Regional Patagónico, 1995). It is catalogued as Endangered in the Red Book of Threatened Argentinian Mammals and Birds (Garcia Fernandez *et al*., 1997).

CMS actions: A bilateral project between Chile and Argentina is being developed to conduct research on this species (Chile National Report, 2002). CMS is funding activities including surveys of breeding and wintering areas, development of a Water Management Plan for critical nesting sites, fencing of nesting areas and information and education.

Other actions: Hunting is banned in the Province of Tierra del Fuego (Blanco *et al.*, 2001) and it is legally protected in Argentina (Canevari, 1996). In the Buenos Aires province, the Ruddy-headed Goose is legally protected but nevertheless, practical conservation measures are hard to implement because females often form interspecific assosciations with other species of geese, which are considered pests and are allowed to be hunted (Blanco *et al.*, 2001).

CHILE:

Status: The population occurs only in the Region Duodécima (Magallanes). The size and trend of the population is not known but it is considered to be threatened with extinction (Chile National Report, 2002). It is considered in danger of extinction (Blanco *et al.*, 2001) and is legally protected (Canevari, 1996).

CMS actions: A bilateral project between Chile and Argentina is being developed to conduct research on this species (Chile National Report, 2002). There are ongoing research projects funded by CMS and work is being carried out to monitor the total and breeding population. SAG of the city of Punta Arenas conducts a project to protect the breeding area known in Magallanes. Negotiations are being carried out with landowners for the restoration of the habitat of the breeding population and total population in the Magallanes sector, where all the population occurs (Chile National Report, 2002).
CMS is funding activities including surveys of beeding and wintering areas, development of a Water Management Plan for critical nesting sites, fencing of nesting areas and information and education.

Other actions:

UNITED KINGDOM:

Status: The Falkland (Malvinas) Islands population is in good conservation status, with an estimated size of 40,000 birds (Blanco *et al.*, 2003).

CMS actions: None reported.
Other actions:

REFERENCES:

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

Blanco, D.E. (comp.) (2000). *Medidas de Acción para la Conservación del Cauquén Colorado* (*Chloephaga rubidiceps*) *en Argentina y Chile*. Informe final para la

Convención sobre Especies Migratorias de Animales Silvestres (Proyecto# 1200-98-74). Wetlands International. Julio 2000. 51 pp.

Blanco, D.E., Zalba, S.M., Belenguer, C.J., Pugnali, G. and Goni, H.R. (2003). Status and conservation of the ruddy-headed goose *Chloephaga rubidiceps* Sclater (Aves, Anatidae) in its wintering grounds (Province of Buenos Aires, Argentina). *Revista Chilena de Historia Natural, 76*: 47-55.

Blanco, D.E. Matus, R. Blank, O. Benegas, L. Goldfeder, S. Moschione, F. & Zalba, S. (2001) *Manual para la Conservación del Cauquén (Canquén) Colorado en Argentina y Chile*. Wetlands International-Americas, Buenos Aires, 2001. http://www.wetlands.org/projects/RHGmanual.pdf Downloaded on 8/10/2004.

Canevari, P. (1996). The austral geese (*Chloephaga* spp.) of Southern Argentina and Chile: a review of its current status. *Gibier Faune Sauvage, Game Wildl*., 13: 355-366.

Chile National Report (2002). National Report to CMS.

Consejo Asesor Regional Patagónico (1995). Taller de Recalificación del Estado de Conservación de la Fauna Silvestre Argentina, Región Patagónica.

García Fernandez, J.J., Ojeda, R.A., Fraga, R.M., Díaz, G.B. and Baigún, R.J. (1997) *Libro Rojo de Mamíferos y Aves Amenazadas de Argentina (Red Book of Threatened Argentinian Mammals and Birds)*. FUCEMA and Administracion de Parques Nacionales, Buenos Aires, Argentina.

Gibbons, J.E., Matus, R. Vilina, Y.A. Blanco, D.E. Zalba, S.and Belenguer, C. (1998). *Desarrollo de un plan de conservación para el Cauquén cabeza colorada* (*Chloephaga rubidiceps*), *en la región austral de Argentina y Chile*. Wetlands International, Argentina and CONAF, Chile.

Humphrey, P.S., Bridge, D. Reynolds, P.W. and Peterson, R.T. (1970). *Birds of Isla Grande (Tierra del Fuego)*. Smithsonian Institution, Washington D.C., 411 pp.

Rumboll, M. (1975). El Cauquén de Cabeza Colorada (*Chloephaga rubidiceps*): Una nota de alarma. *El Hornero,* 11: 315-316.

Rumboll, M. (1979). El estado actual de *Chloephaga rubidiceps. Acta Zool. Lilloana,* 34: 153-154.

* Range State not yet included in the CMS range list for this species.

***Eurynorhynchus pygmeus* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Bangladesh		?		✓
Canada		?		
China		?		✓
INDIA		?		✓
Japan	●	↓		✓
D.P.R. Korea		?		
Republic of Korea	●	→		
Malaysia		?		
Myanmar		?		
PHILIPPINES	●	?	×	
Russian Federation	●	↓		✓
Singapore		?		
SRI LANKA		?	×	
Thailand		?		
United States		?		
Viet Nam		?		✓

REVIEW OF CONCERTED ACTION SPECIES

AVES: SCOLOPACIDAE

SPECIES: *Eurynorhynchus pygmeus* (Linnaeus, 1758)

SYNONYMS: -

COMMON NAME: Spoonbill Sandpiper; Spoon-billed Sandpiper (English); Bécasseau spatule (French); Correlimos cuchareta (Spanish)

RANGE STATES: Bangladesh; China; Japan; Korea, Democratic People's Republic of; Korea, Republic of; Malaysia; Myanmar; PHILIPPINES; Russian Federation; Singapore; SRI LANKA; Thailand; Viet Nam

RED LIST: EN C1; C2a (BirdLife International, 2004)

CONSERVATION STATUS AND ACTIONS:

The Spoon-billed Sandpiper breeds on the Chukotsk peninsula and southwards down the isthmus of the Kamchatka peninsula, in northeastern Russia. It migrates down the western Pacific coast through eastern Russia, Japan, North and South Korea, Mainland China, Hong Kong and Taiwan to its main wintering ground in South and South-East Asia, where it is recorded from India, Bangladesh, Sri Lanka, Myanmar, Thailand, Vietnam, the Philippines, Peninsular Malaysia and Singapore, with unconfirmed reports from the Maldives. It is also a rare visitor to the USA and Canada, recorded in north-western Alaska, the Aleutian islands, British Columbia, the Pribolof islands and Alberta (AOU, 1998). It breeds on sea coasts and adjacent hinterland where there are sandy ridges, sparsely vegetated with mosses, dwarf willows and grasses, and also lakes and marshes in nearby depressions. The species winters on tidal mudflats and saltpans (BirdLife International, 2004).

This sandpiper has a small population, which has undergone a rapid recent decline (BirdLife International, 2001). The global population of this species was recently estimated at between 4,000 and 6,000 individuals (Rose and Scott, 1997), presumably originally based on an estimate of c.2,000-2,800 breeding pairs in Russia (Flint and Kondrat'ev, 1977; also Johnsgard, 1981, Tomkovich, 1991, Collar *et al.*, 1994), but this was probably an overestimate (Tomkovich and Soloviev, 2000). It appears to be rare on migration and in winter throughout its range, indicating that it may actually total between 1,000 and 2,500 individuals (BirdLife International, 2004).

It is vulnerable to habitat loss on its breeding grounds because of its specific habitat requirements, high level of site fidelity, small population and patchy distribution. Throughout its migratory and wintering ranges, tidal flats are being reclaimed for industry, infrastructure and aquaculture and are becoming increasingly polluted. In the breeding grounds, reindeer herds and herders' dogs sometimes destroy nests. Other threats include human disturbance on tidal flats and hunting of shorebirds (Birdlife International, 2004). Climate change and associated habitat shifts are expected to impact negatively on this species and others dependent on tundra habitat for breeding, and modelling indicates that 57% of the habitat for this species could be lost by 2070 (BirdLife International, 2004).

The effective protection and management of coastal wetlands in both the breeding and non-breeding ranges is vital for the conservation of this species. Unfortunately, given its low population and the current lack of information about its most important sites, at present it is only possible to urge stronger conservation at a few known important sites and in very general

terms for the many areas in which small numbers have been recorded (BirdLife International, 2001).

Protected areas in its breeding, staging and wintering areas include Moroshechnaya and several local wildlife refuges on the Chukotsk peninsula (Russia), Yancheng and Chongming Dongtan (China), Mai Po (Hong Kong), Lanyang estuary (Taiwan), Point Calimere and Chilka lake (India) and Xuan Thuy Nature Reserve (Vietnam) (BirdLife International, 2004).

Bangladesh:

Status: Rashid (1967) listed this species as a winter visitor to coastal regions, possibly also occurring inland, although there is apparently no evidence for this apart from the existence of Assamese records. The largest known non-breeding concentrations have been recorded along the Bangladesh coast, suggesting that this may be the main wintering area of the species (Birdlife International, 2004). In Bangladesh, it was considered to be a "rare" winter visitor (Khan, 1982), but the highest-ever single count (257 individuals) was made in the Padma-Meghna Delta in 1989, and this remains the largest known wintering concentration (Thompson and Johnson, 1996). It is not known whether similar numbers of this species winter annually in the country, as further surveys have failed to locate large flocks in the same area (BirdLife International, 2001).

During the midwinter waterbird counts in January 1991, 45 birds of this species were counted in the whole country (Perennou and Mundkur, 1991), but in some years only a few individuals are reported. The area of mudflats, sandflats and coastline involved is enormous, however, and the likelihood is that all counts considerably underestimate the number of individuals present (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: The islands in Noakhali district were apparently being planted with mangroves to stabilise them with a view to perpetuating wintering habitat for the Spoon-billed Sandpiper (Anon., 1989).

Canada (v)*:

Status: Non-breeding occurrence reported (Birdlife International, 2004). Recorded in northwestern Alaska, the Aleutian islands, British Columbia, the Pribolof islands and Alberta (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

China:

Status: It has been recorded on spring and autumn migration along the coast of eastern China in Hebei, Jiangsu, Shanghai, Zhejiang, Fujian, Guangdong and Hainan, there are inland records from Heilongjiang and Beijing (and an unconfirmed report from Hunan), and recent reports in winter from Shandong and Jiangsu (which require confirmation). (BirdLife International, 2001). Protected areas in its breeding, staging and wintering areas include Yancheng and Chongming Dongtan (China) (Birdlife International, 2004). It is a rare passage migrant, mainly found on the east coast of Taiwan during spring migration (BirdLife International, 2001).

It occurs annually in low numbers in Inner Deep Bay marshes, mostly in mid-April. One to five birds are regularly present on passage and (based on plumage characteristics of birds observed) totals were estimated of 16 birds during spring 1990 and 12 in spring 1998 (BirdLife International, 2001). Protected areas in its breeding, staging and wintering areas include Mai Po (Hong Kong) and Lanyang estuary (Birdlife International, 2004). Mai Po is an important passage and/or wintering site for Spoon-billed Sandpiper (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: The East Asian-Australian Shorebird Reserve Network was launched in 1996, with the aim of promoting the conservation of shorebirds at key sites; by December 1999 there were 25 shorebird sites in eight countries in the network, including Yancheng and Chongming Dongtan in mainland China (BirdLife International, 2001).

Mai Po marshes were declared a "No Hunting Area" in 1973, and restriction on access, was strictly enforced to prevent disturbance to wild animals. The East Asian-Australian Shorebird Reserve Network was launched in 1996, with the aim of promoting the conservation of shorebirds including this species at key sites; by December 1999 there were 25 shorebird sites in eight countries in the network, including Mai Po-Inner Deep Bay in Hong Kong (SC) (BirdLife International, 2001).

INDIA*:

Status: Occurrence reported (Ripley, 1982). It is an uncommon winter visitor recorded mainly on the east coast. In India, this species is known mainly by regular records of small numbers at Chilka lake in Orissa and Point Calimere in Tamil Nadu, but it is probably more numerous than the records suggest because of the difficulty of finding it amongst large mixed flocks of small waders (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: All of Chilka lake is under the jurisdiction of the Wildlife Department, and an officer of district forest officer rank is permanently posted there; the areas of wader habitat around Nalban island have been fenced. Point Calimere is also an established wildlife sanctuary (BirdLife International, 2001).

Japan:

Status: A rare but regular autumn migrant, occurring mainly in September and October, generally along the Pacific coast from Hokkaido to Okinawa (Brazil 1991). There have been very few records during national spring wader counts, but during national autumn counts its numbers have ranged from 15 to a maximum of 94 in 1981 (Brazil, 1991). Its numbers appear to have declined in Japan since the 1970s (BirdLife International, 2001).

It has occurred in or near to several protected areas on migration, including: Tofutsu-ko and Furen-ko on Hokkaido, Sendai Kaihin in Miyagi prefecture, Yatsu in Chiba prefecture, Hama Koshien in Hyogo prefecture, and Yagachi and Manko

in Okinawa prefecture, which are established National Wildlife Protection Areas; it is also recorded from Shio-kawa in Aichi prefecture, Hakata bay in Fukuoka prefecture and Ariake-kai in Fukuoka and Saga prefectures, which are in the process of being designated as National Wildlife Protection Areas (BirdLife International, 2001). It is included on the Red List (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: The East Asian-Australian Shorebird Reserve Network was launched in 1996, with the aim of promoting the conservation of shorebirds at key sites; by December 1999 there were 25 shorebird sites in eight countries in the network, including Yoshino-gawa in Japan (BirdLife International, 2001).

D.P.R. Korea:

Status: It is a very rare spring and autumn passage migrant (Tomek, 1999). It is believed to be a scarce passage migrant in North Korea, with a total of less than 20 birds estimated to occur annually (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: It is a protected in this country (BirdLife International, 2001).

Republic of Korea:

Status: The coastal mudflats, saltpans and estuaries on the western and southern coasts of South Korea are important staging areas for this species during spring and especially autumn migration, notably the Mangyong (Mankyung) and Tongjin estuaries in North Cholla (BirdLife International, 2001). 180 birds reported on the Mangyong estuary in September 1998 and 200-250 birds reported on the Mangyong and Tongjin estuaries (Saemankeum area) in September 1999 (BirdLife International, 2001). The important staging area at Saemankuem, South Korea, including the Mankyung and Tongjin estuaries, has already been partially reclaimed (BirdLife International, 2004), although in Early February 2005, Seoul Administrative Court ruled that work to complete the seawall of the controversial Saemangeum Reclamation Project must stop immediately (the Court said no economic benefits could be expected from the project because of anticipated economic losses caused by water pollution, and the destruction of the tidal-falt ecosystem) (World Birdwatch, 2005). It was designated as an endangered species by the South Korean Ministry of the Environment in 1998 (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Malaysia:

Status: It is a non-breeding visitor, so far only recorded at one site: Kuala Selangor, first-winter male collected at the "salt field", November 1976 (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Myanmar:

Status: Armstrong (1876) remarked that the species was "of rare occurrence" at Elephant Point. It was, however, "recorded from Arakan several times" (Oates, 1883). The individual shot by Smythies (1986) at the Sittang estuary "was the only one seen out of thousands of waders inspected", again suggesting that the local population of the species is small. There are no recent records from Myanmar, but it is plausible that an important wintering population survives in the extensive coastal

wetlands of the Irrawaddy delta region (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

PHILIPPINES:

Status: It is known by a single record: Luzon Bicobian bay, midway between Maconacon and Palanan, east coast of Luzon, two, May 1996 (BirdLife International, 2001). The species has been recorded as wintering in this country (Birdlife International, 2004). Reported as Vulnerable by Collar *et al*. (1999)

CMS actions: None reported.
Other actions:

Russian Federation:

Status: As a breeding bird, it is endemic to the coast of the western Bering Sea (in Chukotka and Koryakia), where it inhabits a narrow belt of coastal tundra around "Beringian" lagoons and bays. There are two major areas of distribution, one a more or less continuous stretch of c.350km of coast on the northern Chukotsk peninsula between Ukouge lagoon and Serdtse-Kamen' cape, and the other along the Bering Sea coast for c.2,600 km (almost continuous between Getlyanen and Khatyrka, but then in isolated patches of suitable habitat south-west to Ossora). On migration, it occurs on Kamchatka (including the Commander islands), along the coasts of the Sea of Okhotsk in Magadan, Khabarovsk and Primorye, and on Sakhalin island and the Kuril islands (BirdLife International, 2001).

This species nests in solitary pairs or in aggregations of up to 10-15 pairs (Portenko, 1972) within a narrow and fragmented band of suitable coastal habitats, which limits the extent of its range and hence its population size (AVA). Within its breeding range there are almost 200 separate nesting localities, the most important being Belyaka spit and Anadyr' lagoon. The breeding density has been estimated at 6-8 pairs per km^2 on the Belyaka spit, where 45-53 territorial males were counted in 1986-1988 (Tomkovich, 1991; Tomkovich; 1992b, Tomkovich, 1995; Tomkovich and Soloviev 2000).

Totals of 50 and 95 males were counted on Yuzhnyi island and on Belyaka spit in 1973 and 1974 respectively (Krechmar *et al.*, 1978; Kishchinskiy, 1988), but in 1986-1988 only 45, 51 and 45 males were counted in the same area using the same methodology, indicating that the population there had possibly declined (Tomkovich and Soloviev, 2000). About 6-10 pairs have been found nesting at Ukouge lagoon (Kishchinskiy, 1988) and four pairs at Kivak lagoon (Tomkovich and Sorokin, 1983). A breeding population of 8-10 pairs has been estimated at Cape Rekokaurer (Kishchinskiy, 1988). The species has occurred in significant numbers a bird sanctuary on the Moroshechnaya river in western Kamchatka ($1,500km^2$)(Gerasimov and Gerasimov, 1999), and in several local wildlife refuges on the breeding grounds on the Chukotsk peninsula (BirdLife International, 2001).

On the basis of its breeding densities and the mapped extent of suitable habitat, the total population was estimated at c.2,000-2,800 pairs by Flint and Kondrat'ev (1977), but this was probably an overestimate (Tomkovich and Soloviev, 2000). Its population was believed to be relatively stable, but highly vulnerable (Kondrat'ev, 1989; Tomkovich, 1991; Tomkovich, 1995). However, there is evidence that the breeding population has declined recently in the Egvekinot area (Dorogoy, 1997), and surveys in summer 2000 found that it had declined at all of the sites where previous population estimates were available; given the high breeding-site fidelity of this species, this indicates that the breeding population of this species has declined sharply in recent decades BirdLife International (2001). Surveys carried out during summer 2000 and 2002

on Anadir estuaty coasts and Belyaka Spit (Northern Chukotsky Peninsula) demonstrated a decline in the breeding population of about 2,5 times in the 15 years since the previous period of surveys and birds also declined or disappeared from other surveyed sites. Reasons for this situation are not clear: however, a decline all over the breeding range means that any reason is common for the hole population and thus possibly lies outside the breeding range, although low productivity is also possibly a factor. Saemankeum is one of the key sites on the flyway for the species, and its reclamation may become fatal for the remaining population of the species (Tomkovich *et al*., 2001). The Information on numbers of migrant Spoon-billed Sandpipers in eastern Russia is discussed by Tomkovich (1992a).

Protected areas in its breeding, staging and wintering areas include Moroshechnaya and several local wildlife refuges on the Chukotsk peninsula (Russia) (Birdlife International, 2003). This species is included in the Russian Red Data Book (Kolosov, 1983).

CMS actions: Not a Party to CMS.

Other actions: Migrant birds are protected in the Lazovskiy State Reserve and the Khasansky Nature Park (at the Tumen estuary) (BirdLife International, 2001). The East Asian-Australian Shorebird Reserve Network was launched in 1996, with the aim of promoting the conservation of shorebirds at key sites; by December 1999 there were 25 shorebird sites in eight countries in the network, including the Moroshechnaya estuary in Russia (BirdLife International, 2001). It has been proposed that the hunting of all species of shorebird should be prohibited in eastern Russia (BirdLife International, 2001).

Singapore:

Status: It is a very rare non-breeding visitor, seen in the winter (Lim, 1994; Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

SRI LANKA:

Status: It is a very rare winter visitor (BirdLife International, 2001). The estuaries and coastal lagoons visited by small numbers of Spoon-billed Sandpiper are being degraded by aquaculture, industrial development and siltation.

CMS actions: None reported.

Other actions:

Thailand:

Status: The species is a rare passage migrant and winter visitor (Lekagul and Round, 1991). In Thailand, it is possible that a small number of Spoon-billed Sandpipers winter at Khok Kham (in the vicinity of Thai Gulf) or elsewhere, although it is equally plausible that the few records simply relate to migrating individuals (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

United States:

Status: Non-breeding occurrence reported (AOU, 1983; Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Viet Nam:

Status: Occurrence reported (Nguyen *et al.*, 2000). It is a passage and winter visitor known

from two sites in the Red River delta (BirdLife International, 2001). The total wintering population in Vietnam appears to be fewer than 50 individuals, although it is possible that some sites remain to be discovered (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: Protected areas in its breeding, staging and wintering areas include Xuan Thuy Nature Reserve (Vietnam) (Birdlife International, 2004).

REFERENCES:

AOU (American Ornithologists' Union) (1983). *Checklist of North American birds. 6th edition.* American Ornithologists' Union, New York .

AOU (American Ornithologists' Union) (1998). *Check-list of North American birds. 7th edition*. American Ornithologists' Union, Washington, D.C.

Anon. (1989). *Asian Wetland News* 2, 1 [1989]: 9.

Armstrong, J. (1876). Notes on some birds collected in the eastern or Rangoon district of the Irrawaddy delta. *Stray Feathers*, 4: 295–351.

BirdLife International (2001). *Threatened birds of Asia*. The BirdLife International Red Data Book. BirdLife International, Cambridge, U.K.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

Brazil, M. A. (1991). *The birds of Japan*. A. and C. Black/Christopher Helm, London.

Collar, N. J., Crosby, M. J. and Stattersfield, A. J. (1994). *Birds to watch 2: the world list of threatened birds*. BirdLife International (BirdLife Conservation Series 4), Cambridge, UK.

Collar, N.J., Mallari, N.A.D., Tabaranza, B.R. (1999) *Threatened Birds of the Philippines*. The Haribon Foundation/BirdLife International Red Data Book. Makai City, Philippines.

Dorogoy [Dorogoi], I. V. (1997). [The fauna and distribution of the waders in North-East Asia.] Pp.53– 87 in A. V. Andreev, ed. [Species diversity and population status of waterside birds in North-East Asia]. (Series: Biological Problems of the North.) Magadan: North-East Science Centre, Far East Department of the Russian Academy of Sciences. (In Russian.)

Flint, V. E. and Kondrat'ev, A. Ya. (1977). [An attempt to estimate the total population of rare stenotopic species (using as an example the Spoonbill Sandpiper Eurynorhynchus pygmaeus).]. Tez. Dokl. VII Vsesoyuz. orn. Konf. (Cherkassy) Pt.2: 250. Kiev: Naukova dumka. (In Russian.).

Gerasimov, N. N. and Gerasimov, Yu. N. (1999). [The estuary of the Moroshechnaya River as the place of wader concentration.] Pp.47–52 in N. D. Poyarkov, ed. [The biology and conservation of the birds of Kamchatka], 1. Moscow: Dialog-MGU. (In Russian).

Johnsgard, P. A. (1981). *The plovers, sandpipers and snipes of the world*. Lincoln, USA: University of Nebraska Press.

Khan, M. A. R. (1982). *Wildlife of Bangladesh: a checklist*. Dhaka: University of Dhaka.

Kishchinskiy, A. A. (1988). [Avifauna of Northeast Asia. History and modern state.] Moscow: Nauka. (In Russian.)

Kolosov, A. M., ed. (1983). Krasnaya kniga RSFSR: zhivotnye [Red Data Book of the RSFSR: animals]. Moscow: Rossel'khozizdat. (In Russian).

Kondrat'ev, A. Ya. (1989). [Spoonbill Sandpiper *Eurynorhynchus pygmeus* (Linnaeus, 1758).] Pp.119– 120 in P. A. Ler, ed. [Rare vertebrates of the Soviet Far East and their protection.] Leningrad: Nauka. (In Russian).

Krechmar, A. V., Andreev, A. V. and Kondrat'ev, A. Ya. (1978). [Ecology and distribution of birds in the north-east of the USSR.], Nauka, Moscow. (In Russian).

Lekagul, B. and Round, P. D. (1991). *A guide to the birds of Thailand*. Bangkok: Saha Karn

Bhaet.
Lim, K. S. (1994). Birds to watch: threatened birds in Singapore. *Oriental Bird Club Bull*., 19: 52–54.
Nguyen Cu, Le Trong Trai and Phillipps, K. (2000). Chim Viet Nam. Vietnamese.
Oates, E. W. (1888). On the birds of Bhamo, Upper Burmah. *Ibis,* (5)6: 70–73.
Perennou, C. and Mundkur, T. (1991). *Asian waterfowl census 1991. Mid-winter waterfowl counts, January 1991*. Slimbridge, UK: International Waterfowl and Wetlands Research Bureau, and Kuala Lumpur: Asian Wetland Bureau.
Portenko, L. A. (1972). [Birds of the Chukchi peninsula and Wrangel Island], 1., Nauka Leningrad. (In Russian). [Published in English translation in 1981 at New Delhi: Amerind Publishing.]
Rashid, H. (1967). *Systematic list of the birds of East Pakistan*. Asiatic Society of Pakistan (Publ. 20).
Ripley, S. D. (1982). *A synopsis of the birds of India and Pakistan*. 2nd edition.
Rose, P. M. and Scott, D. A. (1997). *Waterfowl population estimates*. Second edition. Wageningen, the Netherlands: Wetlands International (Publ. 44).
Smythies, B. E. (1986). *The birds of Burma*. Third edition. Liss, UK: Nimrod Press, and Pickering, Ontario: Silvio Mattachione and Co.
Tomek, T. (1999). The birds of North Korea. Non-Passeriformes. *Acta Zool. Cracov.*, 42(1): 1–217.
Thompson, P. M. and Johnson, D. L. (1996). *Birding in Bangladesh: a guide to birdwatching sites and a checklist of birds*. Dhakar: unpublished report.
Tomkovich, P. S. (1991). Three-year study of the Spoon-billed Sandpiper. *Asian Wetland News*, 4: 17.
Tomkovich P. S. (1992a). Migration of the Spoon-billed Sandpiper *Eurynorhynchus pygmeus* in the Far East of the Russian Federation. *Stilt*, 21: 29–33.
Tomkovich, P. S. (1992b). Spoon-billed Sandpiper in north-eastern Siberia. *Dutch Birding*, 14: 37–41.
Tomkovich, P. S. (1995). [Breeding biology and breeding success of the spoon-billed sandpiper *Eurynorhynchus pygmeus*.] *Russ. Orn. Zh.*, 4(3/4): 77–91. (In Russian).
Tomkovich, P. S. and Soloviev, M. Y. (2000). [Numbers of the Spoon-billed Sandpiper at the north of Kolyuchinskaya Gulf, Chukotka, and count methods for the species on breeding grounds.] *Russ. Orn Zh. Ekspress-vyp*., 99: 3–10. (In Russian).
Tomkovich, P. S. and Sorokin, A. G. (1983). [The bird fauna of Eastern Chukotka.] *Sbor. Trud. zool. Mus*., MGU 21: 77–159. (In Russian).
Tomkovich, P.S. Syroechkovski Jr., E.E. Zöckler, C. and Lappo, E.G. (2002) First indications of a sharp population decline in the globally threatened Spoon-billed Sandpiper *Eurynorhynchus pygmeus*. *Bird Conservation International* 12: 1-18.
World Birdwatch (2005) Saemangeum reclamation halted. *World Birdwatch*, 27(1), p. 10.

* Range State not yet included in the CMS range list for this species.

***Falco naumanni* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Afghanistan		?		
ALBANIA		? or ↓	×	
Algeria		?		
Angola		?		
Armenia		?		
Austria		?		
Azerbaijan		?		
Bahrain		?		
Bangladesh		?		
BELGIUM		?	×	
Benin		?		
Bhutan		?		
Bosnia and Herzegovina		?		
Botswana		↓		
BULGARIA	●	↓	✓	✓
BURKINA FASO		?	×	
Burundi		?		
CAMEROON		?	×	
Cape Verde		?		
Central African Republic		?		
CHAD		?	×	
China		↓		
Colombia		?		
Comoros		?		
CONGO		?	×	
D.R.C. CONGO		?	×	
COTE D'IVOIRE		?	×	
CROATIA	●	↓	×	✓
CYPRUS		?	×	
CZECH REPUBLIC		Ex?	×	
DENMARK		?	×	
Djibouti		?		
EGYPT		?	×	
Equatorial Guinea		?		
Eritrea		?		
Ethiopia		?		
FRANCE	●	→	×	✓
Gabon		?		
GAMBIA		?	×	
GEORGIA		?	×	
GERMANY		?	×	
GHANA		?	×	
GREECE	●	→	×	✓
GUINEA		?	×	
GUINEA-BISSAU		?	×	
HUNGARY		?	×	
INDIA		?	×	

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Iran		?		
Irak		?		
IRELAND		?	×	
ISRAEL		↓	✓	
ITALY		?	✓	✓
Japan		?		
JORDAN		?	✓	✓
Kazakhstan		→		
KENYA	●	→	✓	
Kuwait		?		
Kyrgyzstan		?		
Laos People's D.R.		↓		
Lebanon		?		
Lesotho		?		
Liberia		?		
LYBIA		?	×	
LIECHTENSTEIN		?	×	
F.Y.R. MACEDONIA		?	×	
Malawi		?		
Maldives		?		
MALI		?	×	
MALTA		?	×	
MAURITANIA		?	×	
MOLDOVA		↓	✓	
MONGOLIA		→		
MOROCCO		↓		
Mozambique		?		
Myanmar		?		
Namibia		?		
Nepal		↓		
NIGER		?	×	
NIGERIA		?	×	
Oman		?		
PAKISTAN		?	×	
POLAND		?	×	
PORTUGAL	●	↑	✓	✓
Quatar		?		
ROMANIA		?	✓	
Russian Federation	●	?		✓
Rwanda		?		
SAUDI ARABIA		?	×	
SENEGAL		?	×	
Serbia and Montenegro		?		
Seychelles		?		
Sierra Leone		?		
SLOVAKIA		?	×	
SLOVENIA		?	×	
SOMALIA		↓	×	

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
SOUTH AFRICA		↓	×	✓
SPAIN	●	↑	✓	✓
SRI LANKA		?	×	
Sudan		?		
Swaziland		?		
SWEDEN		?	×	
SWITZERLAND		?	×	
SYRIA		?	×	
TAJIKISTAN		?	×	
U.R TANZANIA		↓	✓	
TOGO		?	×	
TUNISIA	●	→	✓	
Turkey		↓?		✓
Turkmenistan		?		
UGANDA		?	×	
UKRAINE	●	?	×	✓
United Arab Emirates		?		
UNITED KINGDOM (Gibraltar)		?	×	✓
UZBEKISTAN	●	↓	×	
Yemen		?		
Zambia		?		
Zimbabwe		?		
Western Sahara		?		

REVIEW OF CONCERTED ACTION SPECIES

AVES: FALCONIDAE

SPECIES: *Falco naumanni* (Fleischer, 1818)

SYNONYMS: -

COMMON NAME: Lesser Kestrel (English); Faucon crécerellette (French); Cernícalo Primilla (Spanish)

RANGE STATES: Afghanistan; ALBANIA; Algeria; Angola; Armenia; Azerbaijan; Bangladesh; BENIN; Bhutan; Bosnia and Herzegovina; Botswana; BULGARIA; BURKINA FASO; Burundi; CAMEROON; Cape Verde; Central African Republic; CHAD; China; Colombia; Comoros; CONGO; CONGO, DEMOCRATIC REPUBLIC OF THE; COTE D'IVOIRE; CROATIA; CYPRUS; DJIBOUTI; EGYPT; Equatorial Guinea; Eritrea; Ethiopia; EUROPEAN COMMUNITY (FRANCE, GREECE, ITALY, PORTUGAL, SPAIN, UNITED KINGDOM); GAMBIA; Gabon; GEORGIA; GHANA; GUINEA; GUINEA-BISSAU; INDIA; Iran (Islamic Republic of); Iraq; ISRAEL; JORDAN; Kazakhstan; KENYA; Kuwait; Kyrgyzstan; Lao People's Democratic Republic; Lebanon; Lesotho; LIBERIA; LIBYAN ARAB JAMAHIRIYA; MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF; Malawi; Maldives; MALI; MAURITANIA; MOLDOVA, REPUBLIC OF; MONGOLIA; MOROCCO; Mozambique; Myanmar; Namibia; Nepal; NIGER; NIGERIA; Oman; PAKISTAN; Qatar; ROMANIA; Russian Federation; Rwanda; SAUDI ARABIA; SENEGAL; Serbia and Montenegro; Sierra Leone; SLOVENIA; SOMALIA; SOUTH AFRICA; Sudan; Swaziland; SYRIAN ARAB REPUBLIC; TAJIKISTAN; TANZANIA, UNITED REPUBLIC OF; TOGO; TUNISIA; Turkey; Turkmenistan; UGANDA; UKRAINE; United Arab Emirates; UZBEKISTAN; Yemen; Zambia; Zimbabwe

RED LIST: VU - A1bce+3bce (BirdLife International, 2004).

CONSERVATION STATUS AND ACTIONS:

The Lesser Kestrel is an extremely widespread Old World falcon, breeding from Iberia and North Africa through Central Asia to eastern China, and wintering chiefly in sub-Saharan Africa (BirdLife International, 2001). The European and North African population is estimated at 17,000-21,000 pairs, with several thousand pairs breeding outside this range, principally in central Asia. Cade (1982) estimated a global population of 650,000-800,000 pairs.

The bulk of the western Palaearctic population winters in Africa south of the Sahara, excluding the Congo basin and Cameroon. However, a proportion of adults winter in Southern Spain, southern Turkey and northwest Africa. The number of birds wintering in Spain appears to depend upon the availability of food, which is turn-dependent upon climatic factors (Biber, 1996).

Western Palaearctic populations have undergone serious declines, although a few have begun to increase again. This species has undergone rapid declines in Western Europe equivalent to c. 46% in each ten years since 1950 and *Falco naumanni* is considered an endangered species in Europe. There have also been rapid declines on the wintering grounds in South Africa, equivalent to c. 25% in each ten years since 1971, and possibly in parts of its Asian range (Birdlife International, 2004). It is predicted that similar declines will continue over the next 10 years (BirdLife International, 2004).

The main cause of its decline has been habitat loss and degradation in its western Palaearctic breeding grounds, primarily a result of agricultural intensification, but also afforestation and urbanisation. The use of pesticides may cause direct mortality, but is probably more important in reducing prey populations. The abandonment or restoration of old buildings has resulted in the loss of nest-sites (Birdlife International, 2004). In addition, desertification in the Sahel zone, important for passage and wintering birds, has reduced available habitat, while dams have destroyed large areas of suitable floodplain habitat which, when drying out after the wet season, were important for Lesser Kestrels (BirdLife International, 2001).

A European action plan has been published (Birdlife International, 2004).

Afghanistan:

Status: *Falco naumanni* is reported to breed in, as well as migrate through, this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

ALBANIA:

Status: *Falco naumanni* is reported to breed here. The population was estimated in 1963 to be between 100 and 1,000 breeding pairs. Between 1970 and 1990 the breeding population is estimated to have decreased by between 21 and 50% (Birdlife International, 2004), but little is known of its present status. Their major concentrations are noted along the Adriatic coast and the valley of Vsoja river.

CMS actions: None reported.

Other actions: It is protected in this country (BirdLife International, 2004).

Algeria:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International,

2004).

CMS actions: Not a Party to CMS.
Other actions:

Angola:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Armenia:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Austria*:

Status: Occurrence reported (Rokitansky, 1964).

CMS actions: Not a Party to CMS.
Other actions:

Azerbaijan:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Bahrain*:

Status: *Falco naumanni* is reported to migrate through this country (Nightingale and Tim, 1992; Birdlife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Bangladesh:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

BELGIUM (v)*:

Status: Occurrence reported (Herroelen, 1997). Considered as vagrant in this country (BirdLife International, 2004).

CMS actions: None reported.
Other actions:

BENIN:

Status: A not insignificant population is found in the bush, grass and tree swamps of the North Benin regions (Benin National Report, 2002). *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: None reported.
Other actions:

Bhutan:

Status: Not considered as a range state by BirdLife international (2004).

CMS actions: Not a Party to CMS.
Other actions:

Bosnia and Herzegovina:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Botswana:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004). In southern Botswana flocks of over 100 birds were regular in the early 1980s, but could not be found during the 1990s (BirdLife International, 2001). The number of Lesser Kestrel flocks in southern Botswana has fallen despite the continued presence of apparently abundant habitat and food (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

BULGARIA:

Status: Marginal population. Breeding not recorded since 1991 (Bulgaria National Report, 2002). Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have decreased by over 50% (Birdlife International, 2004). Observations of post breeding birds available in 1999, 2000, 2001. The population was estimated in 1999 to be between one and five breeding pairs (Birdlife International, 2004), and about 10% of the breeding population is located in protected areas. It is included in the national red Data Book as endangered (Biber, 1996).

CMS actions: Extensive search of breeding pairs was completed in 1995-1997 without success (Bulgaria National Report, 2002). National Species Action Plan (NSAP) prepared in line with CBD and Council of Europe requirements. Prepared as part of "Conservation of the Lesser Kestrel": Bulgarian Society for the Protection of Birds/BirdLife Bulgaria runs one project in 1995-1997 (Bulgaria National Report, 2002).

Other actions: Research and management of the species, its sites and habitats has been carried out in this country. Possible reintroduction was investigated by BSPB (Birdlife International, 2004). BSPB has been conducting a study on the autumn migration of birds of prey along the Black Sea coast for the past 18 years, and a project to provide artificial nest-boxes was developed in some regions of the Trakia lowlands and the eastern Rhodopi mountains (Biber, 1996).
The species is protected under the Hunting Law since 1962 (Biber, 1996).

BURKINA FASO:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: None reported.
Other actions:

Burundi:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

CAMEROON:

Status: *Falco naumanni* is reported as vagrant in this country (Birdlife International, 2004).

CMS actions: None reported.

Other actions:

Cape Verde:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Central African Republic:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

CHAD:

Status: *Falco naumanni* is reported to winter in this country, and on passage as well. Small population, status unknown. (Birdlife International, 2004). Reported in the National park of Zakouma, the Wildlife Reserve of Siniaka Minia and the Reserves oudi Rimé and Achim (Chad National Report, 2002).

CMS actions: None reported.

Other actions:

China:

Status: The Lesser Kestrel breeds in the steppes and deserts of Inner Mongolia, Xinjiang, Hebei and Beijing (at least formerly), and presumably also in Gansu, and is a passage migrant through several other. It breeds in the protected areas of Anxi Gobi Nature Reserve, Gansu, Baihe Nature Reserve, Sichuan and Taihangshan Macaque Nature Reserve, Henan regions (BirdLife International, 2001).

The species has been described as "uncommon" in its Chinese breeding range, and "rare" elsewhere, but given the sheer breadth of the breeding range in northern China, it is probably not unreasonable to suggest that there could be several thousand breeding pairs. "Large numbers" used to occur in the hills near Beijing in September, presumably representing flocks on migration, and the species has recently been found to be "uncommon to fairly common in mid-autumn" at Beidaihe in Hebei. Trends are unknown but seem likely to be negative (BirdLife International, 2001).

The available information suggests that substantial breeding populations may survive in northern China. These could prove to be globally important given the declines that have taken place in Europe and Central Asia. It is possible that the breeding population in northern China is threatened by habitat loss and the use of pesticides and poisons (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Colombia:

Status: This country is not considered a range state for the species (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Comoros:

Status:

CMS actions: Not a Party to CMS.

Other actions:

CONGO:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: None reported.

Other actions:

D.R.C. CONGO:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: None reported.

Other actions:

COTE D'IVOIRE:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2004).

CMS actions: None reported.

Other actions:

CROATIA:

Status: The breeding population became extinct in the second half of the 20th Century, and it is considered very rare during migration (Croatia National Report, 2002). Two of the IBAs where the Lesser Kestrel occurs are National Parks: Nacionalni Park Kornati (IBA 020) and Nacionalni Park Krka (IBA 021), and two are proposed ornithological reserves: Klisura reke Babune I Topolke I Crn Kamen (IBA 050) and Demir kapija (IBA 053) (Biber, 1996). The species is included in the Red Data Book of Croatia (Croatia National Report, 2002).

CMS actions: None reported, because a lack of human and financial resources (Croatia National Report, 2002).

Other actions: An Action Plan and reintroduction programme are planned for the species (Croatia National Report, 2002). The species is legally protected.

CYPRUS:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2004).

CMS actions: None reported.

Other actions:

CZECH REPUBLIC (ex, br)*:

Status: Occurrence reported (Kren, 2000), but considered extinct by BirdLife (2004).

CMS actions:

Other actions: None reported.

DENMARK (v)*:

Status: Occurrence reported (Dybbro, 1978). The country is not considered a range state for the species in the National Report to CMS (Denmark National Report, 2002); reported as vagrant by BirdLife (2004).

CMS actions: None reported.
Other actions:

DJIBOUTI:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2004).

CMS actions: None reported.
Other actions:

EGYPT:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2004).

CMS actions: None reported.
Other actions:

Equatorial Guinea:

Status:
CMS actions: Not a Party to CMS.
Other actions:

Eritrea:

Status: *Falco naumanni* is reported to winter in this country, and has been recorded on passage (BirdLife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Ethiopia:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

FRANCE:

Status: *Falco naumanni* is reported to breed in this country. The population was estimated in 1999 to be 39 breeding pairs. The only breeding area is in the plain of La Crau, east of the Rhône Delta, and the species was included in the Red Data Book in 1983 as a species having reached a critical population level (Biber, 1996).

CMS actions: None reported.

Other actions: Research and management of the species, its sites and habitats has been carried out in this country (Birdlife International, 2004). A National Action plan for *Falco naumanni* has been prepared (BirdLife International, 2004).
The population of La Crau is in a Specially Protected Area (11,500 ha), and steps have been undertaken to declare it a Natural Reserve. Agri-environment measures have been taken and 250 ha have been bought by NGOs, the Conservatoire du Littoral and Conseil Général des Bouches du Rhône. Artificial nests have been provided in several places, with holes small enough to prevent Jackdaws from entering. The population has been monitored and studied since 1984, and a ringing programme was started in 1994 (Biber, 1996).

Gabon:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International,

2004).

CMS actions: Not a Party to CMS.
Other actions:

GAMBIA:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: None reported.
Other actions:

GEORGIA:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2004).

CMS actions: None reported.
Other actions:

GERMANY (v)*:

Status: Occurrence reported (Barthel, 1993).

CMS actions: None reported.
Other actions:

GHANA:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: None reported.
Other actions:

GREECE:

Status: The country population was estimated in 1995 to be between 2,700 and 3,240 breeding pairs. Between 1970 and 1990 the breeding population of is estimated to have decreased by over 50% (Birdlife International, 2004). Breeding occurs mainly in Thessaly, the biggest colony being of 200 pairs. A complete survey of the area in 1995 identified 104 colonies containing 2679 pairs (Biber, 1996). The species is included in the Red data Book as Vulnerable (biber, 1996).

CMS actions: None reported.

Other actions: Research and management of the species, its sites and habitats has been carried out in this country (Birdlife International, 2004). The species is legally protected (Biber, 1996).
A full survey involving schoolchildren was carried out in 1994, as well as a study on sexual dimorphism, including ringing (Biber, 1996).

GUINEA:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2004).

CMS actions: None reported.
Other actions:

GUINEA-BISSAU:

Status:
CMS actions: None reported.
Other actions:

HUNGARY (br)*:

Status: Occurrence reported (Gorman, 1996). The species was a sporadic breeder until the beginning of the 20th century, but now only a vagrant. Vagrant birds are mostly reported from protected areas (BirdLife International, 2004).

CMS actions: None reported.

Other actions: The species is strictly protected (BirdLife International, 2004)

INDIA:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2004). Although records are widely spread, this species is now a rare winter visitor and passage migrant, occasionally in large flocks. The species has been reported from the protected areas of Keoladeo National Park, Rajasthan; Manas National Park, Assam; Kaziranga National Park, Assam; and Wynaad Wildlife Sanctuary, Kerala (BirdLife International, 2001).

Early accounts of its status and population in India are rather confused. In the early twentieth century it was an "apparently rare winter visitor" in the Lucknow area. Other evidence suggests that a population once wintered further south, in the Deccan, where it was apparently "common" or "locally common", with several hundred roosting near Sholapur in January and flocks observed at Nagar. Curiously, it was thought to be nesting in the area as it was seen calling in mid-May at suitable nesting sites, but this seems unlikely given its current breeding distribution; its status as a breeding bird in Maharashtra is therefore best treated as unconfirmed (BirdLife International, 2001).

In late nineteenth century in southern West Bengal the species was described as "not uncommon in the rainy season". In northeast India it was thought to be always uncommon as very few were collected. At the time it was also "rare" in North Cachar. The current scatter of records throughout northern India suggests that the species is probably an irregular passage migrant in the country. However, large flocks recorded in Orissa and the Deccan in January were presumably wintering rather than on passage (BirdLife International, 2001).

Intensification of agriculture and increased use of pesticides are two threats that have caused significant declines in raptor populations in India, perhaps including this species (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

I.R. Iran:

Status: *Falco naumanni* is reported as breeding, as well as migrating through this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Iraq:

Status: *Falco naumanni* is reported as breeding, as well as migrating through, this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

IRELAND (v)*:

Status: Occurrence reported (Hutchinson, 1989). Considered as a vagrant species by BirdLife International (2004).

CMS actions: None reported.

Other actions:

ISRAEL:

Status: *Falco naumanni* is reported as breeding, as well as migrating through this country (Birdlife International, 2004). After a survey done in 2000, it is estimated that there are about 550 nesting pairs, 10% of the population until the 1950s, when the species was the most common breeding bird of prey in the country (Israel National Report, 2002). The species breeds mainly in the Jordan valley (BirdLife International, 2002). The two main factors limiting food availability and nestling deaths in Jerusalem are the relatively long flight distances between the breeding and hunting sites, and the use of pesticides in the city parks and lawns (Liven-Schulman *et al*., 2004).

CMS actions: Research, monitoring, rehabilitation and reintroduction projects are being conducted by the SPNI. Nesting boxes have been placed on shingled rooftops (Israel National Report, 2002). Environmental education campaigns are especially directed to the local populations and to teachers (Israel National Report, 2002).

Other actions: All birds of prey have been protected since 1955 by the Wild Animal protection Law (Biber, 1996).

ITALY:

Status: *Falco naumanni* is reported to breed in this country. The country population was estimated in 2001 to be between 3,640 and 3,840 breeding pairs (Italy National Report, 2002). Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have decreased by over 50% (Birdlife International, 2004). Three separate populations can be identified: Sicily, Sardinia and Apulia-Basilicata (Biber, 1996).

CMS actions: Research, monitoring and habitat restoration (nesting habitats in buildings) (Italy National report, 2002).

Other actions: Research and management of the species, its sites and habitats has been carried out in this country (Birdlife International, 2004). A National Action plan for *Falco naumanni* has been prepared (BirdLife International, 2001).

Japan (v)*:

Status: *Falco naumanni* is a vagrant in this country (Brazil, 1991; BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

JORDAN:

Status: *Falco naumanni* is reported to breed in, as well as migrate through, this country (Birdlife International, 2004). Reported in the southern part of Jordan: with 25 pairs in Dana Nature Reserve and 20 pairs in Mujib Nature Reserve (Jordan National Report, 2002).

CMS actions: Two surveys have been conducted in Dana Nature Reserve and in Mujib Nature Reserve and it is planned to repeat these in the future (Jordan National Report, 2002).

Other actions: Research and management of the species, its sites and habitats has been carried out in this country (Birdlife International, 2004).

Kazakhstan:

Status: *Falco naumanni* is reported to breed here, although the species has

disappeared from the north of the country (Birdlife International, 2004). A breeding population in southeast Kazakhstan was recently estimated at 500-2,000 pairs and is apparently secure, although the total breeding population in Kazakhstan is perhaps only 5,000-8,000 pairs (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

KENYA:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004). The range is 89% above an altitude of 500m and only 8% within the driest areas (0-250mm). It is rare at the coast. Kenya, more than other East Africa countries, has the bulk of the passage. The following areas are known to be its staging areas: Amboseli National Park, Lakes Baringo, Bogoria and Elmenteita, Masai Mara National Reserve and Mau Narok grasslands. Not very regular though occasionally counted during bird counts. It is listed as vulnerable in Kenya. (Kenya National Report, 2002).

CMS actions: Through inventories, its staging sites have already identified and most of them have protection status except, Mau Narok grasslands. Biennial bird counts are conducted (Kenya National Report, 2002).
Other actions:

Kuwait:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Kyrgyzstan:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2004), but its status is unknwon in this country.

CMS actions: Not a Party to CMS.
Other actions:

Laos People's D.R.:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2004). Although there are no recent records, the species formerly wintered in the northwest. Some 60 years ago the species was described as being present in "extraordinary numbers" during the winter in Xiang Khouang province (= Tranninh), especially around the Plain of Jars, with more than 100 arriving at fires to feed on grasshoppers. As there have been no recent records anywhere in the country, despite extensive surveys, it is likely that a decline has taken place and that the species is now very rare (BirdLife International, 2001).
While the reasons underlying the loss of the species from Laos are unknown, hunting is quite possibly a significant factor as it is a ubiquitous practice in the human population (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

Lebanon:

Status: *Falco naumanni* is reported as a non-breeding visitor to, and passing migrant in, this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Lesotho:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

LIBERIA:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: None reported.

Other actions:

LIBYAN ARAB JAMAHIRIYA:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2004).

CMS actions: None reported.

Other actions:

LIECHTENSTEIN (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.

Other actions:

F.Y.R. MACEDONIA:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2004).

CMS actions: None reported.

Other actions:

Malawi:

Status: *Falco naumanni* is reported as a non-breeding wintering visitor to this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Maldives:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2004). The most recent record of this species in the Maldives dates back to 1975 (BirdLife International, 2001). The species is probably an annual visitor in small numbers, although records are too few to be certain (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

MALI*:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: None reported.

Other actions:

MALTA*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: None reported.
Other actions:

MAURITANIA:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: None reported.
Other actions:

REPUBLIC OF MOLDOVA:

Status: *Falco naumanni* is reported to breed in this country. The population was estimated in 1989 to be between seven and 12 breeding pairs. Between 1970 and 1990 the breeding population is estimated to have decreased by over 50% (Birdlife International, 2004). Rare and disappearing species. No more than five to ten pairs reported as nesting (Republic of Moldova National Report, 2002).

CMS actions: Studies of situations and possible ways of restorating this species are planned (Republic of Moldova National Report, 2002).

Other actions: The species has a protection status (BirdLife International, 2004).

MONGOLIA:

Status: The available information suggests that substantial breeding populations may survive in Mongolia. These could prove to be globally important given the declines that have taken place in Europe and Central Asia (BirdLife International, 2001). It is a widely distributed and fairly common breeding visitor in Mongolia, becoming more rare in the east of the country. *Falco naumanni* breeds in the protected Gobi Gurvan Saichan National Park.

A reliable estimate for Mongolia cannot be attempted given the poor quality of data available, but a very conservative estimate would place the breeding population at least in the low thousands. Post-breeding concentrations of a few hundreds have been recorded in western Mongolia. On a railway journey through Dornogovi province, a maximum of 542 was counted on 14 August 1988 (BirdLife International, 2001).

There are no obvious threats to this species and its habitats in Mongolia, and its population appears to be stable. However, as the winter quarters of these birds are unknown (presumably southern Africa), it cannot be assumed that they face no significant threats (BirdLife International, 2001).

CMS actions: None reported.
Other actions:

MOROCCO:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2004). There has been a strong decline since the beginning of the century, and it continues (Biber, 1996).

CMS actions: None reported.
Other actions: The Lesser Kestrel has been legally protected since 1980 (Biber, 1996).

Mozambique:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Myanmar:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2004). The species was last recorded here in 1935. It was perhaps formerly fairly common or at least regular on spring passage, but there are very few records despite a great deal of collecting and observation in the period roughly from 1860 to 1940 (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Namibia:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Nepal:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2004). The species is mainly an uncommon autumn passage migrant, with a few spring and several winter records. Occurrences are generally distributed between central and eastern Nepal. *Falco naumanni* has been reported from the Annapurna Conservation Area, Chitwan National Park, Rara Lake National Park and Kosi Tappu Wildlife Reserve (BirdLife International, 2001).

The species moves through the country during passage periods in varying numbers annually, with a possible wintering population tentatively estimated at c. 60 and declining; the largest recorded congregation of the species was a roost of 340 at Pokhara lake in October 1982. There are very few winter or spring records from the country. It is apparently a regular autumn passage migrant and winter visitor to Pothana in the lower Kali Gandaki valley (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

NIGER:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: None reported.

Other actions:

NIGERIA:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: None reported.

Other actions:

Oman:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

PAKISTAN:

Status: *Falco naumanni* is reported as a non-breeding visitor to this country (Birdlife International, 2004). The species is a vagrant. A population breeds in

Turkestan and birds regularly occur on migration in south-west Iran, so the species should be expected in Baluchistan, yet records suggest that it passes through the country in only tiny numbers (BirdLife International, 2001).

CMS actions: None reported.
Other actions:

POLAND (br?)*:

Status: Occurrence reported (Tomialojc, 1990).

CMS actions: None reported.
Other actions:

PORTUGAL:

Status: *Falco naumanni* is reported to breed in this country. The country population was estimated in 1999 to be between 162 and 200 breeding pairs. Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have decreased by between 21 and 50% (Birdlife International, 2004). Mértola and Castro Verde are the most important areas for the species, with up to 100 pairs (Biber, 1996).

In 2001, a total of 270 to 272 breeding couples were estimated distributed within 31 colonies. These numbers represent an increase of 70% since the last published census and are the result of an increase in both the number of couples at the major colonies of Castro Verde SPA (southern Portugal) and census effort (Portugal National Report, 2002).
The Lesser Kestrel is legally protected and classified as vulnerable in the Portuguese Red Data Book (Biber, 1996).

CMS actions: In 2001 the Institute for Nature Conservation conducted a national census. Research is being conducted at hunting areas of Mértola (Guadiana Valley Natural Park, southern Portugal). National censuses of Lesser Kestrel are conducted yearly. There is a project on the Conservation of Stepic Birds at Castro Verde region (southern Portugal) (Portugal National Report, 2002).

The project 'Re-establishment of the Lesser Kestrel (*Falco naumanni*) in Portugal' has been submitted by LPN to the LIFE program. The project aims to: improve and implement available breeding sites, namely through construction of walls specially designed to provide breeding sites. Increase the quality of the feeding areas, promoting farming techniques that are beneficial to the main prey occurrence. Monitor power lines in the main occurrence areas (Portugal National Report, 2002).

Other actions: A National Action Plan for the bird species dependent on extensive agricultural systems is under development and coordinated by Instituto da Consevaçao da Natureza (ICN) (BirdLife International, 2002).

Qatar:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

ROMANIA:

Status: *Falco naumanni* is reported to breed in this country. Breeding population estimated in 120-130 (1994) in Dogrodea, but no information available on trend (BirdLife International, 2002).

CMS actions: Project LIFE00NAT/RO/7171 for the conservation and management of habitats in the Iron Gates Natural Park in Romania focuses particularly on

Falco naumanni (Anon., 2002).

Other actions: Legal protection against killing for all Globally Threatened Species was adopted in parliament (103/1996 law) and penalties for illegal killing were increased (H.G.654/2001) but still the value of penalties was remained low (BirdLife International, 2002).

Russian Federation (v):

Status: The species has been recorded in the extreme south of eastern Russia, near the Mongolian border. In eastern Russia the species is known only from close to the Mongolian border and it presumably only has a small population there. (BirdLife International, 2001).

Falco naumanni is reported to breed in this country, although the species has disappeared from the Ural region. The country population was estimated in 1994 to be between 70 and 150 breeding pairs. Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have decreased by over 50% (Birdlife International, 2004). The species is proposed for listing as Endangered in the new edition of the Red Data Book (Biber, 1996).

CMS actions: Not a Party to CMS.

Other actions: Restoration of previous nesting areas has been carried out (Biber, 1996).

Rwanda:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

SAUDI ARABIA:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2004).

CMS actions: None reported.

Other actions:

SENEGAL:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003). This species is often counted in the centre of the country (in the region of Fatick). The population size is approximately 50 (Senegal National Report, 2002).

CMS actions: None reported.

Other actions:

Serbia and Montenegro:

Status: The species is reported to breed in this country (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Seychelles:

Status: Reported as vagrant (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Sierra Leone:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

SLOVAKIA (ex, br)*:

Status: Occurrence reported (Trnka *et al.*, 1995).

CMS actions: None reported.

Other actions:

SLOVENIA:

Status: *Falco naumanni* is reported to breed in this country. The country population was estimated in 1994 to be between five and 10 breeding pairs. Between 1970 and 1990 the breeding population is estimated to have decreased by between 21 and 50% (Birdlife International, 2003).

CMS actions: None reported.

Other actions:

SOMALIA:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003). It is considered that increased use of organophosphates in Somalia and neighbouring countries may kill hundreds of Lesser Kestrels annually (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

SOUTH AFRICA (Natal):

Status: No more than 50,000-60,000 birds are reported to winter in this country, representing a 50% decline since 1971. In South Africa, key grasslands have been lost to agricultural intensification, afforestation and intensive pasture management (Birdlife International, 2004). Winter roost-sites in South Africa are often under threat as they are usually found in towns and cities on land with potential for development (BirdLife International, 2001).

CMS actions: None reported.

Other actions: Research and management of the species, its sites and habitats has been carried out in this country (Birdlife International, 2004).

SPAIN:

Status: *Falco naumanni* is reported to breed in Spain, as well as wintering in the south of the country. The country population was estimated in 1994 to be between 5,000 and 8,000 breeding pairs. Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have decreased by between 21 and 50% (Birdlife International, 2004).

Current threats and limiting factors are: habitat reduction or transformation (areas of non-intensive herbaceous dry cultures that are transformed in irrigation areas and greatly reduced), increment of urban settlements, loss of nest sites. Other factors are human disturbance, use of pesticides (that reduce prey populations), and illegal hunting (BirdLife International, 2002). Bustamante (1997) indicates a positive association of the Lesser Kestrel with urban areas, non-irrigated cultures (mainly cereals) and annual rainfall, and

negative association with altitude, scrubland, forests and irrigated cultures in southern Spain. Forero *et al*. (1996) consider that the short- or middle-term conservation strategies for this species should be centred first on habitat management and agricultural policy and, secondly, on the maintenance of the present colonies, as they found that nest-site cavities were not a scarce resource even in decreasing populations and the presence of presumptive competitors (jackdaws and feral pigeons) did not limit nest-site availability. The species is listed as Vulnerable in the Red Data Book (SEO/BirdLife, 2005), and classified as ' Of Special Interest' since 1990 in the National Catalogue of Threatened Species (BirdLife International, 2002).

CMS actions: *Falco naumanni* has been the subject of three projects in Spain over the period concerned. Project LIFE99NAT/E/6341 deals with the salt lake complex of Villafáfila and aims to maintain the nesting colonies in the protected area. Project LIFE00NAT/E/7297 deals with the conservation of habitats for the nesting of *Falco naumanni* in Aragón. Project LIFE2000NAT/E/7348 on the management of the Serena site and of the neighbouring mountains (Anon., 2002).

Other actions: Research and management of the species, its sites and habitats has been carried out in this country (Birdlife International, 2004). In Barcelona and Lérida, more than 100 young Lesser Kestrels are bred in captivity every year and a reintroduction project has been underway since 1989 (Biber, 1996).

SRI LANKA:

Status: It is a vagrant to the country known by two records at Palatupana (Yala) in 1995 and at Uda Walawe Dam, just outside Uda Walawe National Park, in 2004 (BirdLife International, 2001).

CMS actions:

Other actions: None reported.

Sudan:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Swaziland:

Status: Reported as vagrant (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

SWEDEN (v)*:

Status: Occurrence reported (Risberg, 1990).

CMS actions: None reported.

Other actions:

SWITZERLAND (br?)*:

Status: Occurrence reported (Winkler, 1999).

CMS actions: No activity planned because the species is too small (Switzerland National Report, 2002).

Other actions:

SYRIAN ARAB REPUBLIC:

Status: *Falco naumanni* is reported to breed in, as well as migrate through,

this country (Birdlife International, 2004).

CMS actions: None reported.
Other actions:

TAJIKISTAN:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2004).

CMS actions: None reported.
Other actions:

U.R. TANZANIA:

Status: *Falco naumanni* winters in Tanzania. Population size and trends not know although the literature shows that the species has undergone a rapid decline in its wintering grounds in Southern Africa equivalent to 10% in each ten years since 1971 (U. R. Tanzania National Report, 2002).

CMS actions: A number of wintering areas are protected in form of National Parks, Game Reserves or Conservation Areas e.g. Serengeti NP and Ngorongoro CA (U. R. Tanzania National Report, 2002).

Other actions:

TOGO:

Status:
CMS actions: None reported.
Other actions:

TUNISIA:

Status: *Falco naumanni* is reported to breed in this country (Birdlife International, 2004). It is a vulnerable species with a population of 600 individuals (Tunisia National Report, 2002)

CMS actions: The ecology of the species has been studied in Tunisia, and there is an inventory and Action Plan for its conservation (Tunisia National Report, 2002).

Other actions: The Lesser Kestrel is protected by the Tunisian Hunting Law (Biber, 1996).

Turkey:

Status: *Falco naumanni* is reported to breed in Turkey, as well as wintering in the south of the country. The country population was estimated in 1994 to be between 1,500 and 3,500 breeding pairs. Between 1970 and 1990 the breeding population of *Falco naumanni* in this country is estimated to have decreased by between 21 and 30% (Birdlife International, 2004). Only a very small portion of the Lesser Kestrel colonies in Turkey benefit from protected area status (Biber, 1996).

CMS actions: Not a Party to CMS.

Other actions: Research and management of the species, its sites and habitats has been carried out in this country in Tuz Lake and on the Gediz Delta (Birdlife International, 2002). The species is protected in the country (BirdLife International, 2002).

Turkmenistan:

Status:
CMS actions: Not a Party to CMS.
Other actions:

UGANDA:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: None reported.

Other actions:

UKRAINE:

Status: *Falco naumanni* is reported to breed in the Ukraine. The country population was estimated in 1998 to be between 20 and 30 breeding pairs. Between 1970 and 1990 the breeding population is estimated to have decreased by between 21 and 50% (Birdlife International, 2004). The species is included in the Red Data Book of Ukraine (Shcherbak, 1994).

CMS actions: None reported.

Other actions: A national action plan for *Falco naumanni* has been prepared in the Ukraine (BirdLife International, 2002).

United Arab Emirates:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

UNITED KINGDOM (v)*:

Status: Occurrence reported (BOU, 1992).

Gibraltar

Falco naumanni is reported to breed here and the population was estimated in 1999 to be between five and 10 breeding pairs. Between 1970 and 1990 the breeding population is estimated to have decreased by between 21 and 50% (Birdlife International, 2004).

CMS actions: None reported.

Other actions: Research and management of the species, its sites and habitats has been carried out in Gibraltar (Birdlife International, 2004).

UZBEKISTAN:

Status: It occurs in Western Tien-Shan, Western Pamiro-Alay, low mountains of Kyzylkum desert, lower parts of Amudarya River, valley of Zaravshan River (breeding) and in all regions of the Republic during migration. In 1970-1980's there were counts in southern regions of about 50-300 breeding pairs and 500 in northern regions. At present, numbers have decreased. The main threat for the species is destruction of habitats as a result of human development. Catalogued as Near Threatened in the Uzbekistan Red Data Book (Academy of Sciences of the Republic of Uzbekistan *et al*., 2003).

CMS actions: None reported.

Other actions:

Yemen:

Status: *Falco naumanni* is reported to migrate through this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Zambia:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Zimbabwe:

Status: *Falco naumanni* is reported to winter in this country (Birdlife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Additional information –

Western Sahara (?)*:

Status: Occurrence reported (UNEP-WCMC, 2004).
Other actions:
Not a Party to CMS.

REFERENCES:

Academy of Sciences of the Republic of Uzbekistan, State Committee For Nature Protection of the Republic of Uzbekistan and Uzbek Zoological Society (2003) *The Red Book of the Republic of Uzbekistan. Volume II: Animals*. Chinor ENK, Uzbekistan.

Anon. (2002). CMS Information System – *Falco naumanni.* Information from 2002 National Report, European Community.

Barthel, P. (1993). Artenliste der Vögel Deutschlands. *J. Orn.*, 134: 113-135.

Benin National Report (2002). National Report to CMS.

Biber, J.P. (comp.)(1996) International Action Plan for the Lesser Kestrel (*Falco naumanni*). BirdLife International on behalf of the European Commission. www.terredelmediterraneo.org/action_plan.htm Downloaded on 19/10/2004.

BirdLife International (2001). *Threatened birds of Asia*. The BirdLife International Red Data Book. BirdLife International, Cambridge, UK.

BirdLife International (2002) *Falco naumanni* Govt. Report on the implementation of the SAP (Species Action Plan). http://www.birdlife.info/saps/sapDetails.asp?sid=3589 Downloaded on 19/10/2004.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

BOU (British Ornithologists' Union) (1992). *Checklist of the birds of Britain and Ireland. 6th edition*. British Ornithologist' Union,Tring.

Brazil, M. (1991). *The birds of Japan*. Christopher Helm, London.

Bulgaria National Report (2002). National Report to CMS.

Bustamante, J. (1997) Predictive models for lesser kestrel Falco naumanni distribution, abundance and extinction in Southern Spain. *Biological Conservation* 80(2), pp. 153-160.

Cade, T.J. (1982) *The falcons of the world*. London: Collins.

Chad National Report (2002). National Report to CMS.

Croatia National Report (2002) National report to CMS.

Dybbro, T. (1978). *Oversigt over Danmarks fugle*. Dansk Ornithologisk Forening, Denmark.

Forero, M.G. Tella, J.L. Donázar, J.A. and Hiraldo, F. (1996) Can interspecific competition and nest site availability explain the decrease of lesser kestrel *Falco naumanni* populations? *Biological Conservation* 78 (3), pp. 289-293.
Gorman, G. (1996). *The birds of Hungary*. Christopher Helm, London.
Herroelen, P. (1997). *Liste des oiseaux de Belgique* (espèces, sous-espèces, statut et nombre de couples nicheurs) 1901-1995. 2me edition.
Hutchinson, C. D. (1989). *Birds in Ireland*. Poyser, Calton, U.K.
Israel National Report (2002). National Report to CMS.
Italy National Report (2002) National report to CMS.
Jordan National Report (2002). National Report to CMS.
Kenya National Report (2002). National Report to CMS.
Kren, J. (2000). Birds of the Czech Republic. Christopher Helm, London.
Liven-Schulman, I., Leshem, Y., Alon, A. and Yom-Tov, Y. (2004) Causes of population declines of the Lesser Kestrel *Falco naumanni* in Israel. *Ibis* 146, pp. 145-152.
Nightingale, T. and Hill, M. (1992). *The birds of Bahrain*. Immel.
Republic of Moldova National Report (2002). National Report to CMS.
Risberg, L. (1990). Sveriges Faglar. Sveriges Ornit. For., Stockholm.
Rokitansky, G. (1964). Catalogus Faunae Austriae. XXIb Aves.
Shcherbak, M.M. (1994) *Chervona knuga Ukrainu: tavarinniy svit (Red Data Book of Ukraine: Animal Kingdom)*. Ukraine Entsiklopediya, Kiev, Ukraine.
SEO/BirdLife (2005) Libro Rojo de las Aves de España. Anexo I: Lista de taxones evaluados, categorias y criterios. http://www.seo.org/2005/librorojo/450.asp Downloaded on 21/02/2005.
Switzerland National Report (2002). National Report to CMS.
Tanzania National Report (2002). National Report to CMS.
Tomialojc, L. (1990). Ptaki Polski rozmieszczenie i liczebnosc. Pantstwowe Wydawnictwo Naukowe, Warszawa.
Trnka, A., Kristin, A., Danko, S., Harvancik, S., Kocian, L., Karaska, D. and Murin, B. (1995). [Checklist of the birds of Slovakia.]. *Tichodroma*, 8: 7-21.
Tunisia National Report (2002). National Report to CMS.
UNEP-WCMC (2004). Species Database. www.unep-wcmc.org Downloaded on 24/02/2004.
Winkler, R. (1999). Avifauna der Schweiz zweite, neu bearbeitete. *Auflage. Orn. Beob*. Beiheft Number 10.

* Range State not yet included in the CMS range list for this species.

***Grus leucogeranus* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Afghanistan		?		
Azerbaijan		?		
China	●	↓		✓
INDIA	●	↓	✓	✓
Iran		→		✓
Japan		?		✓
Kazakhstan		?		
Republic of korea		?		
MONGOLIA	●	?	×	
PAKISTAN		?	×	
Russian Federation	●	↓		✓
Turkmenistan	●	?		
UZBEKISTAN	●	↓	✓	✓

REVIEW OF CONCERTED ACTION SPECIES

AVES: GRUIDAE

SPECIES: *Grus leucogeranus* (Pallas, 1773)

SYNONYMS: -

COMMON NAME: Siberian Crane; Siberian White Crane; Snow Crane (English); Grue blanche asiatique; Grue blanche d'Asie; Grue de Sibérie; Leucogéranne (French); Grulla blanca asiática; Grulla siberiana; Grulla siberiana blanca (Spanish)

RANGE STATES: Afghanistan; China; INDIA; Iran (Islamic Republic of); Kazakhstan; MONGOLIA; PAKISTAN; Russian Federation; Turkmenistan; UZBEKISTAN

RED LIST: CR A3c,d,e (BirdLife International, 2004).

CONSERVATION STATUS AND ACTIONS:

The Siberian Crane has three separate populations, all of which nest in northern Russia in Yakutia and western Siberia. The relatively large eastern ("Yakutia/China") population breeds in Yakutia and winters in eastern China, the tiny central ("Ob/India") population breeds in the Ob' valley in Western Siberia and winters in northwest India, and is biologically extinct (BirdLife International, 2004) and the tiny western ("Tyumen/Iran") population also breeds in Western Siberia (Tyumen district) but winters in Iran (Fereidoonkenar and Esbaran) (BirdLife International, 2001).

The migratory movements of this species have been studied using satellite tracking. All three populations are counted on a regular basis on their wintering grounds. Given that two of the three populations of this species are on the brink of extinction, the propagation and re-introduction of captive birds is considered to be critical for its survival. On 31 december 2001 there were 190 birds in captivity in 33 zoos and breeding centres worldwide, and an international studbook is being maintained (Llyashenko, 2002). Captive-raised birds are now being released in an effort to maintain the central (Ob'/India) population and releases are also planned for the western (Tyumen'/Iran) population (BirdLife International, 2001).

The global population of *Grus leucogeranus* is estimated at 3,000 individuals with a range of 107,000km^2 (BirdLife International, 2004; Delany & Scott, 2002). This species is expected to undergo an extremely rapid decline in the near future, primarily as a result of the destruction and degradation of wetlands in its passage and wintering grounds (BirdLife International, 2004).

The wintering site holding 95% of the population is threatened by hydrological changes caused by the Three Gorges Dam. The key threat is wetland loss and degradation at staging areas and wintering sites through agricultural development, the development of oilfields and increased human utilisation. Construction of the Three Gorges Dam will change the hydrological pattern of lower Yangtze River and may have a major impact on the wintering population. Increasing levels of human disturbance are also a problem, particularly at Poyang Hu. Hunting on passage, in Pakistan and Afghanistan, is the key threat to the central and western populations. Pesticide use and pollution is a threat in India (BirdLife International, 2004).

Afghanistan:

Status: Ab-i-Istada lake is an important stopover site on spring migration, and almost certainly in autumn in some years, as there is a record of three birds in December 1970; it is likely that birds from the central population migrate through the Hindu Kush mountains at Salang Kotal in Baghlan, flying over with Common Cranes *Grus grus*; and in the 1970s local people in the Pech and Waygal valleys in Kunar knew the species, and stated that 1-3 birds occurred on passage with Common Cranes in the Chaman valley in late March (BirdLife International, 2001).

Despite the paucity of confirmed records, it is likely that the small central population must overfly the Zhob district of Baluchistan and Multan area in the Punjab (BirdLife International, 2001).

The traditional Wazir and Mahsud Pathan hunters of the Kurram valley have long been hunting and live-catching Demoiselle and common Cranes, and such hunting in the Zhob district in North West Frontier Province (NWFP) may have unwittingly contributed to the decline in the central population (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Azerbaijan (v)*:

Status: Occurrence reported (UNEP/CMS, 1999).

Its wetlands, of particular importance for migrant and wintering water birds, are threatened by increasing instability of water resources, and expanding irrigation systems are threatening some sites including the Kora and Aras wetlands. Oil pollution is a major problem as well (Llyashenko, 2002)

CMS actions: Not a Party to CMS.

Other actions:

China:

Status: Migrates through northeast mainland China and winters in eastern China. The species is mainly a localised passage migrant and winter visitor to eastern China, although a few non-breeding birds have been found in northern China in summer. There are migratory stopovers at Zhalong Nature Reserve in Heilongjiang, Melmeg and Xianghai Nature Reserves in Jilin, Shuangtai Hekou Nature Reserve in Liaoning, the Luan He estuary (and Beidaihe, where large numbers fly through in autumn) in Hebei, Pangzhai in Henan and Shengjin Hu lake in Anhui, and the main wintering grounds are at Poyang Hu lake (which supports c. 95% of the global population) in Jiangxi, with smaller wintering flocks at Dongting Hu lake in Hunan, and possibly at Shengjin Hu lake in Anhui and Heigangkou in Henan (BirdLife International, 2001).

The unconfirmed reports of wintering birds in Xinjiang are of particular interest, as they suggest that some birds from the extremely rare central flyway population may winter in western China. Little information is available on the status of this species in China in the past. 2,900-3,000 individuals reported to winter in China (mainly at Poyang Hu lake). An aerial census in early 1999 located only 2,004 Siberian Cranes throughout the Poyang Hu lake area, indicating that there may have been a real decline in the eastern population (BirdLife International, 2001).

Large numbers have also been recorded on migration at Lindian Reed Farm (in Zhalong Nature Reserve) in Heilongjiang, where workers reported flocks of more than 500 birds in 1978-1980, and 121-525 birds

were seen annually on spring migration and 5-25 in autumn in 1981-1986. Spring counts there were of 525 birds in 1986, 746 in 1987, 806 in 1988, 761 in 1990 and 790 in 1993, but the species has very seldom been reported from Zhalong subsequently (BirdLife International, 2001).

The eastern population was relatively poorly known until the main wintering grounds were discovered at Poyang Hu lake in January 1981. The number known to winter in Poyang Hu Nature Reserve remained in the general order of 2,500 birds in the years 1988-1997 (other than in 1993, when many cranes wintered outside the reserve). However, there appears to have been a decline there since the mid-1990s: in the winter 1998/1999, only 741 birds were recorded inside the reserve, although c. 1,400 were found in other parts of the Poyang Hu system, and an aerial census in early 1999 located only 2,004 throughout the Poyang Hu area. The other wintering grounds in China are Dong Dongting Hu Nature Reserve in Hunan, which supports under 100 birds, and Shengjin Hu in Anhui, which has never held more than 20 birds (BirdLife International, 2001).

Three areas are considered to be the most important stopover points for the migating cranes: Qiqihar Baicheng area, Shuangtaizi River delta, and Yellow River delta (Kanai *et al*., 2002a).

At Poyang Lake, changes in water levels from year to year are likely to affect distribution of aquatic plants and wintering cranes, and are likely to affect distribution of aquatic plants and wintering cranes, and are likely to be affected by changes in hydrology caused by the Three Gorges Dam and other development projects on the basin (Kanai *et al*., 2002a).
It is catalogued as Endangered in the China Red Data Book of Endangered Animals (Zheng & Whang, 1998).

CMS actions:

Not a Party to CMS.

Other actions:

It is a Nationally Protected Species (First Class) and several ecological and behavioural studies have been completed on the wintering grounds (BirdLife International, 2001).

INDIA:

Status:

It winters at Keoladeo National Park, Bharatpur, Rajasthan, northwest India and possibly elsewhere in India (BirdLife International, 2001). The Siberian Crane was formerly a widespread winter visitor to northern India, straggling east to Bihar and south to Madhya Pradesh, but it was always mainly faithful to particular wintering sites, of which the most famous were Keoladeo National Park (Bharatpur) in Rajasthan and Payagpur jheel in Uttar Pradesh. Only Keoladeo remains as a known site for the species, and even there it now only occurs intermittently; given that 9-10 birds were recorded on the presumed breeding ground of the central population in the mid-1990s, there must be an alternative wintering ground used by this population that has not yet been identified (BirdLife International, 2001).

In the nineteenth century, the Siberian Crane was regularly reported in the Gangetic Basin of northern India, and in the early twentieth century it was described as not uncommon in north-west India but always in small flocks. Since 1937 most records in India have been from Keoladeo National Park, but the numbers there declined from c. 200 birds in 1965 to 33 in winter 1980/1981, increased to 41 in 1984/1985, and then decreased again to only five in 1992/1993 and none in the following two winters. However, four birds (including one chick) returned in February 1996, indicating that the population had not yet become extinct but was

wintering elsewhere. Reports of 9-10 birds in the Kunovat basin in Russia in summer 1994, on the breeding grounds of the central population, also support the theory that there must be other wintering grounds for this population, perhaps elsewhere in India or in western China (BirdLife International, 2001).

On November 2001, two Siberian Cranes arrived at the Keoladeo National Park, but the water depth was lower that year (lack of adequate monsoon and people's demand for water irrigation were responsible), so the two Siberian Cranes were often found missing from the park, being apparent that their arrival in morning was from the Chiksana region, where they could feed better and roost there. However, the forest authorities did not initiate any study on the birds (Llyashenko, 2002).

Pesticide use and pollution is a threat in India (BirdLife International, 2004). It is listed as Endangered in the Red Data Book of Indian Animals (Ghosh, 1994).

CMS actions:

During 1997-1998, ground surveys were conducted to locate Siberian cranes outside of Keoladeo National Park, research was conducted in the wintering area on wild and Captive-reared Siberian Cranes, PTTs were placed on Wintering Eurasian cranes and there was a public awareness campaign on the species (UNEP/CMS, 1999).

Other actions:

Long-term ecological studies have been conducted at the traditional wintering grounds of the central population in Keoladeo National Park, focusing on habitat utilisation and feeding behaviour under changing ecological conditions during 1975-1977 (Sauey, 1979; 1985) and 1984-1991.

I.R. Iran:

Status: The wintering area of the western population of Siberian crane is located in the southeast Caspian lowlands in the Iranian province of Mazandaran near the town of Fereidoonkenar. The number of this very small and endangered population of Siberian cranes has remained almost stable for the last decade (UNEP/CMS, 1999). In 2002, three Siberian Cranes stayed inside the Damgah, and left on Saturday 2 March along with other water birds, apparently frightened by random shots from hunters after they had been feeding in the Sorkhrud Damgah (Llyashenko, 2002).

CMS actions: Not a Party to CMS.

Other actions: A UNEP-GEF Siberian Crane project is under review, which includes management actions on three wetlands in Iran, and preparations are being made for development of management plans for 7 Ramsar sites (Llyashenko, 2002).

Japan (v)*:

Status: Reported as a vagrant. This species was reported to be common on Hokkaido in the eighteenth century, and a common winter visitor to Kyushu during the Edo Era (seventeenth to nineteenth century), but it is now a rare and irregular winter visitor and spring migrant, mainly to western Japan (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: The North east Asian Crane Site Network is managed by the Wild Bird Society of Japan (BirdLife in Japan) and financed by the Ministry of the Environment of Japan under the Asia-Pacific Migratory Waterbird

Strategy; It aims to encourage international cooperation and conservation of cranes and wetlands and to ensure the long-term survival of all crane species and their habitat in the region. The Network organised two workshops and invite important sites for cranes to develop a plan on education and ecotourism at sites important for cranes (Llyashenko, 2002).

Kazakhstan:

Status: It has occurred on migration in Kazakhstan, and may even have nested there in the nineteenth century, and there are recent records of one at Ovrag Karasu, north of Zhuldyz, in the steppes of northern Kazakhstan, in September 2000, with six in the same area in October 1978 (BirdLife International, 2001).
Cranes stop regularly in the Naurzum Nature Reserve.

CMS actions: Not a Party to CMS.

Other actions:

Republic of Korea (v)*:

Status: Occurrence reported (Yoon Moo-Boo, 1993). Recorded as a vagrant and a very rare non-breeding visitor (BirdLife International, 2001; BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

MONGOLIA:

Status: Migrates through eastern Mongolia (BirdLife International, 2001). It is a rare migrant and summer resident that has been reported to breed in and near to Mongolia in the past, but there is no evidence to support such reports. In the Mongolian Red Data Books, it is listed as Endangered and "Very Rare". It is also listed as a "Very Rare Animal" in the Mongolian Law on Hunting (1995), which means that it may be hunted or trapped only for research and with permission from the government, and it is prohibited to hunt, trap, or sell any parts for any other purposes " (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

PAKISTAN:

Status: This species is known from Pakistan by a handful of records in the late nineteenth century, and several reports by hunters, most of which are considered to be unconfirmed. Despite the paucity of confirmed records, it is likely that the small central population must overfly the Zhob district of Baluchistan and Multan area in the Punjab. There has been no record this century from Pakistan, reflecting the increasing rarity of this species over many decades. Nevertheless, the entire central population of the species probably passes through the country each autumn (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

Russian Federation:

Status: The relatively large eastern ("Yakutia/China") population breeds in Yakutia in eastern Russia, and migrates through southeast Russia. The Siberian Crane nests only in Russia; its range was considered to have been relatively extensive during the cool, wet period of the eighteenth and early

nineteenth centuries, but it began to contract in the mid-nineteenth century when the climate became warmer and drier and suitable nesting habitats became less widespread. It now has three disjunct breeding populations, two of which nest outside the Asian region in Western Siberia. The small, declining central population breeds in the Ob' valley, where the first nests with eggs were discovered in 1981 on the lower Kunovat river, a right-bank tributary of the Ob' (BirdLife International, 2001).

On migration, the species is recorded almost throughout Yakutia, but the main migration route lies to the east of the Lena river, and the Aumannykan area is considered to be the most important stopover point in Russia for the eastern population during its migration (Kanai, 2002a). It occurs regularly in the Torey basin in Chita (and also extremely rarely in the Onon basin, and some immature birds sometimes summer in southern Chita) and on the Zeya-Bureya plain in Amur, but it is a rare visitor to the Lake Khanka area and elsewhere in Primorye, and there are a few records from Irkutsk, Buryatia, Khabarovsk and Sakhalin (BirdLife International, 2001). The western population stops regularly during migration in the Astrakhan Nature Reserve (Llyashenko, 2002).

Winter monitoring of the central and western populations has shown them to be in a critical state. The eastern population is considered to have remained stable over recent decades, but it appears to have been stronger in the mid-nineteenth century than it is at present, on passage in both Primorye and southern Chita.

Various estimates were made of this breeding and summering population in northeast Yakutia between 1960 and 1989, including 250-300 birds, 325-790, and 900-1,500 birds. However, these were all underestimates, because no allowance was made for the birds inevitably missed during aerial surveys, and a comparison of the actual population density found in a sample plot in the Indigirka delta (5.4 birds per 100km^2) with the previous estimates indicated that aerial surveys had on average underestimated crane numbers by a factor of 2.46; on the assumption that the 812 "recorded locations" (presumably this means individual birds) of Siberian Cranes represented only 40-50% of the birds actually present, it has been estimated that there are or were at least 1,620-2,030 birds in northern Yakutia (BirdLife International, 2001). It is included in the Russian Red Data Book and the Red Data Book of Yakutia (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: Wintering monitoring is conducted. In Yakutia, conservation measures designed to protect *Grus leucogeranus* on the breeding grounds and during migration have been in operation for quite a long period and would appear to have eliminated the majority of factors causing unnatural mortality. Numerous ground and aerial surveys have been conducted of the eastern breeding population in Yakutia. Extensive ecological and behavioural studies have been completed on the breeding grounds. In 1997 and 1998, sites between Kunovat to Tyumen' that had been identified during satellite-tracking studies were investigated (BirdLife International, 2001).
Activities to restore the Siberian crane population are being carried out in four different localities: Oka State Biosphere Nature Reserve, the Kunovat River Basin, the Konda Region of Khanty-Mansi Autonomic Okrug, and the Uvat Region of Tumen Oblasts, South Tumen Oblasts. Certain goals have been achieved in each area; all of them are included in the Siberian Crane Action Plan, developed under the CMS (UNEP/CMS, 1999).

Turkmenistan:

Status: The Siberian crane is a very rare migratory species in Turkmenistan. Despite the lack of new reports over the last twenty years of sightings of Siberian cranes, it is still likely that the species continues to pass through the territory of Turkmenistan during migration (UNEP/CMS, 1999).
The Siberian crane has been included in the Red Data Book of Turkmenistan as a very rare species (UNEP/CMS, 1999).

CMS actions: Not a Party to CMS.

Other actions:

UZBEKISTAN:

Status: The Siberian crane is an extremely rare migrant in this country (UNEP/CMS, 1999). It occurs during migration in the lower parts of the Keles and Angren rivers, Syrdarya River near Chinas town, Aydarkul lake, Mynbulak hollow. It can be observed on the banks of rivers and lakes. In Uzbekistan only single birds can be observed during migration. Limiting factors unknown. Catalogued as Critically Endangered in the Uzbekistan Red Data Book (Academy of Sciences of the Republic of Uzbekistan *et al*., 2003).

CMS actions: There was an Action Plan on Monitoring and Conservation of Crane Species in Uzbekistan from 1997 to 1999: a training course was organised for the staff of the Regional Committee for the nature protection in the different regions of the Republic, local points for co-ordination of activities on crane protection were established and monitoring and field research were conducted (UNEP/CMS, 1999).

Other actions: In 2002 leaflets were printed in both Russian and Uzbek languages. There were publications in local newspapers and two radio transmissions about Siberian Cranes, and a poster was prepared, where the spring and autumn flyways and stopover sites of Demosielle and Eurasian Cranes will be identified (Llyashenko, 2002).

REFERENCES:

Academy of Sciences of the Republic of Uzbekistan, State Committee For Nature Protection of the Republic of Uzbekistan and Uzbek Zoological Society (2003) *The Red Book of the Republic of Uzbekistan. Volume II: Animals*. Chinor ENK, Uzbekistan.

BirdLife International (2001). *Threatened birds of Asia*. The BirdLife International Red Data Book. Cambridge, UK: BirdLife International.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

Ghosh, A.K. (1994) *The Red Data Book on Indian Aminals. Part 1: Vertebrata*. Zoological Survey of India, Calcutta.

Kanai, Y. Ueta, M. Germogenov, N. Nagendran, M. Mita, N. and Higuchi, H. (2002a) Migration routes and important resting areas of Siberian cranes (*Grus leucogeranus*) between northeastern Siberia and China as revealed by satellite tracking. *Biological Conservation* 106(3), pp. 339-346.

Kanai, Y. Nagendran, M. Ueta, M. Markin, Y. Rinne, J. Sorokin, A.G. Higuchi, H. and Archibald, G.W. (2002b) Discovery of breeding grounds of a Siberian crane Grus leucogeranus flock that winters in Iran, via satellite telemetry. *Bird Conservation International*, 12: 327-333.

Llyashenko, E. (2002) *Siberian Crane Flyway Newsletter*, June 2002. Published by CMS, ICF (International Crane foundation) and CWGE. http://www.cms.int/species/siberian_crane/pdf/FlywayNewsletter_2.pdf downloaded on 20/10/2004.

Rose, P. M. and Scott, D.A. (1997). *Waterfowl population Estimates*- Second Edition. Wetlands International publ.44, Wageningen, The Netherlands.

UNEP-WCMC (2004). Species Database. www.unep-wcmc.org Downloaded on 24/10/2004.

UNEP/CMS (ed.) (1999) *Conservation Measures for the Siberian Crane*. CMS Technical Series Publication No. 1, UNEP/CMS Secretariat, Bonn, Germany.

Wetlands International (2002) *Waterbird Population Estimates. 3rd Edition*. Wetlands International Global Series No. 12, Wageningen, The Netherlands.

Yoon Moo-Boo. (1993).[Wild birds of Korea.]. Korean.

Zheng, G & Whang, K. (1998) *China Red data Book of Endangered Animals: Aves*. Science Press, Beijing, Hong Kong, New York.

* Range state not yet included in CMS range states.

***Hirundo atrocaerulea* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Burundi		?		
D.R. CONGO		→	×	
KENYA		?	✓	
Lesotho	●	?		
Malawi		↓		
Mozambique		?		
Rwanda		?		
SOUTH AFRICA	●	↓		✓
Swaziland	●	↓		
U.R. TANZANIA		↓	✓	
UGANDA		?		
Zambia		?		
Zimbabwe		↓		

REVIEW OF CONCERTED ACTION SPECIES

AVES: HIRUNDINIDAE

SPECIES: *Hirundo atrocaerulea* (Sundevall, 1850)

SYNONYMS: -

COMMON NAME: Blue Swallow (English); Hirondelle bleue (French)

RANGE STATES: Burundi; CONGO, DEMOCRATIC REPUBLIC OF THE; KENYA; Lesotho; Malawi; Mozambique; Rwanda; SOUTH AFRICA; Swaziland; TANZANIA, UNITED REPUBLIC OF; UGANDA; Zambia; Zimbabwe

RED LIST: VU A2c; A3c; C1; C2a (ii) (BirdLife International, 2004).

CONSERVATION STATUS AND ACTIONS:

Hirundo atrocaerulea is an intra-African migrant that breeds in South Africa, west Swaziland, Zimbabwe, Malawi, north-east Zambia, south-western Tanzania, west mozambique and south-east Democratic Republic of Congo (BirdLife International, 2004). From throughout the breeding range, birds migrate to the Lake Victoria Basin in Uganda, western Kenya, Tanzania and northeast DRC where they spend the no breeding season (Evans & Barnes, 2000).
The total breeding population of *Hirundo atrocaerulea* is estimated to be around 2,000 breeding pairs, over a range of 141,000 km^2 (Birdlife International, 2004).

Hirundo atrocaerulea is threatened by destruction and degradation of its grassland habitat on both its breeding grounds and its wintering sites, caused by afforestation (commercial forestry), intense human settlement, cultivation (especially sugarcane and potatoes, as well as pine and eucalyptus plantations), intensive livestock farming, intense grazing, intensive grass-burning, invasion by non-native trees and bracken and (potentially) small-scale mining. More than 60% of the South African Grassland Biome Habitat has already been irreversibly transformed (BirdLife International, 2004; Endangered Wildlife Trust, 2004), and fragmentation of grassland is a threat because they can only fly a limited distance from their nests in order to collect food for their chicks; Above a certain distance, the adult birds must eat the food they have collected in order to replace the energy they have expended getting there. This is inferred to have led to a rapid reduction of its already small population, which is projected to continue in the future unless conservation action is taken (BirdLife International, 2004).

The EWT-BSWG (Endangered Wildlife Trust – Blue Swallow Working Group) was established in 1986 with its mission to conserve and increase the Blue Swallow population by promoting the sustainable utilization of its montane grassland and wetland habitats, for the benefit of all people, throughout its ten-country sub-Saharan African distribution range. The EWT-BSWG is funded by The Green Trust (Endangered Wildlife Trust, 2004). The EWT-BSWG provides a neutral forum for stakeholders to meet, discuss and implement conservation action, advocacy and monitoring required to ensure the future survival of the Blue Swallow and its unique grassland and wetland habitats.

Burundi:

Status: It is considered a range state by CMS, but no information is available for this country (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

D.R. CONGO:

Status: *Hirundo atrocaerulea* is reported as breeding in the southeast (and a non-breeding visitor to the north-east) of this country (Birdlife International, 2004). The population is estimated in 100 pairs (Evans and Barnes, 2000).

CMS actions: None reported.

Other actions:

KENYA:

Status: *Hirundo atrocaerulea* is reported as an uncommon non-breeding visitor (Birdlife International, 2004). Little is known about population size in Kenya. However, *Hirundo atrocaerulea*'s distribution in Kenya is well known. It is found in Western Kenya around Busia and Ruma National Park. It is recorded regularly between April and September (Kenya National Report, 2002).

CMS actions: No specific research has been done on the species but monitoring protocols have been developed for the species (Kenya National Report, 2002).

Other actions:

Lesotho:

Status: The species is included in the Red Data Book of Birds of South Africa, Lesotho and Swaziland (Barnes, 2000).

CMS actions: Not a party to CMS.

Other actions:

Malawi:

Status: *Hirundo atrocaerulea* is reported as a frequent to common breeding bird in this country. Malawi has the largest population by country of this species (Birdlife International, 2004). Nyika National Park and Mulanje area are considered secure from agricultural encroachment in the long term, due to the cold climate and poor soils (BirdLife International, 2004). A major decline has occurred as the Zomba plateau has undergone afforestation (IUCN, 1996).

CMS actions: Not a party to CMS.

Other actions:

Mozambique:

Status: The species is reported as breeding in the west (Birdlife International, 2004), and the population is estimated in 100 pairs (Evans & Barnes, 2000).

CMS actions: Not a party to CMS.

Other actions:

Rwanda:

Status:

CMS actions: Not a party to CMS.

Other actions:

SOUTH AFRICA:

Status: *Hirundo atrocaerulea* is reported as breeding in this country, but is close to

extinction (Birdlife International, 2004). A major decline has occurred as parts of its range have undergone afforestation (IUCN, 1996).
In South Africa, Blue Swallows breed in mist belt grasslands in Mpumalanga, KwaZulu-Natal (38 known and a further 18 suspected pairs) and Limpopo Province. Only 85 pairs are thought to occur in this country (Arnott & Evans, 2004). In Mpumalanga, they occur around Kaapsehoop, Graskop and Sabie. The KwaZulu-Natal population is concentrated around Ixopo, Creighton and Donnybrook, as well as Byrne, Richmond, Boston and Harding and in Limpopo the birds occur in just one locality, in the vicinity of Haenertsburg (Endangered Wildlife Trust, 2004). Impendle Nature Reserve (IBA SA077) in KwaZulu-Natal is the only formally protected area holding breeding Blue Swallows (Evans & Barnes, 2000).
Blue swallows are considered the next bird species most likely to become extinct in South Africa, unless serious habitat management issues are addressed. Because of lost nesting habitat, there are only about 89 documented active blue swallow nests left in South Africa (Earthwatch Institute, 2004). The species has disappeared from 21 of 29 known localities between 1880 and 1987 and lost most of its breeding sites in the last 65 years (Evans and Barnes, 2000)
Private ownership of the mineral rights to most of the Blue Swallow localities in Mpumalanga represents a current and potential future threat, but the major threat to the species remains commercial forestry (Evans & Barnes, 2000). The species is included in the Red Data Book of Birds of South Africa, Lesotho and Swaziland (Barnes, 2000).

CMS actions: None reported.

Other actions: A South African Working Group has been formed to coordinate and encourage conservation of the species (Birdlife International, 2004). The South African Endangered Wildlife Trust–Blue Swallow Working Group has made great strides in developing research and education programs in areas where most of the active blue swallow nests have been documented. Programmes are conducted in the grasslands in Limpopo Province on nesting, habitat needs of this species and also aiming at promoting habitat conservation (Earthwatch Institute, 2004).
The EWT-BSWG collaborated with the Green Trust (a partnership between World Wildlife Fund/South Africa and Nedcor, a bank holding company), Sappi (a South African producer of wood-free paper) and BirdLife South Africa Working Group. Together, they initiated a campaign to prevent commercial afforestation at the Kaapsehoop Nature Reserve, a property supporting the highest concentration of breeding blue swallows in South Africa. They were successful. They also prevented surface and underground mining companies from destroying other important nest sites (Arnott & Evans, 2004).
Volunteers biweekly monitor the nests of known breeding pairs throughout the breeding season. With minimal disturbance, they check for the number of eggs laid and of chicks that survive and fledge. They also determine possible causes for mortality and record the orientation of the slope in which the nest hole is located, the altitude, the type of hole used, the hole's dimensions, and the positioning of the nests in the hole (Arnott & Evans, 2004).
A workshop was held in April 2003 in order to assess the threats facing blue swallows in South Africa, and to prioritise actions to conserve this highly threatened species and its unique grassland habitat (Sveriges Ornitologiska Förening, 2003).

Swaziland:

Status: *Hirundo atrocaerulea* is reported as breeding in the west of this country, but is close to extinction. An estimated 15 breeding pairs occur in Swaziland; the only protected population (4-5 pairs) is located within Malolotja Nature Reserve (Evans & Barnes, 2000). High rural human density in Swaziland has rendered its entire former habitat unsuitable (IUCN, 1996). The species is included in the Red Data Book of Birds of South Africa, Lesotho and Swaziland (Barnes, 2000).

CMS actions: None reported.

Other actions: The bird's habitat is officially protected in Malalotja Nature Reserve, and volunteers biweekly monitor the nests of known breeding pairs throughout the breeding season. With minimal disturbance, they check for the number of eggs laid and of chicks that survive and fledge. They also determine possible causes for mortality and record the orientation of the slope in which the nest hole is located, the altitude, the type of hole used, the hole's dimensions, and the positioning of the nests in the hole (Arnott & Evans, 2004).

TANZANIA:

Status: *Hirundo atrocaerulea* is reported as a frequent to common breeding bird in the southwest of this country (Birdlife International, 2004), with an estimated population of 400 pairs (Evans & Barnes, 2000). It breeds in southwest Tanzania i.e. Kitulo Plateau, Mbeya, Mufindi and Iringa. It occurs in northwestern Tanzania in the Minziro Highlands and around Lake Victoria in the non-breeding season. The species is threatened by destruction of its grassland habitats on both its breeding ground and its wintering area. This is inferred to have led to a rapid reduction of its already small population (U.R. Tanzania National Report, 2002).

CMS actions: The Wildlife Conservation Society of Tanzania conducted research on the habitat requirement of this species in the southern Udzungwa Mountains in 1999-2000 (U.R. Tanzania National Report, 2002).

Other actions:

UGANDA:

Status: *Hirundo atrocaerulea* is reported as an uncommon non-breeding visitor to the south of this country (Birdlife International, 2004).

CMS actions: None reported.

Other actions:

Zambia:

Status: The species is reported as an uncommon breeding bird in the northeast of this country (Birdlife International, 2004), and the population was estimated in 100 pairs by Evans and Barnes (2000).

CMS actions: None reported.

Other actions:

Zimbabwe:

Status: *Hirundo atrocaerulea* is reported as an uncommon breeding bird in this country. Around.200 pairs breed within Nyanga National Park, and less than 50 pairs breed in Chimanimani National Park, where its habitat is officially protected (Birdlife International, 2004). A major decline has occurred as parts of its range have undergone afforestation (IUCN, 1996).

CMS actions: None reported.

Other actions:

REFERENCES:

Arnott, W. and Evans, S. (2004) *Blue Swallows: down but not out.* Species at risk. Division of Bird Habitat Conservation, U.S. Fish and Wildlife Service. http://library.fws.gov/Birdscapes/fall04/wetensp.html Downloaded on 4/04/2005.

Barnes, K.D.(2000) *The Eskom Red Data Book of Birds of South Africa, Lesotho and Swaziland*, BirdLife South Africa, Johannesbourg.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

Earthwatch Institute (2004). Blue Swallows of South Africa. http://www.earthwatch.org/expeditions/dzerefos.html Downloaded on 03/03/2004.

Endangered Wildlife Trust (2004). First Blue Swallow sighting of 2004-2005. http://www.ewt.org.za/news_fullstory.aspx?status=0&newsID=151 Downloaded on 20/10/2004.

Evans, S.W. & Barnes, K.N. (2000) Blue swallow *Hirundo atrocaerulea*, In: Barnes, K.D.(ed.) *The Eskom Red Data Book of Birds of South Africa, Lesotho and Swaziland*, BirdLife Sout Africa, Johannesburg.

IUCN (1996). Red List 1996 Information on *Hirundo atrocaerulea.* UNEP-WCMC Species Database. www.unep-wcmc.org Downloaded on 03/03/2004.

Kenya National Report (2002). National Report to CMS.

Sveriges Ornitologiska Förening (2003) *A conservation Plan for Blue Swallow.* http://www.sofnet.org/index.asp?lev=1660&typ=1 Downloaded on 21/10/2004.

U. R. Tanzania National Report (2002). National Report to CMS.

* Range State not yet included in the CMS range list for this species.

***Numenius tenuirostris* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Afghanistan		?		
ALBANIA		?	×	
Algeria		?		
Armenia		?		
Austria		?		
Azerbaijan		?		
Bahrain		?		
BELGIUM		?	×	
Bosnia and Herzegovina		?		
BULGARIA		?	✓	
Canada		?		
CROATIA		?	×	
CYPRUS		?	×	
CZECH REPUBLIC		?	×	
EGYPT		?	×	
FRANCE		?	×	
GEORGIA		?	×	
GERMANY		?	×	
GREECE	●	?	✓	
HUNGARY		?	×	
Iran		?		✓
Iraq		?		
ISRAEL		?	×	
ITALY		?	×	
Japan		?		
JORDAN		?	✓	
Kazakhstan	●	?		
Kuwait		?		
LATVIA		?	×	
Lebanon		?		
LYBIA		?	×	
F.Y.R. MACEDONIA		?	×	
MALTA		?	×	
MOLDOVA		?	×	
MOROCCO		?	×	
NETHERLANDS		?	×	
Oman		?		
POLAND		?	×	
PORTUGAL		?	×	
Quatar		?		
ROMANIA		?	×	✓
Russian Federation	●	↓		✓
SAUDI ARABIA		?	×	
Serbia and Montenegro		?		
SLOVAKIA		?	×	
SLOVENIA		?	×	

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
SPAIN	●	?	×	
SWITZERLAND		?	×	
SYRIA		?	×	
TUNISIA	●	?	×	
Turkey		?		
Turkmenistan		?		
UKRAINE	●	?	✓	
United Arab Emirates		?		
UNITED KINGDOM		?	×	
UZBEKISTAN	●	↓	×	
Yemen		?		

REVIEW OF CONCERTED ACTION SPECIES

AVES: SCOLOPACIDAE

SPECIES: *Numenius tenuirostris* (Vieillot, 1817)

SYNONYMS: -

COMMON NAME: Slender-billed Curlew (English); Courlis à bec grêle (French); Zarapito Fino (Spanish)

RANGE STATES: ALBANIA; Algeria; Armenia (?); Azerbaijan (?); Bahrain; Bosnia and Herzegovina; BULGARIA; CROATIA; CYPRUS; EGYPT; EUROPEAN COMMUNITY (Austria, FRANCE (?), GREECE, ITALY, SPAIN); GEORGIA; HUNGARY; Iran (Islamic Republic of); Iraq; ISRAEL (?); JORDAN (?); Kazakhstan; Kuwait (?); Lebanon (?); LIBYAN ARAB JAMAHIRIYA (?); MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF (?); MALTA; MOLDOVA, REPUBLIC OF (?); MOROCCO; Oman; Qatar; ROMANIA; Russian Federation; SAUDI ARABIA (?); Serbia and Montenegro; SYRIAN ARAB REPUBLIC (?); TUNISIA; Turkey; Turkmenistan; UKRAINE; United Arab Emirates; UZBEKISTAN; Yemen

RED LIST: CR C2a (ii); D1 (BirdLife International, 2004)

CONSERVATION STATUS AND ACTIONS:

Numenius tenuirostris migrates through Europe to reach its wintering areas around the Mediterranean. The species has only been confirmed breeding near Tara, north of Omsk in Siberia, Russia, between 1914-1924(BirdLife International, 2004). It is certainly one of Europe's least known and rarest species of birds (Anon., 2002). It migrates west-south-west from its presumed breeding grounds in Siberia through central and Eastern Europe, predominantly Russia, Kazakhstan, Ukraine, Bulgaria, Hungary, Romania and Yugoslavia to southern Europe, Greece, Italy, and Turkey, and North Africa, Algeria, Morocco and Tunisia. It has also been reported from Slovenia, Uzbekistan and Turkmenistan (BirdLife International, 2004).

Regarded as very common in the 19th century, it declined dramatically during the 20th century (BirdLife International, 2004) and the slender-billed curlew is now in danger of extinction worldwide (Anon., 2002). This species has an extremely small population and the number of birds recorded annually continues to fall (IUCN, 2004). In 1994, the population was estimated at only 50-270 birds, but records suggest the global population may now be fewer than 50 individuals (BirdLife International, 2004). Between 1980-1990, there were only 103 records involving 316-326 birds, and from 1990-1999, this dropped to 74 records involving 148-152 birds. Most recent records are of 1-3 birds with the exception of 19 in Italy (BirdLife International, 2004).

Threats on the breeding grounds are unknown. Within its potential breeding range, the taiga has been little modified, the forest-steppe partially cultivated and much of the steppe modified by agriculture. Habitat loss in the wintering grounds is of unknown importance. There has been extensive drainage of wetlands in the Mediterranean and North Africa and potentially important areas in Irak (BirdLife International, 2004). Habitat loss and degradation is a major threat (IUCN, 2004) and hunting was historically high and may have been the key factor in its

historical decline (BirdLife International, 2004). Despite this relative lack of knowledge, some conservation actions have been successfully undertaken (Anon., 2002).

There have been several international initiatives for the species to research key sites in Greece, survey passage sites and potential breeding areas, collate records, raise public awareness and educate hunters. An International Working Group has been established and a European Action Plan was published in 1996 (BirdLife International, 2004).

Afghanistan*:
Status: The species is reported as migrating through this country (BirdLife International, 2004).

CMS actions: Not a party to CMS.
Other actions:
ALBANIA:
Status: Reported as wintering (BirdLife International, 2004). Two records in 1992-93, with a maximum of five birds (Gretton, 1996).

CMS actions: None reported.
Other actions:
Algeria:
Status: Reported as wintering (BirdLife International, 2004), with seven records from 1977 to 1990 (maximum 37 birds), plus three unconfirmed records (Gretton, 1996).

CMS actions: Not a Party to CMS.

Other actions: The species has been protected since 1983 (Gretton, 1996).
Armenia (?):
Status:
CMS actions: Not a Party to CMS.
Other actions:
Austria:
Status: Reported as non-breeding (BirdLife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:
Azerbaijan (?):
Status: Reported as non-breeding (BirdLife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:
Bahrain:
Status:
CMS actions: Not a Party to CMS.
Other actions:
BELGIUM (v)*:
Status: Occurrence reported (Herroelen, 1997). Reported as vagrant by BirdLife International (2004).

CMS actions: None reported.
Other actions:
Bosnia and Herzegovina:
Status: Reported as non-breeding and migrating through this country (BirdLife

International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

BULGARIA:

Status: Irregularly observed during migration and wintering. Minimum wintering population is one bird. Most observations have been made along the Black-Sea coastal wetlands (Bulgaria National Report, 2002). It has been recorded 19 times from 1903 to 1993 (with a maximum of four to seven birds), plus 10 unconfirmed records (Gretton, 1996).

CMS actions: Monitoring of the species has been carried out and a National Action Plan (NSAP) was prepared in line with CBD and Council of Europe requirements (Bulgaria National Report, 2002).

Other actions: The species is protected, along with most other waders (Gretton, 1996).

Canada (v)*:

Status: Occurrence reported (Godfrey, 1986). Reported as a vagrant species by BirdLife International (2004).

CMS actions: Not a Party to CMS.
Other actions:

CROATIA:

Status: Reported as wintering (BirdLife International, 2004). The species has only been recorded exceptionally during migration, with a dozen records in 19th century and five records in the period 1970-1987 (maximum two birds), plus 11 unconfirmed records (Gretton, 1996). The country is in its migration route (Croatia National Report, 2002).

CMS actions: None reported.
Other actions:

CYPRUS:

Status: Reported as non-breeding (BirdLife International, 2004).

CMS actions: None reported.
Other actions:

CZECH REPUBLIC (v)*:

Status: Occurrence reported (Kren, 2000).

CMS actions: None reported.
Other actions:

EGYPT:

Status: Reported as non-breeding (BirdLife International, 2004). There are eight records of the species, between 1903 and 1982, and Egypt can only be considered as 'insufficiently known' for the species (Gretton, 1991).

CMS actions: None reported.
Other actions:

FRANCE:

Status: Reported as non-breeding (BirdLife International, 2004).

CMS actions: None reported.
Other actions:

GEORGIA:

Status: Reported as vagrant by BirdLife International (2004).

CMS actions: None reported.

Other actions:

GERMANY (v)*:

Status: Occurrence reported (Barthel, 1993).

CMS actions: None reported.

Other actions:

GREECE:

Status: Reported as wintering and passing (BirdLife International, 2004). Most of the observations come from Evros Delta, Porto Lagos and Axios Delta and almost all from March to April (with a marked peak in mid April) and from September to October, when the birds visit the country on their migration from and to Siberia. It is documented that Evros Delta is the most important habitat for the species worldwide, since only here there is an annual appearance of 1-2 birds (Hellenic Ornithological Society, 2000).

The most important threats to Greek wetlands are reclamation for agricultural purposes, construction work and dumping as well as the imported activity of fish culture. Although in recent years hunting has not proved to be a serious threat to these birds, legislation in itself is not a guarantee of protection for birds in Greece, since many raptors, herons, waders and others are indiscriminately shot during the open season (15 September-10 March) (Goutner & Handrinos, 1990). The Slender-billed Curlew is listed in the Red Data Book as endangered (Gretton, 1996).

CMS actions: LIFE Project 99/72588 on the conservation and management of the wetlands of Amvrakikos in Greece involves *Numenius tenuirostris.* Project LIFE00NAT/GR/7198 aimed at the conservation and management of the Drana lagoon in the Evros delta is significant as it concerns one of Europe's most important wetland areas, strategically located at the heart of an important migration route of *Numenius tenuirostris* (Anon., 2002).

Other actions: Curlews are legally protected throughout the year, but illegal hunting remains problematic. Intense hunting pressure occurs in the small hunting zones within the Evros and Axios deltas (Gretton, 1996).

There have been several international initiatives for the species to research key sites in Greece, survey passage sites and potential breeding areas, collate records, raise public awareness and educate hunters (BirdLife International, 2004).

HUNGARY:

Status: Very rare visitor during spring (March-April) and autumn (September-November). It has been recorded 85 times from 1903 to 1991, with a maximum of 36 birds. Key sites for the species are Hortobágy National Park and Kardoskut (Gretton, 1996).

CMS actions: None reported.

Other actions: All three curlew species (and godwits) have been protected since 1954, and the legislation is well respected and enforced (Gretton, 1996).

I.R. Iran*:*

Status: Reports of birds wintering in Iran persist but require confirmation (BirdLife Intenational, 2004). Six records during the period 1963-73, plus 35 unconfirmed records (Gretton, 1996). It has been categorically stated

that nobody hunts waders in Iran, because their meat is considered unclean and thus cannot be eaten by muslins (Gretton, 1991).

CMS actions: Not a Party to CMS.

Other actions: BirdLife International supported surveys in 1990, which resulted in four unconfirmed records of the species (Gretton, 1996).

Iraq:

Status: Reported as wintering and passing (BirdLife International, 2004). Three records (maximum six birds) from 1917-91.The species is probably greatly under-recorded; the marshes of Iraq have never been fully surveyed for birds, yet they are (or were) the largest area of freshwater marsh in the western Palaearctic (Gretton, 1996).

CMS actions: Not a Party to CMS.

Other actions:

ISRAEL (?):

Status: Reported as passing (BirdLife International, 2004).

CMS actions: None reported.

Other actions:

ITALY*:

Status: The species has been recorded 76 times, with a maximum of seven birds, plus six unconfirmed records (Gretton, 1996), and in winter 1994-95 a flock of up to 20 birds was recorded (BirdLife International, 2004).
Key sites for *Numenius tenuirostris* are: Viareggio area, Golfo di Manfredonia, Valli di Comacchio/Ravenna coast, Circeo National park and Laguna di Orbetello/Maremma National Park (Gretton, 1996).

CMS actions: None reported.

Other actions:

Japan (v)*:

Status: Occurrence reported (Brazil, 1991). Reported as vagrant (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

JORDAN (?):

Status: Reported as passing (BirdLife International, 2004).

CMS actions: Future censuses are planned for this species (Jordan National Report, 2002).

Other actions:

Kazakhstan:

Status: Reported as passing (BirdLife International, 2004). Four records from 1921 to 1991 (maximum three birds). The Slender-billed Curlew is included in the Kazakhstan Red Data Book (Gretton, 1996).

CMS actions: Not a Party to CMS.

Other actions:

Kuwait (?):
Status: Occurrence reported (Bundy and Warr, 1980). Reported as wintering (BirdLife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:
LATVIA (v)*:
Status: Occurrence reported (Celmins, 1992).
CMS actions:
Other actions: None reported.
Lebanon (?):
Status:
CMS actions: Not a Party to CMS.
Other actions:
LIBYAN ARAB JAMAHIRIYA (?):
Status: Reported as wintering (BirdLife International, 2004).

CMS actions: None reported.
Other actions:
F.Y.R. MACEDONIA (?):
Status: Reported as wintering (BirdLife International, 2004).
CMS actions:
Other actions: None reported.
MALTA:
Status: Reported as non-breeding (BirdLife International, 2004).
CMS actions:
Other actions: Noen reported.
MOLDOVA (?):
Status: The country is not considered a range state for the species (Moldova National Report, 2002).

CMS actions: None reported.
Other actions:
MOROCCO:
Status: Reported as wintering. Flocks of over 100 birds were recorded from Morocco as late as the 1960s and 1970s (BirdLife International, 2004). The key site for the species is Merja Zerga National Park. It has occurred widely along the Atlantic coast of Morocco, but the areas in the south, such as Khnifiss, were rarely monitored until recently (Gretton, 1996).

CMS actions: None reported.

Other actions: The species is protected (Gretton, 1996)
NETHERLANDS (v)*:
Status: Occurrence reported (van den Berg, 1994). Reported as vagrant (BirdLife International, 2004).

CMS actions: None reported.
Other actions:

Oman:

Status: Reported as wintering (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

POLAND (v)*:

Status: Occurrence reported (Tomialojc, 1990). Considered as an extremely rare visitor (Poland National Report, 2002).

CMS actions: None reported.

Other actions:

PORTUGAL (v)*:

Status: Reported in the Azores and on the mainland (Themido, 1952).

CMS actions: None reported.

Other actions:

Qatar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

ROMANIA:

Status: Reported as passing (BirdLife International, 2004). 16 records from 1966 to 1989 (maximum 30 birds). The key site for the Slender-billed Curlew in this country is the Danube delta; all records of the species but one have been from the Danube delta, particularly the saltmarsh areas at Istria and Razelmsinoie (Gretton, 1996).

CMS actions: None reported.

Other actions: Since 1989 the conservation prospects of the delta have improved, with several agencies now involved in protecting and managing the delta, which is now a Biosphere Reserve (Gretton, 1996).

Russian Federation:

Status: *Numenius tenuirostris* has only been confirmed breeding near Tara, north of Omsk in Siberia, Russia, between 1914-1924 (Anon., 2002; BirdLife International, 2004). There are nine records from 1908 to 1991 (maximum three birds). The species is included in the Russian Red Data Book. It is in theory therefore protected, but in some areas this seems to apply only during the breeding season (Gretton, 1996).

CMS actions: Not a Party to CMS.

Other actions: Research is being conducted on abundance and distribution of this species (BirdLife International, 2004). From 1989 to 1995, A.K. Yurlov carried out searches for the breeding grounds annually, in co-operation with BirdLife International and the Dutch Government (Gretton, 1996).

SAUDI ARABIA (?):

Status: Reported as vagrant (BirdLife International, 2004).

CMS actions: None reported.

Other actions:

Serbia and Montenegro:

Status: Reported as migrating through this country (BirdLife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

SLOVAKIA (v)*:
Status: Occurrence reported (Trnka *et al.*, 1995).

CMS actions: None reported.
Other actions:

SLOVENIA*:
Status: Occurrence reported (Matvejev and Vasic, 1973).

CMS actions: None reported.
Other actions:

SPAIN:
Status: Reported as migrant (BirdLife International, 2004; Spain National Report, 2002). Potential key site for the species is Coto Doñana National Park. It is listed as Critically Endangered in the Spanish Red Data Book (SEO/BirdLife, 2005).

CMS actions: None reported.
Other actions:

SWITZERLAND (v)*:
Status: Occurrence reported (Winkler, 1999).

CMS actions: None reported.
Other actions:

SYRIAN ARAB REPUBLIC (?):
Status:
CMS actions: None reported.
Other actions:

TUNISIA:
Status: Rare and vulnerable species (Tunisia National Report, 2002). Reported as wintering (BirdLife International, 2004). Recorded 26 times from 1925 to 1992, plus two unconfirmed records. Key area for *Numenius tenuirostris* is Kairouan-Monastir Gulf of Gabés (Gretton, 1996).

CMS actions: None reported.
Other actions:

Turkey:
Status: Reported as wintering (BirdLife International, 2004), with 29 records in the period 1946-1990. Potential key sites are Göksu delta, Tuz Gölü and Seyfe Gölü (Gretton, 1996).

CMS actions: Not a Party to CMS.

Other actions: The Slender-billed Curlew is protected, but the potential key sites are not fully protected (Gretton, 1996).

Turkmenistan:
Status: Reported as passing (BirdLife International, 2004).

CMS actions: Not a Party to CMS.
Other actions:

UKRAINE:

Status: Reported as passing (BirdLife International, 2004), with 15 records from 1908 to 1993 (maximum 48 birds). Key areas for the species are: Danube delta, northern Black Sea, Azov Sea and Sivash lagoon, which are partly protected, but with large areas unprotected. The Slender-billed Curlew is listed in the Red Data Book and is protected (Gretton, 1996).

CMS actions: CMS is funding a survey in coastal areas along the Black Sea in Ukraine, which is implemented by BirdLife International.

Other actions:

United Arab Emirates:

Status:

CMS actions: Not a Party to CMS.

Other actions:

UNITED KINGDOM*:

Status: Reported as vagrant (BirdLife International, 2004).

CMS actions:

Otheractions:

UZBEKISTAN:

Status: It occurs in the Southern Aral region during migration. It is observed in the marshy parts and shallows of the plain water-reservoirs. Numbers always were extremely low. In the past it was observed in flocks of three to 15 individuals, but at present only single finds in the Southern Aral region are reported. Catalogued as Critically Endangered in the Uzbekistan Red Data Book (Academy of Sciences of the Republic of Uzbekistan *et al*., 2003).

CMS actions: None reported.

Other actions:

Yemen:

Status: Reported as non-breeding and wintering (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

REFERENCES:

Academy of Sciences of the Republic of Uzbekistan, State Committee For Nature Protection of the Republic of Uzbekistan and Uzbek Zoological Society (2003) *The Red Book of the Republic of Uzbekistan. Volume II: Animals*. Chinor ENK, Uzbekistan.

Anon. (2002). CMS Information System - *Numenius tenuirostris.* Information from 2002 National Report, European Community.

Barthel, P. (1993). Artenliste der Vögel Deutschlands. *J. Orn.*, 134: 113-135.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

Brazil, M. (1991). The birds of Japan. Christopher Helm, London.

Bulgaria National Report (2002). National Report to CMS.

Bundy, G. and Warr, E. (1980). A checklist of the birds of the Arabian Gulf States. *Sandgrouse*, 1: 4-49.

Celmins, A. (1992). List of Latvian bird species 1992.

Croatia National Report (2002) National Report to CMS.
Godfrey, E. (1986). *The birds of Canada*. 2nd ed. National Museum of Natural Sciences, Ottawa, Canada.
Goutner, V. and Handrinos, G. (1990) The occurrence of Slender-billed Curlews *Numenius tenuirostris* in Greece. *Biological Conservation* 53(1), pp. 47-60.
Gretton, A. (1991) *Conservation of the slender-billed curlew*. International Council for Bird Preservation Monograph No. 6, Cambridge, U.K.
Gretton, A (1996) International action Plan for the Slender-billed Curlew (*Numenius tenuirostris*) pp. 217-288 in Heredia, B. Rose, L. and Painter, M. (eds.) *Globally threatened birds in Europe, Action Plans*. Strasbourg: Council of Europe and BirdLife International.
Helenic Ornithological Society (2000) Endangered species: Slender-billed Curlew. http://www.ornithologiki.gr/en/oiwnos/i11/enlept.htm Downloaded on 21/10/2004.
Herroelen, P. (1997). Liste des oiseaux de Belgique (espèces, sous-espèces, statut et nombre de couples nicheurs) 1901-1995. 2me edition.
Hungary National Report (2002). National Report to CMS.
Kren, J. (2000). *Birds of the Czech Republic*. Christopher Helm, London.
IUCN (2004). 2004 IUCN Red List of Threatened Species. www.redlist.org Downloaded on 17/02/2004.
Matvejev, S. D. and Vasic, V. F. (1973). Catalogus Faunae Jugoslaviae, IV/3, Aves, Yugoslavia.
Moldova National Report (2002) National report to CMS.
Poland National Report (2002) National report to CMS.
SEO/BirdLife (2005) *Libro Rojo de las Aves de España*. Anexo I: Lista de taxones evaluados, categorias y criterios. http://www.seo.org/2005/librorojo/450.asp Downloaded on 21/02/2005.
Spain National Report (2002) National report to CMS.
Themido, A. A. (1952). *Aves de Portugal*. Memorias e Estudos do Museu Zoologico de Universidade de Coimbra Number 213.
Tomialojc, L. (1990). Ptaki Polski rozmieszczenie i liczebnosc. Pantstwowe Wydawnictwo Naukowe, Warszawa.
Trnka, A., Kristin, A., Danko, S., Harvancik, S., Kocian, L., Karaska, D. and Murin, B. (1995). [Checklist of the birds of Slovakia.]. *Tichodroma*, 8: 7-21.
Tunisia National Report (2002). National Report to CMS.
Van den Berg, A. B. (1994). Liste van Nederlandse Vogelsoorten 1994.
Winkler, R. (1999). Avifauna der Schweiz zweite, neu bearbeitete. Auflage. *Orn. Beob.*, Beiheft Number 10.

* Range State not yet included in the CMS range list for this species.

***Otis tarda* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Afghanistan		?		
ALBANIA		?	×	
Algeria		?		
Austria	●	↓		✓
Azerbaijan		?		
BELGIUM		?	×	
Bosnia and Herzegovina		?		
BULGARIA	●	↓	×	✓
China	●	↓		
CROATIA		Ex?		
CYPRUS		?		
CZECH REPUBLIC		↓	✓	
DENMARK		ex	×	
EGYPT		?	×	
FINLAND		?	×	
FRANCE		ex	×	
GEORGIA		?	×	
GERMANY	●	↑	✓	✓
GREECE		?	×	
HUNGARY	●	→	✓	✓
Iran		?		
Iraq		?		
IRELAND		?	×	
ISRAEL		?	×	
ITALY		?	×	
Japan	●	?		
JORDAN		?	×	
Kazakhstan		↓		
D.R. Korea		?		
Republic of Korea		?		
Kyrgyzstan		?		
LATVIA		?		
Lebanon		?		
LUXEMBOURG		?		
F.Y.R. Macedonia		?		
MOLDOVA		↓	✓	
MONGOLIA	●	↓	×	
MOROCCO		↓	×	
Myanmar		?		
NETHERLANDS		?	×	
PAKISTAN		Ex?	×	
POLAND	●	ex	✓	
PORTUGAL	●	→	×	
ROMANIA		↓	×	
Russian Federation	●	↓		✓
SAUDI ARABIA		?	×	
Serbia and Montenegro		→		

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
SLOVAKIA	●	↓	✓	✓
SLOVENIA		?	×	
SPAIN	●	→	×	
SWEDEN		ex	×	
SWITZERLAND		ex	×	
SYRIA		?	×	
TAJIKISTAN		?	×	
TUNISIA		?	×	
Turkey	●	↓		
Turkmenistan		?		
UKRAINE	●	→	✓	✓
UNITED KINGDOM		ex	✓	
UZBEKISTAN	●	?	×	

REVIEW OF CONCERTED ACTION SPECIES

AVES: OTIDIDAE

SPECIES: *Otis tarda* (Linnaeus, 1758)

SYNONYMS: -

COMMON NAME: Great Bustard (English); Grande Outarde; Outarde barbue (French); Avutarda; Avutarda Común; Avutarda euroasiática (Spanish);

RANGE STATES: Afghanistan; ALBANIA; Algeria; Bosnia and Herzegovina; BULGARIA; China; CROATIA; CZECH REPUBLIC; EUROPEAN COMMUNITY (Austria, GERMANY, GREECE, ITALY, PORTUGAL, SPAIN); GEORGIA; HUNGARY; Iran (Islamic Republic of); Iraq; ISRAEL; Japan; Kazakhstan; Korea, Democratic People's Republic of; Korea, Republic of; Kyrgyzstan; Lebanon; MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF; MOLDOVA, REPUBLIC OF; MONGOLIA; MOROCCO; PAKISTAN; POLAND (Ex); ROMANIA; Russian Federation; Serbia and Montenegro; SLOVAKIA; SLOVENIA; SYRIAN ARAB REPUBLIC; TAJIKISTAN; TUNISIA; Turkey; Turkmenistan; UKRAINE; UZBEKISTAN

RED LIST: VU A3c (BirdLife International, 2004)

CONSERVATION STATUS AND ACTIONS:

The Great Bustard occupies a huge Palaearctic range between 35° and 55° N (Anon., 2002), covering 2,353,000km^2 and stretching from Morocco and Portugal in the west to the Russian Far East and Northeast China in the east. Most populations are resident or partially migratory. Formerly the birds within this long but relatively narrow belt would have been part of an effectively single, if occasionally disjointed, population, but in the past two hundred years, and in particular in the past 50 years, the disruption and destruction of steppe and grasslands have been so intense that the species survives in ever smaller and ever more isolated areas (BirdLife International, 2001).

Currently, the global population may number 31,000-37,000 individuals, with a global breeding population of maybe 1,750-3,100 individuals (BirdLife International, 2004), but Alonso *et al.* (2003) estimated that the global population would be ca. 41,000-46,000 birds. The nominate species *Otis tarda tarda* breeds from the Iberian Peninsula and the North of the Maghreb all the way to Central Siberia. The Iberian Peninsula hosts the largest part of the population of *Otis tarda* with approximately 50% of the worldwide total. This population stands at some 20,000-24,500 individuals and is considered stable (Alonso *et al*., 2003).

The Asian region supported a large population of Great Bustards until the early twentieth century. However, numbers have declined during the twentieth century, with a particularly rapid fall in the 1950s and 1960s (according to data from the wintering grounds). Currently there are about 4,200-4,500 individuals occurring in East Asia (BirdLife International, 2001).

There have been rapid declines in populations throughout Eastern and Central Europe and in parts of Asia (BirdLife International, 2001) and the Great Bustard is considered threatened and vulnerable worldwide. In Europe, *Otis tarda* is considered an endangered species (Anon., 2002).

In Europe, North Africa, the Middle East and Central Asia, key threats include increased human disturbance and the potential for agricultural intensification following land privatisation in Eastern Europe and the former Soviet Union. Habitat loss continues as a result of ploughing of grasslands, intensive grazing, afforestation and increasing development of irrigation schemes, roads, power-lines, fencing and ditches. Mechanisation, chemical fertilisers and pesticides, fire and predation all contribute to high mortality in eggs, chicks and juveniles. Hunting is a major threat in the Ukraine (BirdLife International, 2001). Particularly during the last decades, many central European populations of the species have declined to extinction or are today severely endangered (Alonso *et al*., 2003).

In the Asian region, hunting and habitat loss on both the breeding and wintering grounds are the main reasons for the dramatic reduction in the numbers of Great Bustard during the twentieth. A particularly rapid decline appears to have taken place in the past four decades, apparently linked to more efficient methods of hunting, the large-scale conversion of steppe to agricultural land on its breeding grounds in Russia and China, and habitat loss on the wintering grounds in China (BirdLife International, 2001).

Afghanistan:

Status: It was at least historically a regular winter visitor to the Danaghori plains of northern Afghanistan (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

ALBANIA:

Status: The great bustard is a very rare wintering/migratory bird in Albania. The sites where the species has been recently observed are semi-arid areas: Bedati (Karavasta) and Kopliku. Main threats are: hunting (two individuals were killed during the last two years), habitat degradation, uncontrolled development and disturbance by pastoralists (Bino, 2004).
The species is not mentioned in the Albanian Red Data Book (1998), but the Great Bustard has been included in the Albanian List of strictly protected species (Bino, 2004).

CMS actions: None reported.

Other actions: A new law on biodiversity protection is waiting for approval in the Parliament (Bino, 2004).

Algeria:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Austria:

Status: Only 50-60 individuals have been reported and the population is declining (Anon., 2002). The Austrian population numbers 27-30 individuals recently (Czech Republic National Report, 2002). Breeding populations currently remain here (BirdLife International, 2001). In Austria, there are six Important Bird Areas (IBAs) in which Great Bustards occur (Austrian National Report, 2004). The species is included in the Austrian Red Data Book as endangered (Kollar, 1996).

CMS actions: Not a Party to CMS.

Other actions: Legally protected (BirdLife International, 2001). Extensive measures are taken for the management of all breeding areas and key migration and wintering sites of the species. The maintenance of Great Bustard habitats both inside and

outside the proposed Natura 2000 sites is carried out through measures under "ÖPUL", the Austrian Agro-environment scheme. ÖPUL measures allow compensation to be given to farmers in return for carrying out specific conservation measures for a period of at least 5, 10 or 20 years (Austrian National Report, 2004). A small-scale attempt during the 1960s and 1970s to breed and rear the species in captivity failed (Kollar, 1996)

Azerbaijan*:

Status: Occurrence reported (Flint *et al.*, 1984).

CMS actions:

Other actions: Not a Party to CMS.

BELGIUM (v)*:

Status: Reported as non-breeding and passing (Herroelen, 1997; BirdLife International, 2004).

CMS actions: None reported.

Other actions:

Bosnia and Herzegovina:

Status:

CMS actions: Not a Party to CMS.

Other actions:

BULGARIA:

Status: Former breeding species. Currently found as irregular wintering species. There are single observations from the Dobrudja plain in NE Bulgaria (Bulgaria National Report, 2002). The breeding population of the Great Bustard in Bulgaria is in a critical condition, most probably extinct; single pairs might breed sporadically in Zlatiata and /or Dobrudja yet, but it has not been confirmed in the last decades. The most severe decline of the breeding population was recorded after 1950 simultaneously with increasing agricultural intensification and habitat fragmentation (Bulgaria National Report, 2004). In the 1990s and later there are several observations of wintering flocks of up to six birds, mainly in Dobrudja and Zlatiata , but also reported form other regions of E Bulgaria. The species is included in the National Red Data Book (Bulgaria National Report, 2004).

CMS actions: None reported.

Other actions: Legally protected (BirdLife International, 2001). In order to set a coordinated strategy and work plan BSPB/BirdLife Bulgaria is considering elaborating a National Action Plan for the Great Bustard (Bulgaria National Report, 2004).

China:

Status: Mainland China is now the main wintering grounds. The Great Bustard breeds in Heilongjiang, Jilin, Inner Mongolia and Xinjiang, and it bred once in Hebei in the 1960s, buts its breeding range is now much reduced and fragmented. It occurs on passage and in winter in many other provinces in eastern China, and important wintering sites have been located in Shandong, Henan, Anhui, Jiangsu and Jiangxi provinces (BirdLife International, 2001).

Its breeding population was estimated at 250-300 in China. The wintering population of the species was recently estimated at 2,000-3,000 in Xinjiang, although this may be an overestimate. Its numbers on the wintering grounds in China have declined during the 1990s, and it is feared that this will continue unless urgent conservation measures are taken (BirdLife International, 2001).

It is catalogued as Vulnerable in the China Red Data Book of Endangered Animals (Zheng & Whang, 2000).

CMS actions: Not a Party to CMS.

Other actions: It is a nationally protected species (first class) in mainland China (BirdLife International, 2001).

CROATIA:

Status: Reported as wintering (BirdLife International, 2004), the Great Bustard is only irregular winter visitor in Croatia. During severe winters it appears in different parts of Croatia, including islands. The species is regionally extinct from this country since the end of 19th century (Croatian Report, 2004).

CMS actions: None reported.

Other actions:

CYPRUS (v)*:

Status: Occurrence reported (Flint and Stewart, 1991).

CMS actions: None reported.

Other actions:

CZECH REPUBLIC:

Status: There has been an estimated 21-50% decline in the breeding population between 1970 and 1990 (BirdLife International, 2004) and the population is now considered nearly extinct. It is thought to winter irregularly (0-3 individuals in 2001-2002). Future existence of the Czech population will depend on vitality of the neighbouring population in Austria, numbering 27-30 individuals recently (Czech Republic National Report, 2002).
Alfalfa, which was used for breeding in the past, is not produced anymore, fallow land or grassland is lacking, and there are a lot of disturbances in the area, so the species cannot find suitable habitats in the region (Czech Republic National Report, 2002).

CMS actions: This species is legally protected (BirdLife International, 2001). In 2001 a temporarily protected area was established at the former breeding site in southern Moravia, near the Czech-Austrian border, for the next ten years. A management plan for the site has been prepared, and financial sources are sought to fulfil its recommendations. The site is regularly controlled in both breeding and winter seasons. Informal co-operation with Austrian ornithologists aimed at protection of the species has been started (Czech Republic National Report, 2002).

Other actions:

DENMARK (ex, br)*:

Status: Occurrence reported (Dybbro, 1978).

CMS actions: None reported.

Other actions:

EGYPT (v)*:

Status: Occurrence reported (Goodman and Meininger, 1989)

CMS actions: None reported.

Other actions:

FINLAND (v)*:

Status: Occurrence reported (Solonen, 1985).

CMS actions: Not a Party to CMS.

Other actions:

FRANCE (ex, br)*:

Status: Occurrence reported (Cruon *et al.*, 1992)

CMS actions: None reported.

Other actions:

GEORGIA:

Status: Reported as wintering (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

GERMANY:

Status: After 60 years of population decline there is an increase from ca. 55 individuals in 1996 to 84 individuals in 2004. Three remaining Great Bustard areas are designated as SPAs covering nearly completely displaying and breeding areas and about the half of wintering areas. Within the conservation areas currently the main threat is predation, as well as wind energy development around and between the Great Bustard areas (German Report, 2004). The species is listed as Endangered in the German Red Data Book (Kollar, 1996).

CMS actions: Main conservation measures at Great Bustard sites consist of: extensive farming, avoiding disturbances, predation management and artificial breeding (German Report, 2004), but there are no projects at present within the conservation areas.

Other actions: Legally protected (BirdLife International, 2001). In the former East Germany much effort was put into breeding, rearing and releasing Great Bustards into the wild, first at Steckby, then at Buckow, and nowadays a third of Germany's Great Bustard population consists of birds which came from the rearing programme (Kollar, 1996).

Gibraltar (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004).

CMS actions: Not a Party to CMS.

Other actions:

GREECE:

Status: Reported as non-breeding (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

HUNGARY:

Status: About 1212 individuals breed in Hungary The largest flocks are found in the Kiskunság (c. 480 individuals), Dévaványa (c. 380) and the Hortobágy (c. 115) (Hungary National Report, 2004). The population seems now stable or very slightly increasing, though many factors threaten the survival of the species. The number of native predators (crows, magpies, martens, stone martens and foxes) is extremely high (Hungary National Report, 2002). The species is included in the Hungarian Red Data Book (Kollar, 1996).

CMS actions: Continuous research has been going on for many years to improve the success of nestling repatriation. A synchronised census is organised twice a year by all national park directorates. Predator control, collecting eggs of abandoned nests and repatriating artificially raised nestlings is occurring. Rutting grounds are protected, nests are protected by buffer zones in agricultural lands, and there is

temporal and spatial limitation of reaping. Natura 2000 sites will be designated for the protection of the Bustard habitats (Hungary National Report, 2002). The maintenance of habitats outside the protected areas is mostly realized in the ESA (Environmentally Sensitive Areas) system. The ESA scheme was established in 2002 aiming to promote environmental friendly agricultural activities. In this system the farmers voluntarily make a contract with the state, and upon realizing the management and technological prescriptions laid down in the contract, they receive annual compensation payment for the loss of yield and other income due to restrictions (Hungary National Report, 2004).

Other actions: The Great Bustard is a strictly protected species in Hungary and it is among the six bird species in Hungary that have the highest nature conservation value (Hungary National Report, 2004). A cross-border Great Bustard conservation program exists around the Austrian-Hungarian-Slovakian border for the common population found in these three countries (Hungary National Report, 2004).

I.R. Iran:

Status: Reported as resident, breeding, non-breeding, wintering and passing (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

Iraq:

Status: Reported as non-breeding species (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

IRELAND (v)*:

Status: Occurrence reported (Hutchinson, 1989). Reported as vagrant (BirdLife International, 2004).

CMS actions:

Other actions: None reported.

ISRAEL:

Status: Reported as wintering (BirdLife International, 2004).

CMS actions: None reported.

Other actions:

ITALY:

Status: Up to ten individuals were reported as wintering (BirdLife International, 2004).

CMS actions: None reported.

Other actions:

Japan:

Status: Winters in very small numbers (BirdLife International, 2001). The Great Bustard has always been a rare winter visitor to Japan, and prior to 1975 there had only been 15 records, mostly of solitary birds (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: The hunting of the species in Japan is prohibited under an ordinance of 1918, and it is listed in a bilateral agreement between Japan and Russia (made in 1973) on the conservation of migratory birds (BirdLife International, 2001).

JORDAN (?)*:

Status: Occurrence reported (Andrews, *et al.*, 1999).

CMS actions: None reported.

Other actions:

Kazakhstan:

Status: Breeding populations currently remain here. There have been particularly large declines in population sizes (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

D.R. Korea:

Status: The Great Bustard was formerly a common winter visitor, in flocks of up to 100 birds, but is now rare (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Republic of Korea:

Status: The species used to be a common winter visitor around Seoul, but rare further south, but it has become increasingly scarce everywhere, with only a handful of recent records (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Kyrgyzstan:

Status: Breeding populations currently remain here (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

LATVIA (v)*:

Status: Occurrence reported (Celmins, 1992).

CMS actions: None reported.

Other actions:

Lebanon:

Status: Occurrence reported (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

LUXEMBOURG (v)*:

Status: Occurrence reported (Conzemius, 1995).

CMS actions: None reported.

Other actions:

F.Y.R. Macedonia:

Status: Reported as wintering (BirdLife International, 2004). The species is an irregular winter visitor in this country, and there are no regular wintering or stopover sites (Macedonia National Report, 2004).

CMS actions: Not a Party to CMS.

Other actions: The species is legally protected (Macedonia National Report, 2004).

REPUBLIC OF MOLDOVA:

Status: Very rare straying species (Republic of Moldova National Report, 2002). Breeding populations currently remain here (BirdLife International, 2001) with two to three breeding pairs reported in 1988 (BirdLife International, 2004). There has been an estimated 50% or greater decline in the breeding population between 1970 and 1990 (BirdLife International, 2004).

CMS actions: Numbers are being studied as are the spreading of the species, and possible ways of restoration (Republic of Moldova National Report, 2002).

Other actions:

MONGOLIA:

Status: It breeds in the steppes, and winters in very small numbers on the breeding grounds (BirdLife International, 2001). The Great Bustard is widely distributed in Mongolia, in Arkhangai, Bulgan, Dornod, Dzavkhan, Gov'-Altai, Khentii, Khövsgöl, Khovd, Ömnögov', Övörkhangai, Selenge, Töv and Uvs provinces; its main range encompasses the forest steppes of northern and central Mongolia, and the steppes and desert steppes of western, central and eastern Mongolia, but it penetrates even into the desert zone (northern Gobi) of southern Mongolia (BirdLife International, 2001).

The subspecies generally occurring in Mongolia is *Otis tarda dybowskii*, but *O. t. tarda* probably occurs in extreme western Mongolia (BirdLife International, 2001). Particularly large declines in population sizes here (BirdLife International, 2001). Its breeding population was estimated at 700-2,000 individuals. It is listed as "Rare" in the Mongolian Law on Hunting (1995) (BirdLife International, 2001)

CMS actions: None reported.

Other actions: Hunting and trapping of the species has been prohibited since 1980 although it is permitted for "special purposes" (BirdLife International, 2001).

MOROCCO:

Status: Breeding populations currently remain here (BirdLife International, 2001). A spring census was conducted in 1999 in northwest Morocco, where a poorly known population of this species occurs. 64 birds were seen in four distinct areas, and two first-year males were seen with their mothers, demonstrating successful breeding in 1998. However, the small number of birds, a population sex ratio of 1:3.3 in favour of females, evidence for a range contraction, and probable isolation from other great bustard populations mean that this population is extremely endangered and will decline to extinction unless conservation measures are implemented rapidly (Alonso *et al*., 2000).

CMS actions: None reported.

Other actions:

Myanmar (v)*:

Status: Occurrence reported (Smythies, 1986). There is a single record: Fort Hertz, Myitkyina, 370m, two, one of which (a young female) was collected, December 1933 (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

NETHERLANDS (v)*:

Status: Occurrence reported (van den Berg, 1994). Reported as vagrant by BirdLife (2004).

CMS actions: None reported.

Other actions:

PAKISTAN:

Status: Reported as wintering. Was always very rare and is possibly now extinct (BirdLife International, 2001).

CMS actions: None reported.

Other actions:

POLAND (Ex):

Status: Migrating population only. Rarely (irregularly) migrating species (Poland National Report, 2002). The last breeding record dates from 1986. Up to 1989 there were a few individuals kept in captivity. The reasons for extinction were intensification and mechanisation of agriculture, human disturbance and persecution (Kollar, 1996). The species is catalogued as Endangered in the Polish Red Data Book (Glowaciński, 1992).

CMS actions: Preparing to sign the Memorandum of Understanding on the Conservation and Management of the Middle-European population of the Great Bustard in the near future (Poland National Report, 2002).

Other actions:

PORTUGAL:

Status: Stable breeding population of 1,000 individuals (Anon., 2002). Breeding populations currently remain here (BirdLife International, 2004). Habitats in traditionally extensive agricultural land are being encroached upon and threatened by changes in land use, especially afforestation, because the subsidies for environmental agriculture are lower than those for afforestation (Kollar, 1996). The most important Great Bustard area in Portugal is Castro Verde and it is included in the Red Data Book as endangered (Kollar, 1996).

CMS actions: None reported.

Other actions: Legally protected (BirdLife International, 2001).

ROMANIA:

Status: Ten to 15 breeding individuals and 20-30 wintering individuals reported in 1992-3. There has been an estimated 21-50% decline in the breeding population between 1970 and 1990 (BirdLife International, 2004).

CMS actions: None reported.

Other actions: Females are legally protected as National Monuments (Kollar, 1996).

Russian Federation:

Status: *Otis tarda* breeds in the steppes of eastern Russia, and winters in very small numbers on the breeding grounds (BirdLife International, 2001). In Eastern Russia, the Great Bustard was a locally common breeding species in the steppes and forest-steppes of Krasnoyarsk, Khakassia, Tuva, Buryatia, Chita, Amur and Primorye, but has declined dramatically during the twentieth century. It is now known to breed in only a handful of areas, where it is generally uncommon or rare (BirdLife International, 2001).

Most of the eastern Russian population migrates to China, but a few birds have been recorded in winter, and there are many records of birds on migration (BirdLife International, 2001). Eastern Russia alone is estimated to have held more than 50,000 individuals prior to the 1940s. In 1999, 7,200 breeding individuals were reported (BirdLife International, 2004). Included in the Russian Red Data Book as Vulnerable (Category II, rapid decline in numbers and habitat) (Kollar, 1996).

In regions with good soil, such as the Krasnodar District, numbers are

declining because agriculture tends to be more intensive (Kollar, 1996). The use of pesticides is thought to have had a negative impact on Great Bustard populations, especially in eastern Russia (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: Legally protected and its hunting is banned throughout the country (BirdLife International, 2001). There is a breeding and rearing station in Saratov, which has not been successful in increasing the population (Kollar, 1996).

SAUDI ARABIA (v)*:

Status: Occurrence reported (Jennings, 1981). Reported as vagrant by BirdLife (2004).

CMS actions: BirdLife International, 2001

Other actions:

Serbia and Montenegro:

Status: It nests only in a limited area in the north of Banat, near Mokrin. During the breeding period a total of 35 individuals are observed on average, whereas their number in winter can exceed 40 individuals. The most important part of this vast area was designated in 1997 as Special Nature Reserve "The pastures of the Great Bustard", and it covers 980 ha of the entire area (Garovnikov, 2004)

CMS actions: Not a Party to CMS.

Other actions: The species is protected (Garovnikov, 2004).

SLOVAKIA:

Status: Currently ten nesting hens represent the population of the Great Bustard in Slovakia. The wintering population comprises individuals breeding in Hungary and Austria too, of which about 100 visit Slovak territories. The population in Slovakia is at the critical limit of extinction and it requires supernormal conservation measures (Slovakia National Report, 2002). There has been an estimated 21-50% decline in the breeding population between 1970 and 1990 (BirdLife International, 2004). The species is listed as Endangered in the Red Data Book (Kollar, 1996).

CMS actions: Research is being carried out, focused on human impact, influence of agricultural activities. Regular monitoring occurs within the species range in Slovakia. Protection against disturbance on nesting habitats, guidance on hunting and elimination of improper predators on nesting sites is carried out. Establishment of the conservation regime to prevent the disturbance on key sites of the species occurrence. Conservation and management of the nesting places in accordance to National Recovery Plan for the Great Bustard, Action Plan for the Implementation of the National Biodiversity Strategy, requirements of international treaties etc (Slovakia National Report, 2002).

Other actions: Legally protected (BirdLife International, 2001). A rearing and breeding station exists, so far without an impact on the population (Kollar, 1996).

SLOVENIA:

Status:

CMS actions: None reported.

Other actions:

SPAIN:

Status: The sum of the most recent counts in the Iberian peninsula was 20,243,

and the estimated total, 24,490 birds, 94% of them in Spain. During the last two decades bustards increased at five intensive study areas, remained stable at two, and declined or became extinct at eight (Alonso *et al*., 2003). A marked decline probably occurred due to high hunting pressure immediately before the ban in 1980, when official hunting bags reached up to 2057 birds annually. The Iberian population of great bustards may have slightly increased after the hunting ban during the last two decades. However, some evidence showing alarming decreases and local extinctions at several sites even after hunting prohibition suggests that the population might now be concentrating in some high quality areas and simultaneously disappearing from marginal, lower quality sites. Urgent conservation measures are particularly needed in Navarra, Aragón, Andalucía and Madrid, where bustard populations are highly fragmented and isolated from the main breeding core (Alonso *et al*., 2003). The species is classified in the Red Data Book as Vulnerable (SEO/BirdLife, 2005).

CMS actions: None reported.

Other actions: Legally protected (BirdLife International, 2001).

SWEDEN (ex, br)*:

Status: Occurrence reported (Risberg, 1990).

CMS actions: None reported.

Other actions:

SWITZERLAND (ex, br)*:

Status: Occurrence reported (Winkler, 1999).

CMS actions: None reported.

Other actions:

SYRIAN ARAB REPUBLIC:

Status: Reported as non-breeding and wintering, but its status is unknown (BirdLife International, 2004).

CMS actions: None reported.

Other actions:

TAJIKISTAN:

Status: Breeding populations currently remain here (BirdLife International, 2004).

CMS actions: None reported.

Other actions:

TUNISIA:

Status: Reported as vagrant in this country (BirdLife International, 2004).

CMS actions: None reported.

Other actions:

Turkey:

Status: There are 800-3,000 breeding birds. There has been an estimated 21-30% decline in the breeding population between 1970 and 2000 (BirdLife International, 2004). The species is classified as Rare in the Draft List of Threatened Animals (Kollar, 1996).

CMS actions: Not a Party to CMS.

Other actions:

Turkmenistan:
Status:
CMS actions: Not a Party to CMS.
Other actions:

UKRAINE:
Status: The Great Bustard is irregularly distributed in Ukraine. The most valuable settlements of the species are located in Kerch peninsula, where the species is relatively common. Also, the bird can be seen in Northwestern part of the Crimea and in near Sivash area. According to preliminary data, the numbers of the Great Bustard during nesting period are ca. 640-850 individuals from which 200-250 females nest annually (Ukraine National Report, 2004).
The birds winter in the southern parts of Kherson and Zaporizhzhia regions, more rare in the northern part and in the most part of the steppe Crimea. When the weather conditions are typical, there are 11,000-12,000 individuals in the wintering places. The Great Bustard is listed in the Ucranian Red Data Book (Ukraine National Report, 2004).

CMS actions: The Law on the State Programme on Building of the National Ecological Network for the period 2001-2015 is adopted in Ukraine. The programme *inter alia* addresses the problem of the habitat fragmentation including that for the Great Bustard (Ukraine National Report, 2004).

Other actions: Legally protected (BirdLife International, 2001). In Askania-Nova there was a breeding and rearing station, but its work has now ceased (Kollar, 1996).

UNITED KINGDOM (ex)*:
Status: Occurrence reported (BOU, 1992).

CMS actions: The U.K. Government has agreed to allow a small number of Great Bustards chicks to be introduced into a specific location in Southern England. In November 2003, a ten-year trial license was granted, which allows the release of up to 50 birds a year onto the Salisbury Plain and is subject to close monitoring and an annual review. The first birds were released this summer. Given the uncertainty surrounding the success of this project, it is therefore considered premature to consider extending the agreement boundary to include the U.K. as a range state (U.K. National Report,2004).

Other actions:

UZBEKISTAN:
Status: It occurs on the Ustyurt Plateau during migration, within the South-western Kyzylkum, Zarafshan, Surkhandarya and Sherabaddaraya valleys, Golodnaya and Dalverzin steppes and foothills of Nuratau Range. It was rare during nesting, common during wintering. Numbers during migration are very low. Single specimens, sometimes groups (up to 11 individuals) are counted. The main limiting factor is the destruction of habitats as a result of agricultural development of virgin lands in semi-desert areas. Catalogued as Critically Endangered in the Uzbekistan Red Data Book (Academy of Sciences of the Republic of Uzbekistan *et al*., 2003).

CMS actions: None reported.
Other actions:

REFERENCES:

Academy of Sciences of the Republic of Uzbekistan, State Committee For Nature Protection of the Republic of Uzbekistan and Uzbek Zoological Society (2003) *The Red Book of the Republic of Uzbekistan. Volume II: Animals*. Chinor ENK, Uzbekistan.

Alonso, J.C. Palacín, C. and Martín, C.A. (2003) Status and recent trends of the great bustard (*Otis tarda*) population in the Iberian Peninsula. *Biological conservation* 110(2): 185-195.

Alonso, J.C. Lane, S.J. Dawson, R. and Idaghdour, Y. (2000) Great bustards *Otis tarda* in Morocco: status in spring 1999 and evidence of a decline in recent decades. *Oryx* 34(2): 141-145.

Andrews, I. J., Khoury, F. and Shirihai, H. (1999). Jordan Bird Report 1995-97. *Sandgrouse*, 21(1): 10-35.

Anon. (2002). CMS Information System - *Otis tarda.* Information from 2002 National Report, European Community.

Austrian National Report (2004) First meeting of the signatory States of the MoU on the conservation and management of the middle-European population of Great Bustard (*Otis tarda*), Illmitz, Austria, 17-18 September 2004. http://www.cms.int/species/otis_tarda/meetings/GB_1/pdf/Inf_04_5_Rev1_National%20Report_Austria.pdf Downloaded on 22/10/2004.

Bino, T. (2004) Albania- National Report on Great Bustard – *Otis tarda*. First meeting of the signatory States of the MoU on the conservation and management of the middle-European population of Great Bustard (*Otis tarda*), Illmitz, Austria, 17-18 September 2004. http://www.cms.int/species/otis_tarda/meetings/GB_1/pdf/Inf_04_2_NationalReport_Albania.pdf Downloaded on 22/10/2004.

BirdLife International (2001). *Threatened birds of Asia*. The BirdLife International Red Data Book. BirdLife International, Cambridge, UK.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

BOU (British Ornithologists' Union) (1992). *Checklist of the birds of Britain and Ireland*. 6th edition. British Ornithologist' Union, Tring.

Bulgaria National Report (2002). National Report to CMS.

Bulgaria National Report (2004) First meeting of the signatory States of the MoU on the conservation and management of the middle-European population of Great Bustard (*Otis tarda*), Illmitz, Austria, 17-18 September 2004. http://www.cms.int/species/otis_tarda/meetings/GB_1/pdf/Inf_04_6_NationalReport_Bulgaria.pdf Downloaded on 25/10/2004.

Celmins, A. (1992). *List of Latvian bird species 1992*.

Conzemius, T. (1995). Liste der Vögels Luxembergs. *Regulus*, 14: 41-56.

Croatian Report (2004) First meeting of the signatory States of the MoU on the conservation and management of the middle-European population of Great Bustard (*Otis tarda*), Illmitz, Austria, 17-18 September 2004. http://www.cms.int/species/otis_tarda/meetings/GB_1/pdf/Inf_04_3_NationalReport_Croatia.pdf Downloaded on 25/10/2004.

Cruon, R., Erard, C., Lebreton, J-D and Nicolau-Guillaumet, P. (1992). Liste des oiseaux de France. *Oiseau et R.f.O.*, 62: 97-116.

Czech Republic National Report (2002). National Report to CMS.

Dybbro, T. (1978). *Oversigt over Danmarks fugle*. Dansk Ornithologisk Forening, Denmark.

Flint, V. E., Boehme, R. L., Kostin, Y. V. and Kuznetzov, A. A. (1984). *A field guide to birds of the USSR*. Princeton University Press, Princeton, New Jersey.

Flint, P.R. and Stewart, P.F. (1991). *The birds of Cyprus*. 2nd edition. British Ornithologists' Union Checklist No. 6, London.

Garovnikov, B. (2004) *A brief report about protection of Great Bustard in Serbia and Montenegro*. First meeting of the signatory States of the MoU on the conservation

and management of the middle-European population of Great Bustard (*Otis tarda*), Illmitz, Austria, 17-18 September 2004. http://www.cms.int/species/otis_tarda/meetings/GB_1/pdf/Inf_07_3_NationalReport_Serbia&Montenegro.pdf Downloaded on 25/10/2004.

German Report (2004) First meeting of the signatory States of the MoU on the conservation and management of the middle-European population of Great Bustard (*Otis tarda*), Illmitz, Austria, 17-18 September 2004. http://www.cms.int/species/otis_tarda/meetings/GB_1/pdf/Inf_04_7_NationalReport_Germany.pdf Downloaded on 25/10/2004.

Glowaciński, Z. (ed.) (1992) *Polska czerwona Księga zwierząt* (*Polish Red Data Book of Animals)*. Państwowe Wydawnictwo Rolnicze I Leśne, Warszawa.

Goodman, S. M. and Meininger, P. L. (1989). *The birds of Egypt*. Oxford University Press, Oxford

Herroelen, P. (1997). *Liste des oiseaux de Belgique* (espèces, sous-espèces, statut et nombre de couples nicheurs) 1901-1995. 2eme edition.

Hungary National Report (2002). National Report to CMS.

Hungary National Report (2004) First meeting of the signatory States of the MoU on the conservation and management of the middle-European population of Great Bustard (*Otis tarda*), Illmitz, Austria, 17-18 September 2004. http://www.cms.int/species/otis_tarda/meetings/GB_1/pdf/Inf_04_1_NationalReport_Hungary.pdf Downloaded on 25/10/2004.

Hutchinson, C. D. (1989). *Birds in Ireland*. Poyser, Calton, U.K.

Jennings, M. C. (1981). *The birds of Saudi Arabia: a check- list*. Published by the author, Whittlesford, Cambridge.

Kollar, H.P. (1996) Action Plan for the Great Bustard (*Otis tarda*) in Europe. Pp. 245-261. In: Heredia, B. Rose, L. and Painter, M. (eds.) *Globally threatened birds in Europe, Action Plans*. Strasbourg: Council of Europe and BirdLife International.

Macedonia National Report (2004) First meeting of the signatory States of the MoU on the conservation and management of the middle-European population of Great Bustard (*Otis tarda*), Illmitz, Austria, 17-18 September 2004. http://www.cms.int/species/otis_tarda/meetings/GB_1/pdf/Inf_04_8_NationalReport_Macedonia.pdf Downloaded on 25/10/2004.

Poland National Report (2002). National Report to CMS.

Risberg, L. (1990). *Sveriges Faglar*. Sveriges Ornit. For., Stockholm.

SEO/BirdLife (2005) *Libro Rojo de las Aves de España*. Anexo I: Lista de taxones evaluados, categorias y criterios. http://www.seo.org/2005/librorojo/450.asp Downloaded on 21/02/2005.

Slovakia National Report (2002). National Report to CMS.

Smythies, B. E. (1986). *The birds of Burma. 3rd edition*. Nimrod Press and Silvio Mattacchione and Co., Liss, Hampshire, U.K and Pickering, Ontario

Solonen, T. (1985). *Suomen linnusto*. Lintutieto, Helsinki.

Ukraine National Report (2004) First meeting of the signatory States of the MoU on the conservation and management of the middle-European population of Great Bustard (*Otis tarda*), Illmitz, Austria, 17-18 September 2004. http://www.cms.int/species/otis_tarda/meetings/GB_1/pdf/Inf_04_9_National%20Report_Ukraine.pdf Downloaded on 25/10/2004.

U.K. National Report (2004) *Background note on the programme for a trial reintroduction of the Great Bustard in Great Britain*. First meeting of the signatory States of the MoU on the conservation and management of the middle-European population of Great Bustard (*Otis tarda*), Illmitz, Austria, 17-18 September 2004. http://www.cms.int/species/otis_tarda/meetings/GB_1/pdf/Inf_07_2_NationalReport_UK.pdf Downloaded on 25/10/2004.

UNEP-WCMC (2004). UNEP-WCMC Species Database. www.unep-wcmc.org Downloaded on 2/03/2004.

van den Berg, A. B. (1994). Liste van Nederlandse Vogelsoorten 1994.

Winkler, R. (1999). Avifauna der Schweiz zweite, neu bearbeitete. Auflage. *Orn. Beob.,* Beiheft Number 10.

Zheng, G & Whang, K. (1998) *China Red data Book of Endangered Animals: Aves*. Science Press, Beijing, Hong Kong, New York.

* Range State not yet included in the CMS range list for this species.

***Oxyura leucocephala* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Afghanistan		?		
ALBANIA		?	×	
Algeria		?		
Armenia		Ex?		
Austria		?		
Azerbaijan	●	?		
Bahrain		?		
BELGIUM		?	×	
Bosnia and Herzegovina		?		
BULGARIA	●	→	✓	
China	●	↓		
CROATIA		?	×	
CYPRUS		?	×	
CZECH REPUBLIC		?	×	
DENMARK		?	×	
EGYPT		?	×	
FRANCE		?	×	✓
GEORGIA		?	×	
GREECE	●	↑	×	✓
HUNGARY	●	↑	✓	✓
INDIA	●	↓	×	
Iran		?		
Iraq		?		
ISRAEL		↑	×	
ITALY	●	?	×	✓
JORDAN		?	×	
Kazakhstan	●	→		✓
Kuwait		?		
Kyrgyzstan	●	?		
Lebanon		?		
LYBIA		?	×	
F.Y.R. MACEDONIA		?	×	
MOLDOVA		?	×	
MONGOLIA	●	↑	×	✓
MOROCCO		?	×	
NETHERLANDS		?	×	
PAKISTAN		↓	×	✓
POLAND		?	×	
PORTUGAL		?	×	
Quatar		?		
ROMANIA		?	×	✓
Russian Federation	●	↓		✓
SAUDI ARABIA		?	×	
Serbia and Montenegro		Ex?		
SLOVAKIA		?	×	
SLOVENIA		?	×	

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
SPAIN	●	↑	✓	✓
SWITZERLAND		?	×	
SYRIA		→	×	✓
TAJIKISTAN		↓	×	
TUNISIA		→	✓	✓
Turkey	●	↓		✓
Turkmenistan	●	?		
UKRAINE	●	?	×	
UZBEKISTAN	●	↓?	×	✓

REVIEW OF CONCERTED ACTION SPECIES

AVES: ANATIDAE

SPECIES: *Oxyura leucocephala* (Scopoli, 1769)

SYNONYMS: -

COMMON NAME: White-headed Duck (English); Érismature à tête blanche (French); Malvasía; Malvasía Cabeciblanca (Spanish)

RANGE STATES: Afghanistan; ALBANIA; Algeria; Armenia; Azerbaijan; Bahrain; BULGARIA; CYPRUS; EGYPT; EUROPEAN COMMUNITY (FRANCE, GREECE, ITALY, PORTUGAL, SPAIN); GEORGIA; HUNGARY; Iran (Islamic Republic of); Iraq; ISRAEL; JORDAN; Kazakhstan; Kuwait; Kyrgyzstan; Lebanon; MACEDONIA, THE FORMER YUGOSLAV REPUBLIC OF; MOLDOVA, REPUBLIC OF; MONGOLIA; MOROCCO; PAKISTAN; Qatar; ROMANIA; Russian Federation; SAUDI ARABIA; SYRIAN ARAB REPUBLIC; TAJIKISTAN; TUNISIA; Turkey; Turkmenistan; UKRAINE; UZBEKISTAN

RED LIST: EN A2 b,c,d,e (BirdLife International, 2004)

CONSERVATION STATUS AND ACTIONS:

Globally, the population is estimated at 7,910-13,110 individuals, with a range of 660,000km^2 (BirdLife International, 2004). Mid-winter counts indicate that the population of this species has undergone a very rapid decline of c.60% in the last ten years, which qualifies it as Endangered (BirdLife International, 2004). It occurs on passage/in winter in the eastern Mediterranean, the Middle East, central Asia and the Indian subcontinent. The present distribution of the White-headed Duck is fragmented, with a small resident population in the west Mediterranean (Spain, Tunisia, Algeria) and a larger, mainly migratory population in the east Mediterranean and Asia (Green and Anstey, 1992). The majority of the birds in this latter population breed outside the western Palaearctic in Kazakhstan and the Russian Federation and winter inside the western Palaearctic in Turkey. Western Asia probably holds the majority of the remaining world population of the White-headed Duck during the breeding season, including most of the birds wintering in Turkey and other parts of the eastern Mediterranean (Green and Hughes, 1996).

There are now at least two subpopulations; one being centred around the western Mediterranean and the other centred around the eastern Mediterranean and the coasts of the Black Sea and Caspian. The nature of movements within each of these regions is very poorly understood, with a total lack of ringing data, and it is possible that there are more than two subpopulations isolated from each other by a lack of interchange (Green and Hughes, 1996).

The population was probably over 100,000 in the early 20th century, falling to an estimated 19,000 birds in 1991. Since then, numbers have probably declined to less than 10,000 individuals (BirdLife International, 2004). 50,000 birds wintered in the Caspian Sea in the 1930s, but since the 1960s no more than 1,000 individuals have been reported (IUCN, 2004). In the East Mediterranean, Turkey and South-west Asia regions, the population was estimate at 5,000 to 10,000 and decreasing in 2002 (UNEP-WCMC, 2004). The west Mediterranean winter population can be estimated at 1,000 with a 1992 count of 836. The wintering population in countries bordering the eastern Mediterranean and Black Sea can be estimated at 13,000 with a 1991 count of 11,507. The wintering population in countries further east can

be conservatively estimated at 5,000, with a 1991 count of 3,904, 3,620 of these being found within the western Palaearctic (Azerbaijan) (Green and Hughes, 1996).

Mid-winter counts indicate that the population of this species has undergone a very rapid decline of c.60% in the last ten years. Given increases in the Spanish subpopulation, it is projected that the overall rate of decline will be lower in the next ten years (BirdLife International, 2004). However, increases at certain wintering sites and in the Spanish population do not compensate for the large declines at Burdur Gand (Turkey) and in other eastern populations (BirdLife International, 2004). Numbers appear to be roughly stable in most countries, but many key sites are not effectively protected, and the threats to them have the potential to cause rapid population declines in the near future (Green and Hughes, 1996).

The main threat to the survival of the species seems to be the fact that a related introduced species, *Oxyura jamaicensis*, originating in America and able to hybridize with *Oxyura leucocephala*, is making headway. Hybridisation with *O. jamaicensis* may become irreversible within the next few years (IUCN, 2004). Other major threats include habitat loss and degradation, water pollution and hunting (IUCN, 2004). The species is incredibly easy to shoot, making hunting a much more significant threat than for most water birds (Green and Hughes, 1996). The conservation of the White-headed Duck in Europe also requires the effective conservation of wetlands of importance for the species, together with the effective control of hunting on these wetlands (Green and Hughes, 1996).

In Europe, the white-headed duck is classified as an endangered species (Anon., 2002). In 1994, a workshop, organised by the Wildfowl and Wetlands Trust and IWRB, took place at Strasbourg (France) to discuss the action plan for the White-headed Duck in Europe. Information on the number of Ruddy Duck records comes largely from a database managed by the Wildfowl and Wetlands Trust, and from Martí (1993) (Green and Hughes, 1996). In 2002, a status overview of the Central Asian population (‘ Status overview and Recommendations for the White-headed Duck (*Oxyura leucocephala*) Central Asian population’), with recommendations, was conducted by Wetlands International – Asia Pacific, funded by CMS, and published in February 2003.

Afghanistan:

Status: This species was recorded at a few sites in Afghanistan in the 1960s-70s. At the Kole Hashmat Khan Lake, White-headed Ducks were recorded in small numbers on passage in the 1960s and 70s, and may have bred. At the Ab-I Istada Lake near the Pakistan border, the species was recorded in May 1977. The Hamun-I Puzak Lake, located in the border with Iran, seems to have been one of the most important sites for White-headed Ducks in Afghanistan. The species is known to have been sedentary and bred in the marshes in the early part of the last century. Population trends and conservation status are unclear. However, it is expected that the severe drought over the last years would have resulted in the desiccation of wetlands previously used by the species (Li & Mundkur, 2003).

CMS actions: Not a Party to CMS.

Other actions:

ALBANIA:

Status: This species became extinct as a breeding bird this century, although still dispersing on passage and in winter (IUCN, 2004).

CMS actions: None reported.

Other actions:

Algeria:

Status: Algeria has a resident population of White-headed Duck in the El Kala wetland complex in the northeast, which is also thought to have been the main area for the

species in the last century. However, the species probably also bred in Lac Fetzara (Annaba region) and Lac Holloula (Alger region) before these sites were transformed in the 1930s. The White-headed Duck is currently breeding in Lac Tonga, Lac des Oiseaux and Lac de Ben Azzouz, and c.37 nests were located in 1991. Breeding probably also occurs in Marais de la Mekhad. Non-breeders and wintering birds occur on Lac des Oiseaux and Lac Oubeira. There are at least 40 breeding females (Green and Hughes, 1996). Key sites are Lac des Oiseaux (unprotected), Lac Tonga (National Park and Ramsar site), Lac Oubeira (National Park and Ramsar site) and Lac Ben Azzouz (unprotected) (Green and Hughes, 1996).

CMS actions: Not a Party to CMS.

Other actions: No specific conservation programmes have been conducted for the species (Green and Hughes, 1996).

Armenia:

Status: Breeding was formerly recorded in the Lake Sevan area but there are no recent records. Former breeding populations have probably become extinct (Green and Hughes, 1996).

CMS actions: Not a Party to CMS.

Other actions:

Austria:

Status: Occurrence reported (Rokitansky, 1964).

CMS actions: None reported.

Other actions:

Azerbaijan:

Status: Became extinct as a breeding bird this century, although still dispersing on passage and in winter (IUCN, 1996). Breeding may have occurred in lakes of the southern Mugan and Kura valley until the early part of this century, but there is no evidence of breeding in recent years. In winter, Azerbaijan is of major importance for the species, at least in some years, and in 1991 over 3,100 birds were counted in Lake Aggel and 520 in Kizil Agach Bays (IWRB's International Waterfowl Census, IWC). Lake Aggel thus seems to be the second most important wintering site globally for the species, although there is no mention of the species from previous censuses at the site in the 1960s. There is however an unconfirmed record of 5,000 birds in Kizil Agach Bays in 1962. Key sites are Lake Aggel (State Reserve), Kizil Agach Bays (State Reserve and Ramsar site) and Lake Saraesy (unprotected). The species is listed in the Red Data Book of Azerbaijan published in 1990 (Green and Hughes, 1996).

CMS actions: Not a Party to CMS.

Other actions: No specific conservation programmes have been conducted for the species but the IWRB has conducted censuses (Green and Hughes, 1996).

Bahrain:

Status:

CMS actions: Not a Party to CMS.

Other actions:

BELGIUM (v)*:

Status: Occurrence reported (Herroelen, 1997). Reported as vagrant by BirdLife (2004).

CMS actions: None reported.

Other actions:

Bosnia and Herzegovina (v)*:

Status: Occurrence reported (Matvejev and Vasic, 1973). Reported as vagrant (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

BULGARIA:

Status: This species is predominantly migratory and wintering. The main wintering ground is found in the Burgas wetlands complex. Numbers have been established at between 175 and 2,260 (March 2000) and the population is increasing (Bulgaria National Report, 2002; BirdLife International, 2004). From the 1890s to the 1940s the White-headed Duck was recorded wintering or on passage in the west of Bulgaria (around Sofia) and along the Black Sea coast.

Important numbers continue to winter along the Black Sea coast with record counts of 214 at Lake Durankulak in January 1983 and 233 birds on 29–30 November 1993 (188 at Lake Mandra complex and 45 at Lake Burgas). The birds arrive in November and are sometimes recorded until the end of March. Key sites are Lake Mandra, especially the Uzungeren zone (unprotected), Poda (Protected Site), Lake Burgas (partly protected) and Lake Durankulak (Natural Monument and Ramsar site). It is listed as Rare in the National Red Data Book (Green and Hughes, 1996).

CMS actions: Feeding ecology and habitat requirements were studied in the context of a common project between Bulgaria, Greece, Turkey and Romanian in 2001-2002, organised by BSPB and the Bulgarian-Swiss Biodiversity Conservation Programme (Bulgaria National Report, 2002). Numbers are regularly monitored and the most important wintering site is partially protected. Disturbance by net fishing is studied and a National Species Action Plan (NSAP) was prepared in line with CBD and Council of Europe requirements (Bulgaria National Report, 2002).

Other actions: The species is included in a poster on globally threatened water birds produced by the Bulgarian Society for the Protection of Birds, but no other specific conservation programmes have yet been conducted for the species (Green and Hughes, 1996).

China*:

Status: Occurrence reported (Cherg Tso-hsin, 1994). Recent records from Xinjiang and Hubei (BirdLife International, 2001). With very few observations, the population size and trend of the White-headed Duck is unclear in China. However, the species may be decreasing in Xinjiang, as increased use of water for agriculture in the region and a cycle of extended drought have changed water conditions in many wetlands. Other important threats for the *Oxyura leucocephala* are fishing, hunting and over-grazing. The species is listed as Vulnerable in the Red Data Book of China (Li & Mundkur, 2003).

CMS actions: Not a Party to CMS.

Other actions: Several Nature Reserves have been established in the Xinjiang Autonomous Region; these are potential areas for the White-headed Duck (Li & Mundkur, 2003).

CROATIA (v)*:

Status: Occurrence reported (Kraij, 1997). Status unknown (BirdLife International, 2004).

CMS actions:
Other actions: None reported.

CYPRUS:
Status: Reported as vagrant (BirdLife International, 2004).

CMS actions: None reported.
Other actions:

CZECH REPUBLIC*:
Status: Occurrence reported (Kren, 2000).

CMS actions: None reported.
Other actions:

DENMARK (v?)*:
Status: Occurrence reported (Dybbro, 1978). Reported as vagrant (BirdLife International, 2004).
CMS actions:
Other actions: None reported.

EGYPT:
Status: Reported as non-breeding visitor to the country (BirdLife International, 2004).

CMS actions: None reported.
Other actions:

FRANCE:
Status: Became extinct as a breeding bird this century (in Corsica only) although still dispersing on passage and in winter. Small numbers of White-headed Ducks were recorded breeding on Lake Biguglia and other Corsican wetlands until the 1960s. Recent proposals for a reintroduction project in Corsica have been postponed. There are a total of 85 Ruddy Duck records, mainly during the winter, plus two breeding records from 1988 and 1993. Breeding probably now takes place annually in small numbers (Green and Hughes, 1996).

CMS actions: None reported.

Other actions: An informal working group made up of the Ministry of the Environment, the Office National de la Chasse (ONC) and various NGOs was established in December 1994 to address the Ruddy Duck problem. No control measures against Ruddy Ducks have yet been implemented. A ministerial decree needs to be issued before control measures are legal (Green and Hughes, 1996).

GEORGIA:
Status: Status unknown (BirdLife International, 2004).

CMS actions: None reported.
Other actions:

GREECE:
Status: Increases at wintering sites (BirdLife International, 2004). In the last century, the White-headed Duck was reported to be common in Epirus and resident in the Louros delta, Amvrakikos, although no nest has ever been found. Breeding may have occurred in Greece in the 1950s, but this is open to question. In recent years, a significant wintering population has developed in Macedonia and Thrace, with a peak mid-winter count of 423 in January 1990 (G. Handrinos and IWRB International Waterfowl Census). A record count of 850–900 was made at Lake Vistonis on 12 December 1994. All records since 1960 are for December to early April, although the birds probably start to arrive in November. Since 1982, there has been the trend for wintering numbers to increase, to spread to the west and to

become more concentrated in Lake Vistonis. It is not known whether these birds come from the north (through Bulgaria) or from Turkey, and the shooting of a female in December 1991 on Lesbos supports the latter possibility (Green and Hughes, 1996).

Key sites are Lake Vistonis (Ramsar site and SPA), Lake Ismaris/Mitrokou (Ramsar site and SPA) and Lake Kerkini (Ramsar site and SPA). Hunting is permanently banned at Kerkini, but is permitted at Vistonis and Ismaris. There are significant threats to the habitat at all three sites. The White-headed Duck is listed as Endangered in the national Red Data Book (Green and Hughes, 1996).

CMS actions: None reported.

Other actions: No specific conservation programmes have yet been conducted for the species but IWRB has conduceted censuses (Green and Hughes, 1996).

HUNGARY:

Status: An irregular vagrant to fishponds in spring and autumn, occasionally during winter. Records are slightly more numerous than in previous years, partly due to better coverage of areas by bird watchers (Hungary National Report, 2002). It became extinct as a breeding bird this century although still dispersing on passage and in winter. Breeding of the White-headed Duck was recorded in Hungary from 1853 onwards around the northern Danube and between the Danube and the Tisza. The last confirmed breeding was at Lake Kondor in 1961 although breeding may have occurred at Lake Nádas in 1971. The species is now considered extinct as a breeding bird in the country, although there are records for 1995 of vagrants. It is listed in the Hungarian Red Data Book (Green and Hughes, 1996).

CMS actions: Regular water bird censuses are carried out (Hungary National Report, 2002). Most of the potential habitats for the species lie in protected areas (Hungary National Report, 2002).

Other actions: The Hungarian Ornithological Society and the Wildfowl and Wetlands Trust conducted a reintroduction of the White-headed Duck in Hungary in 1988, but this failed to establish a population in the wild (Green and Hughes, 1996).

INDIA*:

Status: Occurrence reported (Ripley, 1982). The species is a rare, very local and declining winter visitor to northern India south to eastern Rajasthan and central Uttar Pradesh (BirdLife International, 2004). There are only two individual records from 1984 to 1997. Intensive hunting in Northern India during the early part of the last century has presumably contributed to the decline of the species wintering in this region. The White-headed Duck is included in the Red Data Book of India, and hunting of the species is forbidden (Li & Mundkur, 2003).

CMS actions: None reported. Given its extreme rare status, no active research has been conducted in this country (Li & Mundkur, 2003).

Other actions:

Iran:

Status: White-headed Ducks are mainly distributed in the following three areas in the last ten years: the wintering population in south-east Caspian Sea, based on Gorgan Bay and the Lakes on the Turkoman steppes (1483 birds in January 1995 and 584 in 2002); the small breeding population in eastern Azerbaijan (Zoulbin, Yanigh, Bozojigh and Ghorigol), and the wintering population in the wetlands of the southern Zagros (the latest count was four birds in January 2001) (Li & Mundkur, 2003).

The size and trends of the White-headed Duck population in Iran are unclear, due to inconsistent surveys and monitoring. Drought conditions in some years result

in fluctuations in the status and distribution of the wintering population. The peak counts of the species have been 1,485 in January 1995 and 591 in January 2002. The species is a threatened bird in Iran and the law prohibits its hunting (Li & Mundkur, 2003).

Reduced water levels during the breeding season may cause nests to be abandoned and may allow terrestrial predators access to eggs (Li & Mundkur, 2003).

CMS actions: Not a Party to CMS.

Other actions:

Iraq:

Status: Reported as a non-breeding visitor (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

ISRAEL:

Status: It became extinct as a breeding bird this century, although still dispersing on passage and in winter. Wintering individuals that are counted during the winter waterfowl census range between a few tens to about 300 individuals (Israel National Report, 2002). The peak winter count between 1984 and 1994 was 620 individuals (1988) (Green and Hughes, 1996).

In the last century the White-headed Duck was considered a common resident on Lakes Tiberias and Hula, but breeding has not been recorded for at least 50 years. A wintering population has remained, and the known wintering population increased markedly following the creation of a reservoir, Tishlovet Hakishon, in 1984. Numbers have increased steadily each winter, from 70 in 1986 to 514 in 1994. It is likely these increasing numbers reflect a relocation of birds from other wintering sites in the Middle East. The breeding grounds of these birds are unknown, but could be eastern Turkey (Green and Hughes, 1996).

Key sites are Tishlovet Hakishon, Ma'ale Kishon reservoir, Yesodot reservoir and Hula valley (including Hula Reserve), and data from IWRB International Waterfowl Census supplied on a regional level show there are important numbers wintering in the wetlands of the valley of Yesreel, northern Negev, Jordan valley, foothills of Judea and the Galilee coastal plain (Green and Hughes, 1996).

CMS actions: None reported but winter waterfowl censuses are mentioned in the Israel National Report (2002).

Other actions: No specific conservation programmes have yet been conducted for the species in Israel (Green and Hughes, 1996).

ITALY:

Status: It became extinct as a breeding bird this century in Italy (including Sardinia and probably Sicily), although still dispersing on passage and in winter. Breeding and wintering of White-headed Ducks was formerly recorded in Puglia, Sardinia and probably Sicily until 1977, but the species is now only a vagrant. It is listed as Endangered in the national Red Data Book (Green and Hughes, 1996).

CMS actions: None reported.

Other actions: There are currently two plans to develop reintroduction projects, coordinated separately by WWF Italy and Lega Italiana Protezione Uccelli (Green and Hughes, 1996).

JORDAN:

Status: This species is vagrant (Jordan National Report, 2002; BirdLife International, 2004).

CMS actions: None reported.

Other actions:

Kazakhstan:

Status: Kazakhstan is known to hold the largest population of breeding white-headed Duck in the world. Important habitats for the White-headed Duck are located in the northern Steppe region of the Republic. Conservative estimates for the minimum breeding population of Kazakhstan could be at least 300-500 pairs, although this figure is probably an underestimate of the true population (Li and Mundkur, 2003).

Generally there is no major threat from habitat destruction, pollution or hunting. Disturbance from fishing activities is common. Due to the use of fishing nets and related disturbance, it is possible that the young ducks are caught in nets. Pressure from fisheries across the country is increasing and is becoming a bigger threat than hunting. Climate change is thought to be causing more frequent droughts resulting in reduced water levels and the drying out of many lakes in Kazakhstan (Li and Mundkur, 2003).

The species is included in the Red Data Book of Kazakhstan as an Endangered species (Li and Mundkur, 2003).

CMS actions: Not a Party to CMS.

Other actions: Korgalzhyn Lakes and adjacent lakes, the most important area for the species in Kazakhstan, was declared a Zapovednik (strictly protected nature reserve) in 1968. This area was also declared a Ramsar site in the former Soviet Union, but the ratification of the convention by Kazakhstan is pending and the status of these sites has not been resolved (Li and Mundkur, 2003).

Kuwait:

Status:

CMS actions: Not a Party to CMS.

Other actions:

Kyrgyzstan:

Status: The White-headed Duck is a very rare species in the Kyrgyz Republic. No reliable data is available. Reports about visits to several lakes of the country from different time in the last few years do not mention this duck. The species is included in the National Red Data Book (Li and Mundkur, 2003).

CMS actions: Not a Party to CMS.

Other actions: There have been no special measures taken, and there has been no research conducted on this duck and no ringed or colour banded individuals have been reported (Li and Mundkur, 2003).

Lebanon:

Status:

CMS actions: Not a Party to CMS.

Other actions:

LIBYAN ARAB JAMAHIRIYA (v)*:

Status: Occurrence reported (Bundy, 1976). Considered a vagrant species in this country (BirdLife International, 2004).

CMS actions: None reported.

Other actions:

F.Y.R. MACEDONIA:

Status: Status unknown (BirdLife International, 2004).
CMS actions: None reported.
Other actions:

MALTA (v)*:

Status: Reported as vagrant (BirdLife International, 2004).
CMS actions: None reported.
Other actions:

REPUBLIC OF MOLDOVA:

Status:
CMS actions: None reported.
Other actions:

MONGOLIA:

Status: A large population breeds in Mongolia (BirdLife International, 2004). The species breeds in small numbers at wetlands in the Great Lakes basin of western Mongolia, with several hundred individuals, at least seasonally. The species is restricted to the northwest, where mostly small numbers have been recorded at a total of 4-5 water bodies, with higher counts of 40 in 1985 at Uvs Nuur, and up to 238 in September 1998 at Khar Us Nuur National Park, where breeding has been recently confirmed (BirdLife International, 2001). There is a report of 'a large colony' in June 2000 at Uvs lake, Uvs province. In recent years, the breeding range of White-headed Duck appear to have extended about 700 Km to the east, to Olon Lake in the Bulgan Province. According to the recent counts, the breeding population of the White-headed Duck in Mongolia could be around 250 pairs (Li and Mundkur, 2003). The species is listed as a rare species in the previous law on Hunting (1995), the new Law on Fauna (2000) and the Mongolian Red Book (1997).

Specific threats include: construction of a new dam which will probably destroy breeding sites at Dalai lake and Khar Lake due to predicted decrease in water levels, increased salinity and decline in aquatic vegetation; livestock grazing on reed beds during winter; reed-cutting by local people; agricultural irrigation activities; hunting and steppe fires (Li and Mundkur, 2003).

CMS actions: None reported.

Other actions: The Uvs Lake Basin was declared a Strictly Protected Area in 1993 and Khar Us Lake and Khyargas Lake were declared as National Parks in 1997 and 2000, respectively. Khar Us Lake was listed as a Ramsar site in 1999 (Li and Mundkur, 2003).

MOROCCO:

Status: It became extinct as a breeding bird this century although still dispersing on passage and in winter. In the Western Mediterrannean (Spain and Morocco), the population was estimated at 2,500 individuals and increasing in 2002 (UNEP-WCMC, 2004). The White-headed Duck bred in northern Morocco at the turn of the century and was regarded as "common". Only vagrant birds have been recorded since the 1950s. There is no evidence that birds from the currently expanding Spanish population have dispersed to Morocco (Green and Hughes, 1996).

CMS actions: None reported.
Other actions:

NETHERLANDS (v)*:

Status: Occurrence reported (van den Berg, 1994).

CMS actions: None reported.

Other actions:

PAKISTAN:

Status: In Pakistan, the White-headed Duck has been historically recorded in districts of western Pakistan, Punjab, Baluchistan, Bahawalpur and Sind. In January 1983 and 1987, there were still 734 and 733 birds counted respectively in Pakistan, but from 1992-1994, only about 150 individuals recorded. The number of birds rapidly declined after 1995. From 1995 to 1998, only about 50 birds were recorded every year, and in 2001, only ten birds were recorded. In the latest count carried out, a total of 34 birds had been recorded on 29 November 2002 at the Ucchali and Jahlar lakes. The main reason for the 2000-2002 decline is considered to be the shortage of rainfall in the area as it has declined in Pakistan over the last five years and the Ucchali wetlands are natural closed basins fed only by rainfall (Li and Mundkur, 2003).

Threats to the wintering population of White-headed Duck are mainly related to habitat loss and modification, competition with fisheries, and to a lesser extent, hunting and disturbance (Li and Mundkur, 2003).

CMS actions: None reported.

Other actions: The species is legally protected. WWF and Punjab Wildlife and Parks Department formulated a management Plan in 1994. The Department in 1999 revised the Plan subsequently. An awareness campaign has been conducted in the area by the Punjab Wildlife and Parks Department since the late 1980s, and the species has been proposed for inclusion in the list of threatened bird species (Red Data Book) currently being compiled by WWF-Pakistan (Li and Mundkur, 2003).

POLAND (v)*:

Status: Occurrence reported (Tomialojc, 1990).

CMS actions: None reported.

Other actions:

PORTUGAL:

Status:

CMS actions: None reported.

Other actions:

Qatar:

Status:

CMS actions: Not a Party to CMS.

Other actions:

ROMANIA:

Status: Increases at wintering sites (BirdLife International, 2004). The peak winter count between 1984 and 1994 was 18 individuals (1990) although this is mainly important as a staging area. There are occasional records of breeding females (Green and Hughes, 1996). The White-headed Duck formerly bred in the lakes of Transylvania, with the last record of breeding from Sculia in 1908. Breeding was recorded in the Danube Delta, Dobrodja, in May 1986, when eight adults and three young were seen on channels between Crisan and Maliuc. It is possible that breeding occurs regularly, although the last previous breeding record in the Danube delta was from Lake Agigea in 1957 (Green and Hughes, 1996).

Lake Techirghiol and the Danube delta have been used as wintering sites since at least the 1960s with up to 37 birds in midwinter (1969), Lake Techirghiol being the major site. These sites are also important for passage, with autumn passage beginning about 10 October and probably ending about the end of November, and spring passage occurring in March. The highest numbers recorded are 218 on Lake Techirghiol in November 1982, with 75 seen on 25 November 1993. Key sites are the Danube delta (Ramsar site, Biosphere Reserve, World

Heritage site) and Lake Techirghiol (unprotected) (Green and Hughes, 1996).

CMS actions: None reported.

Other actions: No specific conservation programmes have yet been conducted for the species but winter counts occur (Green and Hughes, 1996).

Russian Federation:

Status: A large population breeds primarily here (BirdLife International, 2004). There are at least 50 breeding females. Formerly a common breeder in the Sarpa lowlands between Volgograd and the Caspian and in the Volga/Ural steppes. The species has also been recorded historically in the northern Caucasus and along the western coast of the Caspian. In 1992, breeding occurred in one to three sites alongside the Volga and Uzen rivers in the Volga delta area, when 40–70 adults and three broods were recorded. The Manych–Gudilo reservoirs are major spring and autumn migration sites for the species, probably for birds wintering in Turkey. In October 1980, 1,200 birds were counted at these lakes (Green and Hughes, 1996). Sergey Burkreev (pers.comm. October 2002) suggests the current estimate can be a minimum of up to 300-500 pairs (Li and Mundkur, 2003).

Key sites identified so far are Manych–Gudilo reservoirs and the Volga delta. Specific sites within these large wetland complexes and their precise legal status have yet to be identified (Green & Hughes, 1996).

The population is declining perhaps due to habitat loss caused by river flow control and the natural cyclical decrease of steppe wetlands. The other limiting factor is that only a few birds participate in the breeding while most adult individuals remain non-breeding (Li & Mundkur, 2003). It is listed as Category IV: Rare in the Russian Federation Red Data Book (Green and Hughes, 1996).

CMS actions: Not a Party to CMS.

Other actions: Some of the most important sites for White-headed Duck are protected, mainly as non-hunting areas or "Zakazniks" (corresponding to IUCN Category IV for protected areas). The species occurs in a total of nine Protected Areas in the Asian part of Russia and five in the European part. Regular monitoring of summer numbers and distribution of White-headed Duck in the Chelyabinsk region and European part of Volvograd and Daghestan regions are being conducted (Li & Mundkur, 2003).

SAUDI ARABIA:

Status:

CMS actions: None reported.

Other actions:

Serbia and Montenegro (ex)*:

Status: Occurrence reported (Matvejev and Vasic, 1973) but it became extinct as a breeding bird this century although still dispersing on passage and in winter (IUCN, 1996).

CMS actions: Not a Party to CMS.

Other actions:

SLOVAKIA (v)*:

Status: Occurrence reported (Trnka *et al*., 1995).

CMS actions: None reported.

Other actions:

SLOVENIA (v)*:

Status: Occurrence reported (Matvejev and Vasic, 1973).

CMS actions: None reported.

Other actions:

SPAIN:

Status: *Oxyura leucocephala* is resident in Spain (BirdLife International, 2004) and there has been an increase in population (22 birds in 1977 to 2,396 birds in 2000) (BirdLife International, 2004). The Spanish population was estimated in 2,600 birds in 2002 (Torres-Esquivias, 2003).

Spain holds a secure, resident population of White-headed Ducks, which has recovered from a low point of only 22 birds recorded in 1977 to 2,600 birds in January 2002 (Torres-Esquivias, 2003). The majority of the population has always been found in Andalucía. However, the increase in numbers has been accompanied by an expansion in distribution both within and beyond the former strongholds of lagoons in the Córdoba, Cadiz, Sevilla and Huelva provinces of Andalucía, and nowadays the species can also be found in the provinces of Almería, Ciudad Real, Toledo, Madrid, Alicante and Mallorca (Green and Hughes, 1996).

Since 1984, breeding has been recorded in Málaga and for the first time in Almería and Jaén provinces. Breeding has also been recorded outside Andalucía in Alicante province (Valencia) and Toledo and Ciudad Real provinces (Castilla-La Mancha). Since 1992, the majority of breeding birds have been in Almería, mainly due to the severe drought, which has affected most of the traditional breeding sites in western Andalucía. Since 1984, birds have also been recorded in Cuenca (Castilla-La Mancha), Madrid and Santander (Cantabria) (Green and Hughes, 1996). The main threat for the white-headed duck in Spain is hybridisation with *Oxyura jamaicensis* (Torres-Esquivias, 2003).

Catalogued as Endangered in the Spanish Red Data Book (SEO/BirdLife, 2005).

CMS actions: *Oxyura leucocephala* is the subject of a LIFE project aimed at drawing up a conservation plan in the Spanish region of Valencia (Anon., 2002).

Other actions: Concern over marked declines of the species led to the production of a national conservation plan in the late 1980s. A highly effective conservation programme initiated in Andalucía in 1979 has led to the dramatic population recovery. This programme involved the protection of all the major Andalusian sites for White-headed Ducks. In the early 1980s, ICONA (now DGN) initiated a working management plan. Since 1992, DGN has led a series of technical coordination seminars in which all Communities where White-headed Ducks are recorded have participated. No Communities have satisfied their legal requirement by developing their own Recovery Plans (Green and Hughes, 1996).

Effective protection from illegal hunting in Andalucía has undoubtedly played the most important role in the population recovery. Other habitat protection measures taken include the removal of introduced fish (from Laguna del Rincón and Laguna de Zoñar, Córdoba), the control of pollution and sedimentation, and the regeneration of the natural surrounding vegetation. The species has recently become established in Valencia and Castilla-La Mancha. The principal site in Valencia, El Hondo, was declared a Paraje Natural in 1988 (Green and Hughes, 1996).

Of five sites important for the species in Castilla-La Mancha, only one is protected, as a hunting refuge. However, over 75% of the Spanish population occurs in protected areas at any one time. Since 1982 there has been a captive breeding programme for the White-headed Duck run by DGN, with 79 birds being released into the wild by the end of 1990 and at least 85 additional birds released since then. In 1993, an additional 36 birds were released in Mallorca with eight birds still

present in the area after nine months (Green and Hughes, 1996).
There is an ongoing eradication program for the ruddy duck and hybrids of both species (Torres-Esquivias, 2003).

SWITZERLAND (v)*:

Status: Occurrence reported (Winkler, 1999).

CMS actions: None reported.

Other actions:

SYRIAN ARAB REPUBLIC:

Status: The peak winter count between 1984 and 1994 was 35 individuals (1994). There is one June record of White-headed Duck from 1994. There appears to be a regular wintering population, and at Lake Quattine 30 were recorded in 1993 and 35 in 1994 (IWRB International Waterfowl Census). Lake Quattine (unprotected) is the only key site identified so far (Green and Hughes, 1996).

CMS actions: None reported.

Other actions: No specific conservation programmes have yet been conducted for the species but winter counts are conducted (Green and Hughes, 1996).

TAJIKISTAN:

Status: Over the last 30 years there has not been a single record about this species in Tajikistan. However, some authors consider that the White-headed Duck is a very rare species in Tajikistan and may occur in small numbers on freshwater and brackish lakes with reed brakes and open stretches. Most former habitats have been developed for agriculture and therefore have become unsuitable for the species (Li and Mundkur, 2003).

CMS actions: None reported.

Other actions:

TUNISIA:

Status: It is a vulnerable winter visitor, 620 individuals reported (Tunisia National Report, 2002). The peak winter count between 1984 and 1994 was 182 individuals (1989). There are occasional records of breeding females. The species winters regularly in northern Tunisia, but breeding has only been occasionally recorded, suggesting exchange of birds with Algeria (Green and Hughes, 1996).

Winter numbers have declined after over 500 birds were recorded in the IWRB censuses in each of 1968, 1969, 1971 and 1973 and a flock of 1,550 was recorded at Lac de Tunis in February 1969. Following major floods in 1969, the winter distribution expanded to southern Tunisia as more wetlands became available, but from the late 1970s the range has been restricted to the northeast. Breeding is irregular and in small numbers and since 1980 has been recorded at Barrage El Houareb, Barrage Sidi Abdelmoneim, Barrage Besbessia and Menzel Bourguiba lagoon (Green and Hughes, 1996).

Key sites are Lake Ichkeul (National Park, World Heritage Site, Biosphere Reserve, Ramsar site), Barrage el Haouareb (Hunting Reserve), Lake Tunis (National Reserve), Gdir El Ghoul 1 (unprotected), Gdir El Ghoul 2 (unprotected), Barrage Lebna (unprotected), Barrage Sidi Abdelmoniem (unprotected), Sebkha Kelbia (Natural Reserve), Barrage Besbessia (unprotected), Salines de Soliman (unprotected), Oued El Kebir (unprotected), Barrage Mornaguia (unprotected), Barrage Mlaabi (unprotected), Menzel Bourguiba lagoon (unprotected) and Lake Hammam Jedidi (unprotected) (Green and Hughes, 1996).

CMS actions: A study of the ecology of the species, an inventory and an Action Plan for its conservation are being conducted (Tunisia National Report, 2002).

Other actions: The distribution of educational booklets summarising the previous action plan (Anstey 1989) in French in 1990 is reported to have brought clear benefits in educating Eaux et Forêts guards responsible for controlling hunting on reservoirs occupied by the species. No other specific conservation programmes have yet been conducted for the species in Tunisia (Green and Hughes, 1996).

Turkey:

Status: A larger population breeds here. At the former key wintering site, Burdur Gölü, numbers declined from 10,927 birds in 1991 to 1,273 in 1996 (BirdLife International, 2004). The peak winter count between 1984 and 1994 was 10,927 individuals (1991). There are 200-300 breeding females. Turkey has the largest wintering population of the White-headed Duck of any range-state, and also holds a major breeding population. The southern coastlands and central plateau have major breeding and wintering sites, eastern Turkey has breeding and passage sites, and the Black Sea coastlands hold major passage sites. Wintering is also recorded in the Black Sea coastlands and western Anatolia. The peak wintering population is at least 11,000 birds, while Green *et al.* (1989) estimated a total of 150–200 breeding pairs. The number of Turkish breeding pairs is likely to be higher than this figure, as in 1991 the breeding population was c.150 pairs in the central plateau alone.

The most important site in Turkey is Burdur Gölü that often holds over 50% of the known world population during winter. In February 1991 there was a record count of 10,927 birds on the lake, but numbers fluctuate markedly and only 3,010 were recorded in February 1993. About 500 birds were recorded on 27 July 1994, and the lake is probably vitally important all year round. Other recent counts include 1,246 at Cernek Gölü in the Kizilirmak delta in March 1992, which is an extremely important passage site (Green and Hughes, 1996).

Key sites are Çukurova delta (particularly Akyatan Gölü and Akyayan Gölü, Hunting Reserve and unprotected respectively), Arin Gölü (unprotected), Burdur Gölü (Ramsar site and Hunting Reserve), Hotamis marshes (Natural Heritage Site), Eregli marshes (Natural Heritage Site), Kizilirmak delta (particularly Cernek Gölü, Hunting Reserve), Kulu Gölü (Natural Heritage Site), Marmara Gölü (unprotected), Salda Gölü (Natural Heritage Site), Sultan marshes (Strict Nature Reserve, Natural Heritage Site and Ramsar site), Van Gölü (unprotected), Van marshes (unprotected), Horkum Gölü (unprotected), Edremit marshes (unprotected), Bendimahi marshes (unprotected), Uyuz Gölü (unprotected), Yarisli Gölü (unprotected), Kozanli Saz Gölü (unprotected), Hirfanli reservoir (unprotected) and Akkayi Baraji (unprotected). Many important sites for the species have been destroyed and most other sites have been degraded. Several former key sites listed by Anstey (1989) seem to have lost their importance for the species due to habitat degradation (Karamik Gölü, Corak Gölü, Eber Gölü, Cavuscu Gölü) (Green and Hughes, 1996).

The *Draft Red List of Threatened Animals of Turkey* published by the Ministry of Environment in 1990 gives the status of the White-headed Duck as Vulnerable to Endangered (Green and Hughes, 1996).

CMS actions: Not a Party to CMS.

Other actions: There has been considerable attention paid to the species in Turkey since 1989, which has led to conservation measures being taken at Burdur Gölü. Considerable conservation work on the species has already been done by DHKD, the Wildfowl and Wetlands Trust and the Burdur Municipality, using the species as a successful flagship for wetland conservation. Distribution of educational booklets summarising the previous international action plan for White-headed Duck in Turkish led to the imposition of temporary hunting bans at Burdur Gölü and Yarisli Gölü from December 1990 onwards (Green and Hughes, 1996).

An international symposium on Burdur Gölü and the White-headed Duck was

organised in December 1991, and DHKD produced an attractive poster in Turkish and English in 1993. The steps necessary to prepare a management plan have been identified, and a detailed ecological study of White-headed Ducks was completed at the lake in 1993. In 1993, the lake was declared a Game and Waterbird Conservation Area and Ramsar site principally to protect the species. The White-headed Duck is now being used as a flagship in the current campaign against development proposals at the lake, and has become a symbol for nature conservation in Turkey (Green and Hughes, 1996).

Turkmenistan:

Status: The White-headed Duck is a common wintering species and passage migrant in Turkmenistan. Historically, birds normally winter and migrate through the south-eastern part of the country, along the coast of the Caspian Sea and nearby inland lakes. From 1986 onwards, most birds have been found at Krasnovodsky and Severo-chelensky Bays. A total of 820 White-headed Ducks were counted in January 1998 along the southeastern coast Caspian between Carabogasgol and Gasankuly, where 723 birds were also counted in November 2001, but no conclusion can be drawn on the trend or status of breeding populations at this time due to inadequate information. It is listed as an uncommon species in the second Edition of the National Red Data Book (1999) (Li & Mundkur, 2003).

CMS actions: None reported.

Other actions:

UKRAINE:

Status: Former breeding populations have probably become extinct. Both breeding and wintering were historically recorded in the Azov Sea area and passage was recorded in the Crimean region. In the past 100 years there have been only 19 records of the species from the Ukraine, mainly of single birds, but it seems extremely likely that important numbers of birds seen on passage in Romania and wintering in Bulgaria and Greece pass through the Ukraine along the Black Sea coast (Green and Hughes, 1996). The White-headed Duck is included in the National Red Data Book of this country (Shcherbak, 1994).

CMS actions: None reported.

Other actions: No specific conservation programmes have yet been conducted for the species (Green and Hughes, 1996).

UZBEKISTAN:

Status: In the past, the White-headed Duck was recorded as a breeding and passage migrant through Uzbekistan. Notable breeding and migrating populations have been discovered on Akhuspa Lake, that forms part of the Sudochye wetlands; A concentration of more than 3,000 individuals was found during southward migration in 1999. In mid April 2000, there were 1,166 birds at the lake and in July 2000, there were more than 2,835 birds with 35 broods. However by autumn 2000, the effects of the drought (which began in the wetlands of Amu Darya Delta in 2000) started to affect White-headed Duck numbers. During autumn 2000, the number of White-headed Ducks was less than half of that in the previous year. The species is included in the National Red Data Book (2003) as an Endangered species (Li and Mundkur, 2003).

Main threats are: changes in hydrological regime (the key sites for the species in Uzbekistan have no stable hydrological regime), over-abstraction of water, climatic effects and burning of reed beds (Li and Mundkur, 2003).

CMS actions: None reported.

Other actions: The species is protected. The process of producing regional and national action

plans on the threatened species is now ongoing, and it is proposed that based on a regional action plan, a national action plan will be produced. Between autumn 1999 and summer 2001, comprehensive data on the ecology and numbers of the species at the Sudochye wetlands was collected by staff of the Institute of Zoology of Uzbek Academic of Sciences (Li & Mundkur, 2003).

REFERENCES:

Anon. (2002). CMS Information System – *Oxyura leucocephala.* Information from 2002 National Report, European Community.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

Bulgaria National Report (2002). National Report to CMS.

Bundy, G. (1976). *The birds of Libya*. British Ornithologists' Union, London.

Cherg Tso-hsin (ed.) (1994). *A complete checklist of the species and subspecies of chinese birds.*

Dybbro, T. (1978). *Oversigt over Danmarks fugle*. Dansk Ornithologisk Forening, Denmark.

Green, A. J. and Anstey, S. (1992). The status of the White-headed Duck *Oxyura leucocephala*. *Bird Conserv. Internatn.*, 2: 185–200.

Green, A. and Hughes, J. (comps.) (1996). *Action Plan for the White-headed Duck (Oxyura leucocephala) in Europe*. Prepared by BirdLife International on behalf of the European Commission. http://europa.eu.int/comm/environment/nature/directive/birdactionplan/oxyuraleucocephala.htm

Green, I. A., Moorhouse, C. N. and West, S. (1989). *White-headed Duck in Turkey: a study of their breeding status and distribution* (unpublished report).

Herroelen, P. (1997). *Liste des oiseaux de Belgique* (espèces, sous-espèces, statut et nombre de couples nicheurs) 1901-1995. 2me edition.

Hungary National Report (2002). National Report to CMS.

Israel National Report (2002). National Report to CMS.

IUCN (2004). 2004 IUCN Red List of Threatened Species. www.redlist.org Downloaded on 24/09/2004.

Jordan National Report (2002). National Report to CMS.

Kraij, J. (1997). [Croatian ornithofauna in the last 200 years.]. *Croatian Larus*, 46: 1-112.

Kren, J. (2000). *Birds of the Czech Republic*. Christopher Helm, London.

Li Z.W.D. and Mundkur, T. (2003) *Status Overview and Recommendations for Conservation of the White-headed Duck Oxyura leucocephala in Central Asia*. Wetlands International Global Series 15, Kuala Lumpur, Malaysia. http://www.wetlands.org/pubs&/WHD_gs15_index.htm Downloaded on 26/10/2004.

Matvejev, S. D. and Vasic, V. F. (1973). *Catalogus Faunae Jugoslaviae*, IV/3, Aves, Yugoslavia.

Poslavski, A. (1992). The status of the Marbled Teal and White-headed Duck in Turkmenistan and Uzbekistan. *IWRB Threatened Waterfowl Res. Group Newsl.*, 2: 8–10.

Ripley, S. D. (1982). *A synopsis of the birds of India and Pakistan*. 2nd edition. Bombay Natural History Society, Bombay.

Rokitansky, G. (1964). *Catalogus Faunae Austriae*. XXIb Aves.

Shcherbak, M.M. (1994) *Chervona knuga Ukrainu: tavarinniy svit (Red Data Book of Ukraine: Animal Kingdom)*. Ukraine Entsiklopediya, Kiev, Ukraine.

SEO/BirdLife (2005) *Libro Rojo de las Aves de España*. Anexo I: Lista de taxones evaluados, categorias y criterios. http://www.seo.org/2005/librorojo/450.asp Downloaded on 21/02/2005.

Tomialojc, L. (1990). *Ptaki Polski rozmieszczenie i liczebnosc*. Pantstwowe Wydawnictwo Naukowe, Warszawa.

Torres-Esquivias, J.A. (2003) La recuperación de la malvasía cabeciblanca en España. *Quercus* 207, pp. 10-17.

Trnka, A., Kristin, A., Danko, S., Harvancik, S., Kocian, L., Karaska, D. and Murin, B. (1995). [Checklist of the birds of Slovakia.]. *Tichodroma*, 8: 7-21.

Tunisia National Report (2002). National Report to CMS.

UNEP-WCMC (2004). UNEP-WCMC Species Database. www.unep-wcmc.org Downloaded on 2/03/2004.

van den Berg, A. B. (1994). Liste van Nederlandse Vogelsoorten 1994.

Winkler, R. (1999). Avifauna der Schweiz zweite, neu bearbeitete. Auflage. *Orn. Beob.*, Beiheft Number 10.

* Range State not yet included in the CMS range list for this species.

Phoenicopterus andinus **- synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
ARGENTINA	●	→	✓	✓
BOLIVIA	●	↓	✓	✓
Brazil		?		
CHILE		→	✓	
PERU	●	?	✓	

REVIEW OF CONCERTED ACTION SPECIES

AVES: PHOENICOPTERIDAE

SPECIES: *Phoenicopterus andinus* (Philippi, 1854)

SYNONYMS: *Phoenicoparrus andinus*

COMMON NAME: Andean Flamingo (English); Flamant des Andes (French); Flamenco andino; Parina grande (Spanish);

RANGE STATES: ARGENTINA; BOLIVIA; Brazil; CHILE; PERU

RED LIST: VU A2bcd; A3bcd (BirdLife International, 2004)

CONSERVATION STATUS AND ACTIONS:

Phoenicopterus andinus occurs on high mountain lakes in the Puna zone of southwest Peru, northern Chile, south-west Bolivia and north-west Argentina, at altitudes which are mainly between 2,300m and 4,000m, breeding having been recorded at only about ten localities in Argentina, Bolivia and Chile (IUCN, 1996). Population assessments are difficult and vary greatly, but 50,000-100,000 individuals may have been realistic until the mid-1980s. Breeding success appears to be consistently low and thus declines may continue for many years, because flamingos have a high longevity (20-50 years) (BirdLife International, 2004).

Currently, the global population, which is declining, is estimated at 33,927 individuals, with a range of 192,000km^2 (BirdLife International, 2004). This species has declined at a rate equivalent to at least 30% in three generations since the mid-1980s. This is attributed to ongoing exploitation and declines in habitat quality (BirdLife International, 2004).

The collection of eggs to sell as food was intensive in the mid 20th century and the early 1980s, with thousands taken annually. Mining activities, unfavourable water levels (owing to weather and manipulation), erosion of nest sites and human disturbance may also affect productivity. Outside protected areas in Bolivia, there is a low level of hunting for food, oils and feathers, especially targeting inmatures and juveniles (BirdLife International, 2004).

ARGENTINA:

Status: Occurrence reported in the northwest. Laguna Vilama hosts one of the few breeding sites for this species (IUCN, 1996). There is a resident population of c.100 at Laguna Mar Chiquita, and breeding has just been recorded for the first time in Laguna Brava (Ramsar site No. 1238,La Rioja), but may only occur during strong El Niño years (BirdLife International, 2004). There is a protected non-breeding site at Laguna de los Pozuelos Natural Monument (BirdLife International, 2004). Catalogued as Vulnerable in the Red Book of Threatened Argentinean Mammals and Birds (García Fernandez *et al*., 1997)

CMS actions: There is one ongoing project financed by the CMS to conduct simultaneous censuses in Chile, Bolivia and Argentina (Chile National Report, 2002).

Other actions: Periodical censuses are being carried out in Laguna Brava by the Universidad Nacional de Salta, with support form Ramsar Convention, Humedales para el futuro, US Fish and Wildlife Service, Delegación Técnica Noroeste de la Administración de Parques Nacionales and World Wild Life Conservation Society (Ministerio de Salud y Ambiente, 2004).

BOLIVIA:

Status: Occurrence reported in the southwest. Laguna Colorada hosts one of the few breeding sites for this species with 1,000 breeding pairs in 1992-3, although human predation of eggs caused 100% failure (IUCN, 1996). In the Eduardo Alvaroa reserve, 17,809 individuals were counted in summer 2002 (Molina *et al*., 2002), and 9,829 individuals were seen during summer 2001 in Poopó and Uru Uru lakes. Its meat and eggs are traded for food and commercial purposes; it has been documented that juveniles are hunted in the country for extraction of oils and use of feathers (Ergueta and de Morales, 1996). The species is catalogued as Vulnerable in the Bolivian Red Data Book (Ergueta and de Morales, 1996).

CMS actions: There is one ongoing project financed by the CMS to conduct simultaneous censuses in Chile, Bolivia and Argentina (Chile National Report, 2002).

Other actions: A Global Environmental Facility project for conservation and sustainable use of Andean wetlands in Argentina, Bolivia and Chile is beins prepared (GCFA, 2004).

Brazil:

Status: Occurrence reported (Bege and Pauli, 1990; Sick, 1993). Wintering reported in Brazil, but considered as vagrant (BirdLife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

CHILE:

Status: The species occurs in saltlakes in highlands in the regions Primera (Tarapacá), Segunda (Antofagasta) and Tercera (Atacama). Populations have remained stable during 1997, 1998 and 1999, totalling (January censuses) 17,397, 16,953 and 16,351 specimens respectively. The majority of places where the species occurs belong to the Sistema Nacional de Areas Silvestres Protegidas del Estado (SNASPE) [National System of Wild Protected Areas] National Parks Lauca, Volcán Isluga, Llullaillaco and Nevado de Tres Cruces, National Reserves Las Vicuñas and Los Flamencos and Natural Monument Salar de Surire (Chile National Report, 2002). The summer 2002 census reported 15,429 flamingos in the north of Chile (Molina *et al*., 2002)

There are five breeding sites in Chile, of which Salar de Atacama is the bird's main and perhaps only regular breeding location in the world (IUCN, 1996).

CMS actions: There are several projects already finished and ongoing in relation to feeding, behaviour and ecology. Since 1986, censuses have been conducted in several Andean wetlands and it is planned to maintain the censuses twice every year. There is one ongoing project financed by the CMS to conduct simultaneous censuses in Chile, Bolivia and Argentina (Chile National Report, 2002).

Other actions:

PERU:

Status: Occurs on high mountain lakes in the puna zone in the southwest, in Colca-Salinas and Aguada Blanca-Titicaca National Reserve (IUCN, 1996). Reported as breeding/resident by BirdLife International (2004). Monitoring carried out by Perú Verde Association has demonstrated that Laguna Loriscota, Laguna Salinas, Lago Titicaca, Rio Callacame and other sites in southern Perú receive between 2,000 and 3,000 individuals during the months

before the reproductive season (Peru National Report, 2002). The species is catalogued as Rare in the Peruvian Red Data Book (Pulido, 1991).

CMS actions: CGFA is developing workshops for local people in the areas near by flamingo's habitats, censuses are being conducted and a National Action Plan has been developed (Peru National Report, 2002).

Other actions:

REFERENCES:

Bege, L. A. R. and Pauli, B. T. (1990). Two new birds to the Brazilian avifauna. *Bulletin of the British Ornithologists' Club*, 110: 93-94.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

Chile National Report (2002). National Report to CMS.

Ergueta, P. and de Morales, C. (1996) *Libro Rojo de Los Vertebrados de Bolivia*. Centro de Datos para la Conservacion, La Paz, Bolivia.

García Fernandez, J.J., Ojeda, R.A., Fraga, R.M., Díaz, G.B. and Baigún, R.J. (1997) *Libro Rojo de Mamíferos y Aves Amenazadas de Argentina (Red Book of Threatened Argentinean Mammals and Birds)*. FUCEMA and Administracion de Parques Nacionales, Buenos Aires, Argentina.

GCFA (2004) Grupo de Conservación Flamencos Altoandinos web page. http://www.flamencosandinos.org Downloaded on 27/10/2004.

IUCN (1996). Red List 1996 Information on *Phoenicoparrus andinus.* UNEP-WCMC Species Database. www.unep-wcmc.org Downloaded on 03/03/2004.

Ministerio de Salud y Ambiente (2004) Secretaría de Ambiente y Desarrollo Sustentable, República Argentina. http://www.medioambiente.gov.ar/biodiversidad/ramsar/laguna_brava.htm Downloaded on 27/10/2004.

Molina, B.C. Rodriguez, E. Amado Pool, N. & Blanco, T. (2002) *Sexto Censo simultáneo de Flamencos Alto Andinos en el Norte de Chile y Rserva Nacional de Fauna Andina Eduardo Avaroa de Bolivia, Verano del 2002*. Grupo de Conservación Flamencos AltoAndinos. http://www.flamencosandinos.org/vicenso.asp Downloaded on 27/10/2004.

Peru National Report (2002). National report to CMS.

Pulido Capurro, V. (1991) *El Libro Rojo de la Fauna Silvestre del Peru*. Maijosa, Lima, Peru.

Sick, H. (1993). *Birds in Brazil*. Princeton University Press, Princeton, USA.

* Range State not yet included in the CMS range list for this species.

***Phoenicopterus jamesi* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
ARGENTINA	●	→	✓	
BOLIVIA	●	→	✓	✓
Brazil		?		
CHILE		↑	✓	
PERU	●	?	✓	✓

REVIEW OF CONCERTED ACTION SPECIES

AVES: PHOENICOPTERIDAE

SPECIES: *Phoenicopterus jamesi* (Sclater, 1886)

SYNONYMS: *Phoenicoparrus jamesi*

COMMON NAME: James' *Flamingo*; James's Flamingo; Puna Flamingo (English); Flamant de James (French); Flamenco andino chico; Flamenco de James; Parina chica (Spanish)

RANGE STATES: ARGENTINA; BOLIVIA; Brazil; CHILE; PERU

RED LIST: NT A2c, d (BirdLife International, 2004)

CONSERVATION STATUS AND ACTIONS:

Phoenicopterus jamesi occurs at a large number of scattered brackish and salty lakes in the high mountains of South-western Peru, northern Chile, South-western Bolivia and North-western Argentina, at altitudes mainly between 2,300m and 4,500m (IUCN, 1996).

Population trend is stable (IUCN, 2004). The population probably declined rapidly during the 20th century, but has started to increase, presumably owing to the success of conservation programmes, and was estimated at 64,000 birds in 2002 (Wetlands International, 2002). Breeding success varies greatly from year to year, with threats mostly impacting on productivity, but the 1999-2000 season was extraordinarily successful (BirdLife International, 2004). The species is possibly nomadic, and feeds mainly on diatoms in saline lakes, the levels of which may be affected by climate change to the detriment of flamingo food resources (BirdLife International, 2004).

Egg collecting and hunting were intensive during the 20th century, but have been controlled in protected areas, most importantly, Eduardo Avaroa National Faunal Reserve, Bolivia. International and national conservation programmes have been organised in Argentina, Bolivia, Chile and Peru, and will hopefully continue to encourage population growth (BirdLife International, 2004).

ARGENTINA:

Status: Occurs in northwestern Argentina (IUCN, 1996). Small numbers occur around the lowland Laguna Mar Chiquita, Argentina (BirdLife International, 2004). The species is catalogued as Vulnerable in the Red Data Book of Argentinian Mammals and Birds (Garcia Fernandez *et al*., 1997).

CMS actions: There is one ongoing project financed by the CMS to conduct simultaneous censuses in Chile, Bolivia and Argentina, and CGFA completed the project 'Priority Actions for the Conservation of Andean Flamingos' (Chile National Report, 2002)

Other actions:

BOLIVIA:

Status: Occurs in South-western Bolivia (IUCN, 1996). The most (and the only regular) breeding taking place at Laguna Colorada and Guayaques, where up to 30,000 birds (including 9,000 breeding pairs) have been present (IUCN, 1996) and up to 41,000 birds according to BirdLife International (2004). In 1999-2000 (an extremely successful year), 18,000 chicks hatched at Laguna

Colorado (BirdLife International, 2004). During the surveys conducted in Eduardo Avaroa National Faunal Reserve during summer 2002, *Phoenicoparrus jamesi* was the most abundant species in the area, with 37,136 individuals recorded, mainly concentrated in Laguna Colorada, Molejón, Laguna Verde, Pastos Grandes and Pelada (Molina *et al*., 2002).
The species is reported as Vulnerable in the Bolivian Red Data Book (Ergueta & de morales, 1996).

CMS actions: There is one ongoing project financed by the CMS to conduct simultaneous censuses in Chile, Bolivia and Argentina (Chile National Report, 2002).

Other actions: Egg-collecting and hunting have been controlled in protected areas, most importantly, Eduardo Avaroa National Faunal Reserve (BirdLife International, 2004).

Brazil:

Status: Although CMS lists Brazil as a range states, neither UNEP-WCMC (2004) nor BirdLife International (2004) considers *Phoenicopterus jamesi* to occur here.

CMS actions: Not a Party to CMS.

Other actions:

CHILE:

Status: The species occurs in saltlakes in highlands in the regions Primera (Tarapacá), Segunda (Antofagasta) and Tercera (Atacama). Populations have increased during 1997, 1998 and 1999, totalling (January censuses) 8,081, 8,492 and 10,703 specimens respectively. The majority of places where the species occurs belong to the Sistema Nacional de Areas Silvestres Protegidas del Estado (SNASPE) [National System of Wild Protected Areas] National Parks Lauca, Volcán Isluga, Llullaillaco and Nevado de Tres Cruces, National Reserves Las Vicuñas and Los Flamencos and Natural Monument Salar de Surire (Chile National Report, 2002). During the surveys carried out in Northern Chile during summer 2002, 12,998 flamingos were recorded, mainly concentrated in Antofagasta region, in Salar de Pujsa and el Laco , and 220 chicks were detected in the hole region that year(Molina *et al*., 2002). A breeding colony has flourished under protection at Salar de Tara (BirdLife International, 2004).

CMS actions: There are several projects already finished and ongoing in relation to feeding, behaviour and ecology. Since 1986, censuses have been conducted in several Andean wetlands. There is one ongoing project financed by the CMS to conduct simultaneous censuses in Chile, Bolivia and Argentina. Future work involves continuing with new studies and maintaining the censuses twice every year (Chile National Report, 2002).

Other actions:

PERU:

Status: Occurs in the scattered brackish and salty lakes in the high mountains of the Puna zone of south-western Peru (IUCN, 1996). It is possible that the population of this species in Perú could be less than 2,000 individuals, and the main sites are Laguna Loriscota, Laguna Salinas, Rio Callacame and some wetlands near Huancane, in southern Perú (Perú National Report, 2002). Main threats for the species in Perú are mining activities and agriculture development in some departments of southern Perú, which affect wetlands negatively

(GCFA, 2004). Catalogued as rare in the Peruvian Red Data Book (Pulido Capurro, 1991).

CMS actions: Monitoring of the species in the most important Peruvian wetlands has been carried out, as well as habitat restoration, and workshops have been organized by Perú Verde Association and Public Administrations (Perú National Report, 2002).

Other actions: A workshop on the Conservation of Andean flamingos was held in Puno (Perú) from 11 to 14 September 2001 (GCFA, 2004).

REFERENCES:

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

Chile National Report (2002). National Report to CMS.

Ergueta, P. and de Morales, C. (1996) *Libro Rojo de Los Vertebrados de Bolivia*. Centro de Datos para la Conservacion, La Paz, Bolivia.

García Fernandez, J.J., Ojeda, R.A., Fraga, R.M., Díaz, G.B. and Baigún, R.J. (1997) *Libro Rojo de Mamíferos y Aves Amenazadas de Argentina (Red Book of Threatened Argentinean Mammals and Birds)*. FUCEMA and Administracion de Parques Nacionales, Buenos Aires, Argentina.

GCFA (2004) Grupo de Conservación Flamencos Altoandinos web page. http://www.flamencosandinos.org Downloaded on 27/10/2004.

IUCN (1996). Red List 1996 Information on *Phoenicopterus jamesi.* UNEP-WCMC Species Database. www.unep-wcmc.org Downloaded on 03/03/2004.

IUCN (2004). 2004 IUCN Red List of Threatened Species. www.redlist.org Downloaded on 17/02/2004.

Molina, B.C. Rodriguez, E. Amado Pool, N. & Blanco, T. (2002) *Sexto Censo simultáneo de Flamencos Alto Andinos en el Norte de Chile y Rserva Nacional de Fauna Andina Eduardo Avaroa de Bolivia, Verano del 2002*. Grupo de Conservación Flamencos AltoAndinos. http://www.flamencosandinos.org/vicenso.asp Downloaded on 27/10/2004

Peru National Report (2002). National report to CMS.

Pulido Capurro, V. (1991) *El Libro Rojo de la Fauna Silvestre del Peru*. Maijosa, Lima, Peru.

Wetlands International (2002) *Waterbird Population Estimates-Third Edition*. Wetlands International Global Series, No. 12, Wageningen, The Netherlands.

* Range State not yet included in the CMS range list for this species.

***Platalea minor* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Brunei Darussalam		?		
Cambodia		Ex?		
China	●	↑		✓
Japan	●	↑		✓
D.P.R. Korea		→		✓
Republic of Korea		→		
Malaysia		?		
PHILIPPINES	●	?	×	
Russian Federation		?		
Thailand		?		
Viet Nam	●	↓		✓

REVIEW OF CONCERTED ACTION SPECIES

AVES: THRESKIORNITHIDAE

SPECIES: *Platalea minor* (Temminck and Schlegel, 1849)

SYNONYMS: -

COMMON NAME: Black-faced Spoonbill (English); Petite Spatule (French); Espátula menor (Spanish)

RANGE STATES: China; Japan; Korea, Democratic People's Republic of; Korea, Republic of; PHILIPPINES; Russian Federation

RED LIST: EN C2ai (BirdLife International, 2004)

CONSERVATION STATUS AND ACTIONS:

This black-faced spoonbill has a single, very small population estimated at 1206 birds with a range of 15,200 km² (Yu, 2004; BirdLife International, 2004). The historical status of the Black-faced Spoonbill is poorly understood and this lack of baseline data makes identifying a population trend problematic. The only known breeding grounds of the Black-faced Spoonbill are on islands around the eastern and northern coasts of the Yellow Sea, along the western coast of the Korean Peninsula (in both North and South Korea) and in northeast China. Birds have also been reported in summer in the Russian Far East (Tumen estuary) and inland in northeast China, but so far breeding has not been proved in these areas (BirdLife International, 2001). The three major wintering grounds of Black-faced Spoonbill are Tsengwen estuary in Taiwan, Mai Po Inner Deep Bay in Hong Kong and the Red River Delta in Vietnam (Hong Kong Bird Watching Society, 2004).

There has been considerable interest in this species since the late 1980s, when Kennerley (1990) published a review that showed that the known population of Black-faced Spoonbills at that time was only 288 individuals. Since then the known population gradually increased to over 700 birds in December 1999, and 1206 in 2004. These apparent recent increases may reflect improved observer coverage or the displacement of birds from degraded and destroyed sites as well as improved international coordination of the study of this species (BirdLife International, 2001).

A coordinated international census of wintering Black-faced Spoonbills began in the mid-1990s and covers most of the known wintering grounds; since 1997 the total count (which is conducted in mid-January) has exceeded 520 birds. A minimum of 1069 individuals were counted by the 2003 International Black-faced Spoonbill Census, 10% more than in 2002 (Yu, 2003), and a total of 1206 individuals were counted in the 2004 census, 13% more than in 2003. A total of 21 and 25 wintering sites were detected during the last two censuses of the species (Yu, 2004)

Although the total number of this species appears currently to be stable or even increasing, the concentration of a high proportion of its population at a few sites during both the breeding and non-breeding seasons makes it highly vulnerable to natural or artificial catastrophes, particularly as many of the key sites are under pressure and not adequately protected (BirdLife International, 2001). Given the substantial threats to its habitat it may currently be declining or is likely to decline in the near future (BirdLife International, 2004). According to IUCN (2004), the population is decreasing.

Habitat destruction is probably the biggest threat (Birdlife International, 2004). The main wintering grounds are threatened by industrial development, particularly a key site in Taiwan and also in China, and reclamation, especially in South Korea, Japan and China. Economic development in China has converted many coastal wetlands in aquaculture ponds and industrial estates. Pollution is a major threat to birds wintering in Hong Kong, and an outbreak of botulism at one of the major wintering sites killed 73 birds from December 2002 to February 2003 (BirdLife International, 2004). Given its reliance on intertidal habitats on the coast, with much of its wintering population concentrated at a handful of key sites, the Black-faced Spoonbill is potentially highly sensitive to the effects of pollution (BirdLife International, 2001).

An action plan was published in 1995 and workshops involving all major range countries were held in 1996 and 1997. Education material, satellite tracking and field survey results and management recommendation have been produced (Birdlife International, 2004). Recent international satellite-tracking studies have added considerably to knowledge of the migratory movements of this species, and have identified some important breeding and passage sites. Questionnaires in national languages have been produced by the Wild Bird Society of Japan and distributed in Russia, China, North Korea and South Korea to ask for details of sightings of Black-faced Spoonbills (SC). Posters and leaflets in local languages have been produced by the Chinese Wild Bird Federation and distributed to range countries for promotion of public awareness on the status of the Black-faced Spoonbills (BirdLife International, 2001).

Brunei Darussalam (v)*:

Status: Occurrence reported (UNEP-WCMC, 2004). A single bird was reported in early 1985, but it has been suggested that this record may possibly refer to the Royal Spoonbill *Platalea regia*, which has been recorded in Indonesia (BirdLife International, 2001). It is not extinct according to Birdlife International (2004).

CMS actions: Not a Party to CMS.

Other actions:

Cambodia (v)*:

Status: Occurrence reported (Sun Hean *et al.,* 1998). In the early 20th century this species was reported rare but widespread in the country, but there have been no recent records. It only appears to have been reported at a single site Kompong Thom, apparently seen in some numbers in January 1928 (BirdLife International, 2001) and is now considered to be extinct (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

China:

Status: The species has occurred widely along the eastern and southern coasts of China on passage, and there are also a few inland records, which indicate that they may breed in the inner northeast. The first confirmed breeding record was in 1999, when three pairs were found nesting on an islet off the coast of Liaoning. Some birds winter along the coast of China, mainly between Jiangsu and Hainan (BirdLife International, 2001). There have been a few recent records in winter at tidal mudflats adjacent to the Taipa-Coloane causeway, Macao (nine individuals in January 1998, 12 individuals in January 1999) (BirdLife International, 2001).

La Touche (1925-1934) described it as "common on the southeast China coast, where it may be met with in small parties", also indicating that it was more numerous in the late nineteenth and early twentieth centuries than at present. In December 1999 48 individuals were reported at Futian Nature

Reserve, Guangdong (BirdLife International, 2001). There could be some important undiscovered wintering sites in southeast China and the coastal zone of Quang Ninh province in Vietnam (BirdLife International, 2001).

Platalea minor is mainly a winter visitor to the Deep Bay area, but a few birds have also occurred in summer and at other sites in Hong Kong (BirdLife International, 2001). In addition to Deep Bay, May Po is an important wintering site (IUCN, 1996). In 1995-6, up to 99 birds were reported at Mai Po and 130 in December 1999 (BirdLife International, 2001).

There have been real increases in the numbers at Deep Bay in Hong Kong presumably as wintering birds have become more concentrated at the less disturbed sites (they have declined at the more disturbed site at Dongzhaigang on Hainan), rather than because of a real increase in total global population. (BirdLife International, 2001). Between 1970 and 1990, the population increased from 7 to 52 individuals.

The Black-faced Spoonbill is a winter visitor to Taiwan, mainly to the west coast, and the Tsengwen estuary in Tainan supports the largest wintering flock of Black-faced Spoonbills in the world. Some birds also winter annually in Ilan county in north-eastern Taiwan (BirdLife International, 2001).I in 1993-4,

There have been real increases in the numbers at the Tsengwen estuary (363 in January 1999, 527 individuals in December 1999, and during the 2003 and 2004 censuses, 719 and 963 birds respectively (Yu, 2003 and 2004)), presumably as wintering birds have become more concentrated at the less disturbed sites (they have declined at the more disturbed site at Dongzhaigang on Hainan), rather than because of a real increase in total global population (BirdLife International, 2001).

The main wintering grounds at the Tsengwen estuary are threatened by industrial development, particularly a key site in Taiwan (Birdlife International, 2004).

Pollution is a major threat to birds wintering in Hong Kong (Birdlife International, 2004) and Inner Deep Bay is suffering severe pollution. The area of fishponds around Deep Bay has been greatly reduced in the last 30 years due to the development of housing estates and container storage (BirdLife International, 2001).

The main wintering grounds are threatened by industrial development and reclamation. Fishers in China collect water bird eggs at a nesting site (Birdlife International, 2004). A study in China showed that about 21,900 km^2 of tidal wetland (about 50% of the total area of coastal wetlands) has been reclaimed in China since 1949 (Honk Kong Bird Watching Society, 2004).

On Hainan, hunting is a major threat to Black-faced Spoonbills. Bird shooting is a serious problem even inside the core-protected area of Dongzhaigang Nature Reserve, and as shooting is sometimes carried out by police, the wardens of the nature reserve do not dare to interfere (BirdLife International, 2001).

In Guangxi, disturbance caused by tourism is one of the main threats to Black-faced Spoonbills. Dongzhaigang Nature Reserve is famous for its mangrove habitats and attracts many tourists, who were already causing some disturbance in 1992, and this problem is now believed to have increased (BirdLife International, 2001).

The species is catalogued as Endangered in the China Red Data Book of Endangered Animals (Zheng & Wang, 1998).

CMS actions: Not a Party to CMS.

Other actions: In mainland China it is a National Protected Species (Second Class) (Hong

Kong Bird Watching Society, 2004), while in Taiwan it is protected as a category I (highest priority) protected species, on the list announced on December 1995. Several of the important sites for this species have already been designated as protected areas, including Yancheng Nature Reserve in Jiangsu, Shankou Nature Reserve in Guangxi, Futian Nature Reserve in Guangdong and Dongzhaigang Nature Reserve on Hainan. The newly discovered breeding site at Xingren Tuo island in Liaoning has been designated as a non-hunting area (BirdLife International, 2001).

Platalea minor is legally protected in Hong Kong. Satellite-tracking experiments have been conducted on the species in this country. Conservation measures are being taken in the Deep Bay area. WWF Hong Kong (which manages Mai Po marshes in Inner Deep Bay) has been cooperating with Futian Nature Reserve on the conservation of Deep Bay, including the drafting of an education programme for Futian, and since 1995 Mai Po and Inner Deep Bay have become a Ramsar site, and more wetlands at Inner Deep Bay will be protected as a wetland park for conservation and education purposes (BirdLife International, 2001).

The Black-faced Spoonbill Research Group is now assisting the AFCD (Agriculture, Fisheries and Conservation Department) to conduct an assessment on the age structure of Wintering Black-faced Spoonbills at Mai Po Inner Deep Bay Ramsar site. This study commenced in 1998, so the study conducted this year is already the fourth consecutive one. Both of the studies in winters 2000/01 and 2001/02 showed that about 60% of the wintering spoonbill population are adults. The study is useful for predicting the future global population of Black-faced Spoonbill (Hong Kong Bird Watching Society, 2004).

Following the shooting of several Black-faced Spoonbills in Tainan county in the early 1990s, the government froze the potential development plans for the area, and during winter 1993/1994 local bird clubs mounted a round-the-clock watch to ensure the birds were not shot at, which was apparently successful as no birds were known to have been injured (BirdLife International, 2001).

The Chinese Wild Bird Federation has produced pamphlets and posters for public education on the conservation of this species in Taiwan, and many other government and private organisations there have also become involved with Black-faced Spoonbill conservation; the more active ones include the Love-your-hometown Foundation, the Wetland Conservation Union and the Chi-gu Coastal Area Protection Association formed by fishermen from the region, Environmental Protection Union with many scholars as its members, the Black-faced Spoonbill Conservation Centre (formed by the previous four groups), and the Provincial Endemic Species Research and Conservation Centre (BirdLife International, 2001).

Japan:

Status:

It was once considered that this species was probably never more than a rare winter visitor to Japan, more recently it has been suggested that it was formerly not uncommon in winter on Kyushu. It has been recorded from all parts of Japan in winter or on migration, although it is very rare in eastern and northern Japan, and there have been some records in summer. Japan is the third largest wintering place of the species now (Yu, 2004). Survey efforts had been improved in past few years that may partly contribute to the increase of numbers (Yu, 2004). Courtship behaviour was observed in Ishikawa prefecture on Honshu in summer 1996, but there have been no confirmed breeding records. All of the regular wintering grounds are on Kyushu (Hakata bay, Ariake bay, Mannose-gawa and Izumi) and on Okinawa (Manko) (BirdLife International, 2001).

The maximum count at Hakata bay (including Imazu and Wajiro tidal flats), Fukuoka, was of 28 individuals in November 1997. Up to 26 birds were reported in November 1997 at the Mannose and Shin-kawa rivers. During the 2003 and 2004 censuses, 129 and 163 birds were recorded in this country (Yu, 2003 and 2004). The species is included on the Red List of Japan (BirdLife International, 2001). The main wintering grounds are threatened by reclamation (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions: It is legally protected in Japan. Regular wintering sites at Izumi-Takaono in Kagoshima and Manko on Okinawa, and occasional wintering grounds at Yatsu in Chiba and Nakaumi in Tottori and Shimane have been designated as National Wildlife Protection Areas; Manko was designated as a Ramsar site in 1999, and the designation of important wintering sites at Hakata bay in Fukuoka and Ariake-kai in Fukuoka and Saga as National Wildlife Protection Areas is in progress (as of 1999) (BirdLife International, 2001; Honk Kong Bird Watching Society, 2004).

A breeding programme for this species started at Tama Zoo in Tokyo, Japan, in the mid-1990s, and a total of 21 eggs were laid from 1996 to 1998 and four chicks were successfully raised (BirdLife International, 2001).

D.P.R. Korea:

Status: There are important breeding grounds of this species on islets off the west coast of North Korea, including the colonies on the islands of Taegam-do, Sogam-do, Sonchonrap-ro and Solbatsem-do in North Pyongan, and Tok-do in South Pyongan. Satellite tracking of wintering birds from Taiwan and Hong Kong has indicated that islands in the Demilitarised Zone (DMZ), which currently divides North Korea from South Korea, are probably the most important breeding grounds of this species in the world (BirdLife International, 2001).

However larger flocks were reported around the breeding grounds before the Korean War (1950-1953) than are found at present, indicating that a decline may have occurred around that time (BirdLife International, 2001).

A colony of 10 to 20 pairs was discovered on an islet in the Han estuary in 1994, where it was said to be common earlier in the twentieth century (IUCN, 1996).

The threats to the breeding and foraging sites used by this species in North Korea are unknown. The nesting sites in the DMZ, are afforded protection by the current security situation on the Korean Peninsula, but could be opened up for development and increased disturbance should change the situation in the future (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: It is legally protected in North Korea. Breeding sites in North Korea, at Taegam-do, Unmu-do, Sonchonrap-do and Tok-do, are designated as seabird sanctuaries (Birdlife International, 2004). Several important studies have been completed on the breeding biology and population status of this species (BirdLife International, 2001).

Republic of Korea:

Status: This species breeds in South Korea, and also occurs on passage and in winter. Most breeding sites are in or near to the Demilitarised Zone in Kyonggi, but there have also been some breeding records in South Cholla. It occurs more widely on passage, and southern Kanghwa island in Kyonggi is an important

staging ground for post-breeding birds before their southward migration. Eastern Jeju island is the only regular wintering ground in South Korea, although there are some (mainly unconfirmed) reports of wintering birds on the western and southern coasts. In January 1998, 19-25 birds were reported at Jeju island (BirdLife International, 2001), and during 2003 and 2004, 22 and 24 birds were recorded there (Yu, 2003 & 2004).

The main wintering grounds are threatened by reclamation (Birdlife International, 2004). Disturbance from photographers is a potential threat to this species at the breeding colonies, and is already believed to have adversely affected breeding success at some colonies in South Korea (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: It is legally protected in South Korea (Birdlife International, 2004), and it was designated as Natural Monument no. 205 on 30 May 1968 (Hong kong Bird Watching Society, 2004).

Malaysia*:

Status: Reported in Sabah (UNEP-WCMC, 2004)

CMS actions: Not a Party to CMS.

Other actions:

PHILIPPINES:

Status: If it has occurred at all in the Philippines (there being some question as to whether Black-faced or Eurasian Spoonbills were involved) it was possibly never more than a rare winter visitor, with no flocks exceeding six individuals observed. It is only known from Luzon (BirdLife International, 2001). Three birds were seen in Palawan Island over the winter from December 2003, being the first record of the species in that island. Another three birds were seen in Batanes Island, Northern Philippines, from October to December 2001. Before that, there was only unconfirmed record dated back to 1914 (Yu, 2004). Catalogued as Critically Endangered in the Philippine Red Data Book (Wildlife Conservation Society of the Philippines, 1997).

CMS actions: None reported.

Other actions:

Russian Federation:

Status: Non-breeding birds recorded in the Tumen estuary. Breeding not confirmed (Birdlife International, 2004). It is only known by a few records in Southern Primorye, it is suggested that there may be breeding sites in the Ussuri basin in southern Primorye. One of the two birds recorded in Russia was shot. Hunting may be a threat to this species there (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions:

Thailand (v)*:

Status: Non-breeding birds recently recorded in this country (Lekagul and Round, 1991, Birdlife International, 2004). It is a very rare winter visitor (BirdLife International, 2001). Up to three Black-faced Spoonbills were found in Petchabury province by the Gulf of Thailand in two consecutive winters during the International Censuses. Together with some records in 1990, the species may winter in this area in a regular basis (Yu, 2004).

CMS actions: Not a Party to CMS.
Other actions:

Viet Nam*:

Status: It is a winter visitor, mainly to Northern Vietnam, especially in the coastal zone of the Red River delta (BirdLife International, 2001). Another major wintering site is the Day River estuary. In 1995-6 up to 104 individuals were reported at the Red River delta and Xuan Thuy Nature Reserve (BirdLife International, 2001), and during 2003 and 2004, 65 and 61 birds were counted respectively in both areas (Yu, 2004). Xuan Thuy Nature Reserve usually holds the largest number of spoonbills in this area and smaller numbers are also present nearby, such as Thai Binh. However, numbers in Xuan Thuy had dropped in the late 1990s due to degradation of both feeding and resting habitats (Yu, 2004).

Increasing levels of disturbance and also hunting are threats in Vietnam (Birdlife International, 2004). Aquaculture development has been causing the loss of inter-tidal mudflats in the Red River delta, but deposition and accretion of sediment may be creating suitable habitat rapidly enough to compensate for this. Dams on the Red and Black Rivers upstream of Hanoi may be reducing the amount of sediment reaching the delta, although extensive deforestation in the watersheds of these rivers could be having the opposite effect. This species has been hunted, at least on occasions (BirdLife International, 2001). Pesticides and fertilizers used extensively in the paddies around the Red River Delta were found draining into the wetland area, which may pose threats to the survival of Black-faced Spoonbills (Hong Kong Bird Watching Society, 2004).

It is listed in the Vietnamese Red Data Book (Yu, 2004).

CMS actions: Not a Party to CMS.

Other actions: Not yet officially protected, although wintering sites include Xuan Thuy and Tien Hai, are protected (BirdLife International, 2001; Birdlife International, 2004). In 1996, surveys by BirdLife/FIPI resulted in the identification of all wetlands in the Red River delta that support the species (BirdLife International, 2001).

REFERENCES:

BirdLife International (2001). *Threatened birds of Asia*. The BirdLife International Red Data Book. BirdLife International, Cambridge, UK.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

Hong Kong Bird Watching Society (2004) HKBWS web page. Black-faced Spoonbill, *Platalea minor*. http://www.hkbws.org.hk/bfs/index.html Downloaded on 27/10/2004.

IUCN (1996). Red List 1996 Information on *Platalea minor*. UNEP-WCMC Species Database. www.unep-wcmc.org Downloaded on 03/03/2004.

IUCN (2004). 2004 IUCN Red List of Threatened Species. www.redlist.org Downloaded on 28/10/2004.

Kennerley, P. R. (1990). A review of the status and distribution of the Black-faced Spoonbill. *Hong Kong Bird Report 1989*: 116–125.

La Touche, J. D. D. (1925–1934). *A handbook of the birds of eastern China, 1 and 2*. Taylor and Francis, London.

Lekagul, B. and Round, P. D. (1991). *A guide to the birds of Thailand*. Saha Karn Bhaet Co. Ltd, Bangkok.

Sun Hean, Seng Kim Hout, Keo Omaliss, Heng Neatmony and C. Poole. (1998). [*The birds of Cambodia*.]. Khmer. European Support Programme for the Environment Sector in Cambodia and the Wildlife Protection Office of the Department of Forestry. Ministry of Agriculture. Forestry and Fisheries. Royal Government of Cambodia.

UNEP-WCMC (2004). Species Database. www.unep-wcmc.org Downloaded on 24/02/2004.

Wildlife Conservation Society of the Philippines (1997) *Philippine Red Data Book: Red List of Threatened Animals*. Wildlife Conservation Society of the Philippines, Makati City, Philippines.

Yu, Y.T. (2003) *International Black-faced Spoonbill Census: 24-26 January 2003*. The Hong Kong Bird Watching Society. Hong Kong. http://www.hkbws.org.hk/bfs/index.html Downloaded on 28/10/2004.

Yu, Y.T. (2004) *International Black-faced Spoonbill Census: 16-18 January 2004*. The Hong Kong Bird Watching Society. Hong Kong. http://www.hkbws.org.hk/bfs/index.html Downloaded on 28/10/2004.

Zheng, G & Whang, K. (1998) *China Red data Book of Endangered Animals: Aves*. Science Press, Beijing, Hong Kong, New York.

* Range State not yet included in the CMS range list for this species.

***Sarothrura ayresi* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Eritrea		?		
Ethiopia		→		✓
SOUTH AFRICA	●	?		✓
Zambia		?		
Zimbabwe		?		

REVIEW OF CONCERTED ACTION SPECIES

AVES: RALLIDAE

SPECIES: *Sarothrura ayresi* (Gurney, 1877)

SYNONYMS: -

COMMON NAME: White-winged Crake; White-winged Flufftail (English); Râle à miroir (French); Polluela especulada (Spanish)

RANGE STATES: Eritrea (?); Ethiopia; SOUTH AFRICA; Zambia; Zimbabwe

RED LIST: EN B1a+b; B2a+b (BirdLife International, 2004)

CONSERVATION STATUS AND ACTIONS:

The global population of *Sarothrura ayresi* is estimated at 700 individuals. This species has a very small range, with breeding proven at only two locations, and an occupied breeding range of only 250km^2 (Birdlife International, 2004). Its disappearance from former locations, together with the high rate of loss and degradation of its preferred habitat, seasonal marshland, imply that its very small population is suffering a continuing decline (BirdLife International, 2004).

The main threats are habitat loss and degradation (IUCN, 2004). Seasonal marshes are threatened by drainage (for cultivation and forestry), flooding by dams, catchment erosion, water abstraction, human disturbance, too-frequent burning, and excessive trampling and grazing by livestock and cutting of marsh vegetation for fodder (BirdLife International, 2004).

Eritrea (?):

Status: This country is not reported by BirdLife International (2004) to be a range state for the species.

CMS actions: Not a Party to CMS.

Other actions:

Ethiopia:

Status: *Sarothrura ayresi* is reported as breeding in this country. There are currently two sites in the central highlands, the only known breeding area for this species. In the Ethiopian highlands, 10-15 pairs have bred at Sululta annually since 1996 and c. 200 pairs were discovered at a new breeding site in 1997. The two Ethiopian sites are on state-run farms that are about to be privatised. As there is no restriction on the use to which a purchaser may put the properties, there is the danger that the wetlands could be modified or even drained in the near future (Birdlife International, 2004, Taylor, 1999).

CMS actions: Not a Party to CMS.

Other actions: At the new Ethiopian breeding site, the vegetation is not cut for fodder until December, thus giving the birds time to breed without disturbance (Birdlife International, 2004). The Ethiopian Government and NGO personnel are being approached in an effort to alert them to the international importance of the two sites and to lobby for the preservation of their wetland habitat (Taylor, 1999).

SOUTH AFRICA:

Status: *Sarothrura ayresi* is reported as a non-breeding visitor at nine main sites

in South Africa since the 1980s. The total population is estimated to be 235 birds (Birdlife International, 2004). In South Africa this flufftail has a fragmented range and is thought to occur regularly at nine sites ranging from 50-1000 ha in area and at altitudes of 1,300-1,870 m a.s.l Three are in the Franklin-Kokstad area of KwaZulu-Natal, four in the Van Reenen-Memel region of the North eastern Free State, and two (Wakkerstroom and Middelpunt) in eastern Mpumalanga. At these sites the birds occur from late October to late March, and there is as yet no acceptable evidence for breeding in South Africa (Taylor, 2000).

In the Free State, the Bedford/Chatsworth site is threatened by a proposal to dam its upper reaches, while increased flooding at Seekoeivlei after the raising of a dam wall by Rand Water has resulted in the disappearance of the species from the only known area of suitable habitat. In 1995, afforestation permits were issued for 6,000 ha of land in the catchment of Franklin Vlei but little planting took place before the permits expired and the Department of Water Affairs and Forestry is reviewing applications for extensions. The nearby Penny Park was recently threatened by damming and this threat could well recur (Taylor, 2000).

CMS actions: None reported.

Other actions: Some South African sites have some legal protection, and at least four sites are protected by the landowners (Birdlife International, 2004). There is an urgent need to lease or buy at least one other important site, and to conduct intensive research into the bird's distribution, breeding and migrations throughout its range (Taylor, 2000).

Zambia:

Status: Claimed records (e.g. Avibase (2004)) from this country are unproven (Birdlife International, 2004), although Taylor (2000) notes one accepted record from northern Zambia. Considered as vagrant by BirdLife international (2004).

CMS actions: Not a Party to CMS.

Other actions:

Zimbabwe:

Status: *Sarothrura ayresi* is reported as a non-breeding visitor to this country. There are two records in the 1970s from the Harare area (Taylor, 2000), and a possible breeding record in the 1950s (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions:

REFERENCES:

Avibase (2004). Avibase – Bird Checklists of the World. Zambia. http://www.bsc-eoc.org/avibase/avibase.jsp?pg=checklist&region=ZM Downloaded on 02/03/2004.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

IUCN (2004). 2004 IUCN Red List of Threatened Species. www.redlist.org. Downloaded on 17/02/2004.

Taylor, P.B. (2000) White-winged Flufftail. In: *The Eskom Red Data Book of Birds of South Africa, Lesotho and Swaziland*. Barnes, K.N. (ed.). BirdLife South Africa, Johannesburg, pp. 28-29.

Taylor, P.B. (1999) First White-winged Flufftail nest found. *World Birdwatch*, 21 (4), p.3.

* Range State not yet included in the CMS range list for this species.

Spheniscus humboldti **- synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
CHILE	●	↑	✓	✓
Colombia		?		
Ecuador		?		
PERU	●	↓	✓	✓

REVIEW OF CONCERTED ACTION SPECIES

AVES: SPHENISCIDAE

SPECIES: *Spheniscus humboldti* (Meyen, 1834)

SYNONYMS: -

COMMON NAME: Humboldt Penguin; Peruvian Penguin (English); Manchot de Humboldt (French); Pingüino de Humboldt (Spanish)

RANGE STATES: CHILE; PERU; international waters (Southeast Pacific Ocean)

RED LIST: VU A2b,c,d; A3b,c,d;B1b+c;C1;C2b (BirdLife International, 2004).

CONSERVATION STATUS AND ACTIONS:

Spheniscus humboldti occurs in coastal Peru and Chile with vagrants recorded in Colombia (Morales Sanchez, 1988) and Ecuador (Ridgely and Greenfield, 2001). Currently, this species mainly breeds from Isla Foca (5°12'S) in Peru (Paredes *et al*., 2003) to Algarrobo (33°S) in Chile (Williams, 1995; Ellis *et al.*, 1998). It nests on islands and rocky coastal stretches, burrowing holes in guano and, occasionally using scrape nests or caves (Birdlife International, 2004). It is colonial, and colonies are usually small (Martinez, 1992). It is endemic to the Humboldt Current Region where it is restricted to cool, nutrient-rich waters (Williams, 1995). It exploits the high marine productivity in the area, which itself is based on the nutrient-rich Humboldt Current, flowing northward along the Pacific Coast (Culik & Luna-Jorquera, 1997).

This species occupies a small breeding range and there have been extreme population fluctuations, close to one order of magnitude at major colonies in Chile. However, an overall reduction in the number of breeding colonies indicates that there is probably an ongoing underlying decline in both range and population (BirdLife International, 2004).

In the mid 19th century the population of the Humboldt penguin may have been over a million birds (Ellis *et al.*, 1998), and since that time it has been declining (Martinez, 1992; Hays, 1986). The total population was estimated to be c.20, 000 birds at the beginning of the 1980s, with 10-12,000 in Chile (Martinez, 1992). However, the actual size of the Humboldt penguin population is as yet, still unknown (Luna-Jorquera *et al.*, 2000) and it is not clear if data indicating fluctuations in penguin numbers reflect a migration of penguins from one colony to another or if they represent a recovery/decline of the population (UNEP-WCMC, 2003). The current population is estimated in 3,300 to 12,000 penguins (BirdLife International, 2004).

Historical declines resulted from guano over-exploitation (it has been commercially exploited as a fertilizer and guano deposits were removed down to the bare rock, making it impossible for the birds to excavate burrows; during guano harvest, not only its breeding habitat is removed, but also the presence of hundreds of guano workers results in disturbance and illegal hunting (Paredes and zavalaga, 2001)). Guano is still used in Peru, but fluctuations are caused by (apparently increasing) ENSO events, with the 1982-1983 ENSO event reducing the population from 19,000-21,000 birds to 5,180-6,080. By 1995-96, the population had increased to 10,000-12,000 birds, but the 1997-98 ENSO reduced the population again to 3,300 birds. More recent underlying declines probably relate to over-fishing of anchoveta *Engraulis* spp. stocks and entanglement in nets. Other threats include capture for food (not only subsistence) and use as fish bait, human disturbance, predation by rats and cats, and marine (BirdLife International, 2004).

CHILE:

S*tatus:* The Humboldt Penguin breeds in Chile (Simeone, 1996). Ellis *et al.* (1998) reported that there are 12 breeding colonies in Chile between Grande Island and Punihuil, and at least 14 breeding sites in total although recently it has bred at only ten. The occurrence of the Humboldt penguin was noted for the first time on La Isla Metalqui near Chiloe in Chile in 1996 (Simeone and Hucke-Gaete, 1997). This species occupies a small breeding range and there have been extreme population fluctuations, close to one order of magnitude at major colonies in Chile (Birdlife International, 2004). The population was estimated at 10-12,000 individuals in the early 1980s (Martinez, 1992) but only approximately 7,500 in 1995-6 (Ellis *et al.*, 1998). More recent estimates, such as that of c. 7,000 pairs in one large colony at Chanaral Island in Chile (Simeone *et al*., 2003) point towards an overall total of Humboldt penguins that for Chile is higher than previous recent figures. In a survey of nine islands of the central and north coasts of Chile, Simeone *et al*. (2003) found c. 9,000 pairs of Humboldt penguins, the majority of which (c. 7,000 pairs) were found on the Chanaral Islands.

Considerable reductions in the populations of the Humboldt Penguin have been seen on some islands within the Pinguino de Humboldt Penguin Reserve, as well as in Pan de Azucar Island, where the local park guards have found evidence of illegal hunting of this bird (J. Gonzalez, pers. comm.). A decline in the number of penguins here may have occurred between 1991 and 1997 (Simeone and Schlatter, 1998). However, elsewhere there was an increase in the number of nesting sites at Pájaro Niño Island in central Chile from c. 500 in 1977 to 689 in 1996 despite significant habitat disturbance and alterations (Simeone and Bernal, 2000). According to the Chile National Report (2002), the population has increased from around 8,500 in 1996 to almost 26,000 in 2001, although no reference for these figures is cited in the report.

Most places where the species occurs belong to the Sistema Nacional de Areas Silvestres Protegidas del Estado (SNASPE) [National Protected Areas System], National Reserves Pingüino de Humboldt, and Natural Monuments Isla Cachagua and Islotes de Puñihuil (Chile National Report, 2002).

The species is listed in the Red Data Book of Chile (Simeone, 1996).

CMS actions: There are several projects already finished and ongoing in relation to breeding and assessment of the population status and census are being conducted since 1988. It is planned to continue with new research projects and maintain censuses (Chile National Report, 2002).

Other actions: Chile has undertaken a number of conservation measures to safeguard the Humboldt penguin. The Humboldt Penguin is protected within the Pinguino de Humboldt Penguin Reserve and Isla Cachagua Natural Monument. Colonies such as the Isla Chañaral and the Choros Islands, Pan de Azucar and Punihuil are also protected. In addition to the 30 years moratorium on the hunting and capture of marine animals, permits are also required for export to zoos, and for research (Cheney, 1998). However, enforcement of these laws has been problematic, and it would appear that no fines or penalties had ever been levied against anyone for deliberately taking penguin meat (Cheney, 1998). The Sea Birds Lab of the Universidad Católica del Norte supported by scientists at Planeta Vivo is carrying out a research programme on Chañaral

Island, the main island of the National Reserve "Pingüino de Humboldt" (Planeta Vivo, 2002). The reproductive success of the Humboldt Penguins in the Choros and Damas Island of this reserve has been studied during the past two years (Planeta Vivo, 2002). Other studies are listed by Ellis *et al*. (1998) and include yearly censuses by Braulio Araya and Mariano Bernal on the main colonies along the Chilean coast.

Colombia (v?)*:

Status: Occurrence reported (Hilty and Brown, 1986; Ramyle, 1988). Reported as vagrant by BirdLife International (2004).

CMS actions: Not a Party to CMS.

Other actions:

Ecuador (v)*:

Status: It is only known from a few reports involving dead or dying birds; some or all of these birds may have been transported to Ecuador with the assistance of ships (Ridgely and Greenfield, 2001). Reported as vagrant by BirdLife International (2004).

CMS actions: Not a Party to CMS.

Other actions:

PERU:

Status: Small numbers breed along most cliff sections of Peru, with larger numbers occurring at Pachachamac and Punta San Juan (Martinez, 1992). Ellis *et al*. (1998) reported that there were more than 12 breeding sites in Peru, but only two important breeding colonies, Punta San Juan and Pachacamac, with the former supporting the largest Humboldt penguin colony in Peru (Anon., 1987; Majluf *et al.*, 2001). Reports of large numbers at Lobos de Tierra and Punta Pampa Redonda were probably optimistic (Duffy *et al*., 1984). Most recently, 22 Humboldt penguin colonies have been identified, 14 of which showed signs of breeding (Paredes *et al*., 2003). Only five colonies were larger than 100 breeding pairs (Paz-Soldan and Jahncke, 1998).

The size and the distribution of the penguin colonies in Peru has changed over the last 15 years, with more penguins now on the southern coast and fewer on the central coastal area, although the breeding range has remained the same (Paredes *et al*., 2003). The population size has dropped from approximately 9,000 individuals in 1981 (Ellis *et al.*, 1998) to around 4,425 individuals in 2001 (Paredes *et al.*, 2003).

Humboldt penguins are negatively affected by the removal of burrowing substrates caused by guano harvesting. This activity is an important source of income for the Peruvian Government and, under the present critical economic conditions in Peru, the authorities in charge are unlikely to support conservation initiatives, which restrict harvesting around penguin colonies (Paredes and Zavalaga, 2001). Other threats include accidental fishing and hunting (Peru National Report, 2002).

The Humboldt penguin was listed as Vulnerable in Peru in 1977 but in 1991 it was upgraded to Endangered in the Peruvian Red Data Book (Simeone, 1996).

CMS actions: The Peruvian Association for conservation of Nature, funded by CMS, is

conducting a survey of humboldt penguins along the Peruvian coast.

Other actions: Most breeding sites are protected by designated areas, such as Punta San Juan and Paracas. The state-owned guano company has protected many of the islands since 1909 in Peru (Duffy *et al*., 1984). However, the guano harvest can still have detrimental impacts to the penguin populations. The only colonies that have increased in number are those with legal protection, where wardens or scientists are permanently present, such as San Juanito Islet and Punta San Juan (Paredes *et al*., 2003). A 1998 agreement between the Wildlife Conservation Society and PROABONOS, the body in charge of guano exploitation, involved penguin rookeries being fenced off during the harvest and observers remained on site throughout the harvest, thus preventing the workers from taking penguins or eggs to supplement their income (Paredes *et al*., 2003).

The Peruvian Association for Conservation of Nature (APECO) in collaboration with the National Institute of Natural Resources (INRENA) of the Peruvian Ministry of Agriculture have initiated a project which aims to evaluate the populations of *Spheniscus humboldti*, including an assessment of the risks to the populations from human activities (Anon., 2003). This will involve surveying penguin populations along the southern coast of Peru, from both land and sea. In addition, a workshop will be organised involving both Peruvian and Chilean experts, with a view to setting the basis for a bilateral agreement under CMS.

Other studies are listed by Ellis *et al*. (1998) and include work on the breeding biology and foraging ecology in Punta Juan, and the long term survey of different colonies along the Peruvian coast, evaluating the status of seabirds, including the Humboldt penguin.

REFERENCES:

Anon. (1987). Peru's penguins threatened despite agreement. *World Birdwatch*, 9 (2): 3.

Anon. (2003). Survey of the marine otter and the Humboldt penguin populations in Peru. *CMS Bulletin*, no. 17, May 2003.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

Cheney, C. (1998). The current situation of the Humboldt Penguin in Chile and Peru: a report from the Population and Habitat Viability Analysis meeting, Part I. *Penguin Conservation*, 11 (3): 4-9.

Chile National Report (2002). National Report to CMS.

Culik, B.M. and Luna-Jorquera, G. (1997) Satellite tracking of Humboldt penguins (*Spheniscus humboldti*) in northern Chile. *Marine Biology* 128: 547-556.

Duffy, D. C., Hays, C. and Plenge, M. A. (1984). The conservation status of Peruvian seabirds. In: Croxall *et al*. (eds.) *Status and Conservation of the World's Seabirds*. International Council for Bird Preservation Technical Publication No. 2. Paston Press, Norwich, England.

Ellis, S., Croxall, J.P. and Cooper, J. (Eds.), (1998). *Penguin Conservation Assessment and Management Plan*. IUCN/SSC Conservation Breeding Specialist Group: Apple Calley, MN, USA.

Hays, C. (1986). Effects of the 1982-83 El Niño on Humboldt Penguin colonies in Peru. *Biol. Conserv*., 36:169-180.

Hilty, S. and Brown, W. L. (1986). *A guide to the birds of Colombia*. Princeton University Press. Princeton, New Jersey

Luna-Jorquera, G., Garthe, S., Sepúlveda, F. G., Weichler, T. and Vásquez, J. A. (2000). Population size of Humboldt Penguins assessed by combined terrestrial and at-sea counts. *Waterbirds*, 23: 506-510.

Majluf, P., Babcock, E. A., Riveros, J. C., Schreiber, M. A. and Alderete, W. (2001). Catch and bycatch of sea birds and marine mammals in the small-scale fishery of Punta San Juan, Peru. *Conservation Biology*, 16 (5): 1333-1343.

Martínez, I. (1992). Family Spheniscidae (penguins). Pp. 140-160. In del Hoyo, J., Elliott, A. and Sargatal, J. eds. *Handbook of the Birds of the world*. Vol. 1. Lynx Edicions, Barcelona.

Morales Sanchez, J. E. (1988). Confirmacion de la presencia de *Spheniscus humboldti* meyen (Aves: Spheniscidae) para Columbia. *Triana (Act. Cient. Técn. INDERENA)*, 1:141-143.

Paredes, R., Zavalaga, C. B., Battistini, G., Majluf, P. and McGill, P. (2003). Status of the Humboldt penguin in Peru, 1999-2000. *Waterbirds*, 26 (2): 129-256.

Paredes, R. and Zavalaga, C.B. (2001) Nesting sites and nest types as important factors for the conservation of Humboldt penguins (*Spheniscus humboldti*). *Biological Conservation*, 100(2), pp. 199-205.

Paz-Soldán, L. and Jahncke, J. (1998). El evento El Niño 1997 y la población de pingüino de Humboldt *Spheniscus humboldti* en Isla Pachacamac. In: *Ecología de alimentación y reproducción de las poblaciones de aves marinas del litoral peruano y sus relaciones con el recurso anchoveta*. Inf. anual 1997. Inst. Mar. Peru (Callao). Pp. 105-111. Unpublished.

Peru National Report (2002) National Report to CMS.

Planeta Vivo (2002). Current News at Planeta Vivo. http://www.planetavivo.org/english/news/Dic2002/UrsulayThomas.html Downloaded on 23/07/2003.

Ramyle, J. (1988). [Confirmation of the presence of *Spheniscus humboldti* Meyen (Aves: Spheniscidae) in Colombia.]. Spanish. *Trianea* (Bogota), 1:141-143.

Ridgely, R. S. and Greenfield, P. J. (2001). *The birds of Ecuador, status, distribution and taxonomy*. Christopher Helm, London.

Simeone, A. (1996). Conservación del pingüino de Humboldt *Spheniscus humboldti* Meyen 1834 en Chile y situación de algunas colecciones existentes en zoológicos extranjeros. *Boletín Chileno de Onrnitología*, 3: 25-30.

Simeone, A. and Bernal, M. (2000). Effects of habitat modification on breeding seabirds: A case study in central Chile. *Waterbirds* 23 (3): 449-456.

Simeone, A. and Hucke-Gaete, R. (1997). Presencia de pingüino (*Spheniscus humboldti*) en Ilas Metalqui, Parque Nacional Chiloé, sur de Chile. *Boletín Chileno de Ornitología*, 4: 34-35.

Simeone, A., Luna-Jorquera, G., Bernal, M., Garthe, S., Sepulveda, F., Villablanca, R., Ellenberg, U., Contreras, M., Munoz, J. and Ponce, T. (2003). Breeding distribution and abundance of seabirds on islands off north-central Chile. *Revista Chilena de historia Natural*, 76 (2): 323-333.

Simeone, A. and Schlatter, R. P. (1998). Threats to a mixed-species colony of *Spheniscus* penguins in southern Chile. *Colonial Waterbirds*, 21 (3): 418-421.

UNEP-WCMC (2003). Report on the status and conservation of the Humboldt Penguin, *Spheniscus humboldti*. UNEP-WCMC, Cambridge, U.K.

Williams, T. D., (1995). *The penguins. Spheniscidae. Bird families of the world*. Oxford University Press.

* Range State not yet included in the CMS range list for this species.

***Sterna bernsteini* - synopsis**

Country	Reported as nationally threatened	Apparent trend	CMS actions reported (in 2002 National Reports)	Other recent actions reported in the literature
Cambodia		?		
China	●	↓		✓
Indonesia		?		
Malaysia		?		
PHILIPPINES	●	?		
Singapore		?		
Thailand		?		✓

REVIEW OF CONCERTED ACTION SPECIES

AVES: LARIDAE

SPECIES: *Sterna bernsteini* (Schlegel, 1863)

SYNONYMS: *Thalasseus zimmermanni*

COMMON NAME: Chinese Crested Tern; Chinese Crested-tern (English); Sterne d'Orient (French); Charrán Chino (Spanish)

RANGE STATES: China; Indonesia; Malaysia; PHILIPPINES; Thailand

RED LIST: CR C2a; D1 (BirdLife International, 2004)

CONSERVATION STATUS AND ACTIONS:

This poorly known seabird qualifies as Critically Endangered because it is inferred to have a tiny population, estimated at fewer than 50 individuals (Birdlife International, 2004) and the population is declining as a result of unknown factors. *Sterna bernsteini* is an exceptionally poor-known species, recorded only in the eastern coast of China, and in Malaysia, Taiwan, Thailand and the Philippines. However, it is possible that extensive searches at the former localities and in other potentially suitable areas could locate larger numbers (BirdLife International, 2001).

Records indicate that the species is exclusively coastal and pelagic in distribution. In China and Taiwan, it has been found on offshore islets (breeding) and tidal mudflats (BirdLife International, 2004).

No specific threats are known, although many coastal wetlands in its presumed breeding range in eastern China are affected by large-scale development projects (with the consequently loss of coastal wetlands) and, in China, seabirds are exploited for food (BirdLife International, 2004).

Conservation of important sites for shorebirds is being promoted through the establishment of the East Asian-Australasian Shorebird network, under the East Asian-Australasian Shorebird Action Plan (Mundkur, 2004). Further surveys are needed in the former summer range of this species, with immediate conservation measures to safeguard any sites found. The identification of this and other tern species can be problematical, and the availability of high-quality information on their identification in national languages (particularly Chinese) would greatly improve the chances of it being found and of casual observations by ornithologists working along the coast not being missed (BirdLife International, 2001).

Cambodia*:
Status: Possible record from Cambodia (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

China:

Status: The Chinese Crested Tern has been recorded on the eastern coast of China, in Hebei, Shandong, Fujian and Guangdong. In June-July 1937, a total of 21 specimens were collected on islets off the coast of Shandong, where it was presumably breeding, indicating that it was locally not uncommon in the past. The only recent records have been from Hebei in 1978 and Shandong in 1991. The most recent sighting in China was from Huanghe Sanjiaozhou Nature Reserve in Shandong and there are several other protected areas along the Chinese coast where it could potentially occur, at least on passage (BirdLife International, 2001).

Several nesting pairs were discovered in a tern colony on the Mazu Dao (Matsu) islands in summer 2000, and subsequent investigations revealed that similar birds were present in this colony in previous year, and located a photograph of a bird on the mainland of Taiwan: Pachang river, Putai, Chiayi county, one photographed with Caspian Terns *S. caspia*, 17 April 1998. This discovery of nesting pairs at Mazu Dao proved that the species was still extant (BirdLife International, 2001). The current population is unknown, but is presumably very small given the paucity of recent records (Birdlife International, 2004).

Many coastal wetlands in its presumed breeding range in eastern China are affected by large-scale development projects and seabirds are exploited for food (Birdlife International, 2004). Other potential threats to this species in China are the introduction of rats and cats to nesting islands, oil pollution, heavy contamination of estuarine areas by industrial and agricultural effluents and human disturbance on offshore islands (BirdLife International, 2001).

CMS actions: Not a Party to CMS.

Other actions: The Chinese Crested Tern is a nationally protected species (second class) (BirdLife International, 2001). Following the discovery of large breeding colonies of terns at the Matzu Dao islands, eight uninhabited islets were declared as "National Matzu Nature Reserve for Terns" in January 2000; the local county government is very supportive of the conservation of the site, including the enforcement of the law to control access to the area (BirdLife International, 2001).

The University of Rhode Island and the Chinese Institute of Zoology have recently initiated a study of the Chinese Crested-tern, which aims to locate and census all breeding colonies; estimate breeding success; assess threats to individual colonies; prepare plans for breeding site protection; and develop a long-term recovery plan by locating and protecting key staging, migration, and wintering areas (BirdLife International, 2001).

Indonesia:

Status: The species is known by a single record from Maluku province and a recent unconfirmed sighting from Bali: *Bali* Sanur, one seen close inshore, probably this species, 22 March 1984; *Halmahera* Kao (Kaou), one collected, 22 November 1861 (BirdLife International, 2001; 2004).

CMS actions: Not a Party to CMS.

Other actions:

Malaysia:

Status: Recorded as non-breeding in Sarawak, Malaysia (Birdlife International, 2004). Three specimens have been collected at two localities in Sarawak (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

PHILIPPINES:

Status: There are two old specimen records: Manila Bay, one collected, 6 May 1905; no locality, one undated skin labelled "the Philippines" (BirdLife International, 2001; 2004).
The species is catalogued as Critically Endangered in the Philippine Red Data Book (Wildlife Conservation Society of the Philippines, 1997), and is considered a vagrant species in this country.

CMS actions: None reported.
Other actions:

Singapore*:

Status: Possible record from Singapore (BirdLife International, 2001).

CMS actions: Not a Party to CMS.
Other actions:

Thailand:

Status: The species is known from peninsular Thailand by one confirmed record and a recent unconfirmed report (BirdLife International, 2001). A possible non-breeding record from peninsular Thailand in 1980 (Birdlife International, 2004).

CMS actions: Not a Party to CMS.

Other actions: In Thailand, it is nationally protected, and the locality where it was historically recorded is protected as the Laem Talumphuk Non-Hunting Area (Birdlife International, 2004).

REFERENCES:

BirdLife International (2001). *Threatened birds of Asia*. The BirdLife International Red Data Book. BirdLife International, Cambridge, UK.

BirdLife International (2004) *Threatened birds of the world 2004*. CD-ROM. Cambridge, U.K: BirdLife International.

Mundkur, T. (2004) Status and Conservation of shorebirds and Wetland habitats in Malaysia. Wetlands International, Malaysia.
http://www.mima.gov.my/mima/htmls/papers/bulletin/articles/wetlands.pdf
Downloaded on 4/11/2004.

Wildlife Conservation Society of the Philippines (1997) *Philippine Red Data Book: Red List of Threatened Animals*. Wildlife Conservation Society of the Philippines, Makati City, Philippines.

* Range State not yet included in the CMS range list for this species.