CONVENCIÓN SOBRE EL COMERCIO INTERNACIONAL DE ESPECIES AMENAZADAS DE FAUNA Y FLORA SILVESTRES

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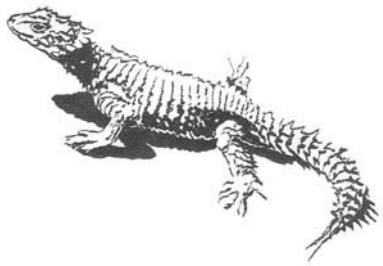

Vigésima reunión del Comité de Fauna
Johannesburgo (Sudáfrica), 29 de marzo-2 de abril de 2004

Examen del comercio significativo de especímenes de especies del Apéndice II
(Resolución Conf. 12.8 y Decisión 12.75)

# PROGRESOS REALIZADOS EN LA REALIZACIÓN DEL EXAMEN DEL COMERCIO SIGNIFICATIVO (FASES V Y VI)

1. Este documento ha sido preparado por la Secretaría.

## Antecedentes sobre el examen del comercio significativo de *Falco cherrug*

2. En su 19ª reunión (Ginebra, agosto de 2003), el Comité de Fauna decidió incluir el halcón sacre (*Falco cherrug*) en la Fase VI del examen del comercio significativo de especímenes de especies del Apéndice II.

3. La especie se seleccionó de conformidad con lo dispuesto en el párrafo c) de la Resolución Conf. 12.8, en el que se prevé la inclusión de especies en el examen del comercio significativo en casos excepcionales en los que de la información disponible se desprende que hay urgente preocupación. El Comité de Fauna tomó su decisión atendiendo a la información contenida en un informe presentado por los Emiratos Árabes Unidos (ERWDA, agosto de 2003 - la versión final de este informe se presenta en el Anexo 2 del presente documento). Al Comité le preocupa esencialmente el nivel de las exportaciones de especímenes vivos de *Falco cherrug* autorizadas por ciertos Estados del área de distribución, así como la posible aplicación indebida de los párrafos 2 (a) y 3 del Artículo IV de la Convención por los Estados del área de distribución.

4. De conformidad con lo dispuesto en el párrafo d) de la Resolución Conf. 12.8, la Secretaría solicitó comentarios sobre el estado de aplicación del Artículo IV para la exportación de especímenes de *Falco cherrug* en los Estados del área de distribución que tienen poblaciones de cría. En esta ocasión, la Secretaría distribuyó a los Estados del área de distribución un informe remitido por los Emiratos Árabes Unidos, solicitando que formulasen comentarios al respecto.

5. A continuación se enumeran los Estados del área de distribución de *Falco cherrug,* indicando si las aves se registran como de cría (br), aunque sin mencionar los países en los que la especie se registra como errante:

   Afganistán (br?), Arabia Saudita, Armenia (br), Austria (br), Azerbaiyán, Bahrein, Belarús (br), Bulgaria (br), China (br), Chipre, Egipto, Emiratos Árabes Unidos, Etiopía, Federación de Rusia (br), Georgia, Hungría (br), India, Irán (República Islámica del) (br), Iraq (br), Israel, Italia, Jordania, Kazajstán (br), Kenya, Kuwait, Kirguistán (br), Malta, Mauritania, República Checa

(br), República de Moldova (br), Mongolia (br), Nepal, Omán, Pakistán, Rumania (br), Serbia y Montenegro (br), Sudán, Tayikistán (br), Túnez, Turquía (br), Turkmenistán (EX, br), Ucrania (br), Uzbekistán (br), Yemen.

6. Al 13 de febrero de 2004 se habían recibido comentarios de los Emiratos Árabes Unidos, Etiopía, Hungría, Israel, Malta, República Checa y Túnez. En el Anexo 1 de este documento se incluyen los comentarios, siguiendo los encabezados normalizados utilizados en la compilación de información para los exámenes de las especies. No se han recibido comentarios de los Estados del área de distribución mencionados en el informe de los Emiratos Árabes Unidos, según el cual no aplican debidamente lo dispuesto en los párrafos 2 (a) y 3 del Artículo IV de la Convención.

7. De conformidad con los párrafos e) y f) de la Resolución Conf. 12.8, la Secretaría presenta las respuestas a los Estados del área de distribución, así como un resumen de la información extraída del informe sometido por los Emiratos Árabes Unidos. Tras revisar la información disponible, se pide al Comité de Fauna que determine los Estados del área de distribución que, a su juicio, cumplen lo dispuesto en los párrafos 2 (a) y 3 del Artículo IV. Estos se eliminarán de un nuevo examen y la Secretaría notificará el hecho a las Partes concernidas en el plazo de 60 días. Para los Estados del área de distribución que no se eliminen del examen, la Secretaría los dividirá provisionalmente en tres categorías de conformidad con lo dispuesto en los párrafos g)-j) de la Resolución Conf. 12.8. La Secretaría resumirá las conclusiones sobre los efectos del comercio internacional de *Falco cherrug* en esos Estados del área de distribución, la base de esas conclusiones y los problemas encontrados en cuanto a la aplicación del Artículo IV. La Secretaría transmitirá sus resultados y la categorización preliminar a los Estados concernidos, que dispondrán de 60 días para comunicar una respuesta.

***Falco cherrug* Gray, 1834** **Saker falcon**
**Faucon sacre**
**Halcón Sacre**

**Order: FALCONIFORMES** **Family: FALCONIDAE**

1. Species biology and conservation status

Table 1 below records the number of *Falco cherrug* falcon breeding pairs by country based mainly on information as given by ERWDA, 2003, which provides full details for the references cited in the table. The information for the Czech Republic was provided by Jandřiška Staňkovà, *in litt*. to the CITES Secretariat, December 2003; information for Armenia was found at the internet site given.

**Table 1. Number of Saker falcon breeding pairs by country**

| Country | Breeding pairs (source) |
|---|---|
| Afghanistan | 40 pairs (estimate) |
| Armenia | Number not known (Armenia's Red Book of Animals http://iatp.irex.am/grants/red-book) |
| Bulgaria | 30-50 pairs (Baumgart 1977, 1991)<br>40-50 pairs (Stoyanov and Kouzmanov, 1998) |
| China | 300 pairs (Xiaodi and Fox, 2002; Xiaodi et al., 2001; Ziming W., 2001)<br>1000-1200 pairs (Ming and Potapov, in press.) |
| Czech Republic | 12-15 pairs in 1999-2002 (Staňkovà, in litt., 2003) |
| Hungary | 113-145 pairs in 2002 (Bagyura et al., 2003) |
| Iran | 50 pairs (estimate) |
| Iraq | 60 pairs (estimate) |
| Kazakhstan | 200 pairs (Levin, 2001; Sklyarenko, 1998) |
| Kyrgyzstan | 150-200 pairs (Shukurov and Davlyabekov, 2001; Turganbaev, 2001) |
| Mongolia | 2200-3000 pairs (Shagdarsuren et al., 2001; Badam, 2001)<br>c. 1000-1200 pairs in 2003 (Potapov, in prep.) |
| Pakistan | 10 pairs (W. Clarke, pers. com.) |
| Romania | 20 pairs (Pusçariu and Filipasçu, 1977) |
| Russian Federation | 550-700 pairs (Galushin et al., 2001; Ryabsev, 2001; Galushin, Moseikin, Sanin, Vetrov and Karyakin, 2000) |
| Slovakia | 10-30 pairs late 1960s (Hudec and Černý, 1977); now 10–30 pairs (Sládek, 1977) |
| Turkey | 10-100 pairs (BWP 1980) |
| Turkmenistan | 50 pairs (estimate) |
| Ukraine | 120-140 pairs (Galushin et al., 2001; Vetrov et al., 2001) |
| Uzbekistan | 100-150 pairs (Kreuzberg-Mukhina et al., 2001) |
| Former Yugoslavia | 10-15 pairs (Baumgart, 1977, 1991) |
| **TOTAL** | **3900-5250 pairs in 2002**<br>**3602-4260 pairs in 2003** |

Comments received from range States

**Czech Republic:** The population of *Falco cherrug* in the Czech Republic occurs at the north-west edge of the distribution range of the species. Within the country, breeding distribution is restricted to Moravia (east part of the Czech Republic). Since the mid-1980s the distribution has shifted to the north and west. In 1999-2002, 33 nest territories were occupied in southern Moravia. An isolated nest site was located and monitored in northern Moravia between 1989 and 2000. In 1973-1977 the *Falco cherrug* population size in the Czech Republic was estimated to be 5-10 breeding pairs. Between 1985 and 1989, it increased up to an estimated 8-12 pairs and in 1999-2002 to 12-15 pairs. The trend shows a slight increase in numbers due to conservation efforts. The native origin o the Czech populations can be confirmed due to the marking of fledglings. No recruitment from Slovak and Hungarian populations has been recorded recently.

The threats to the species have been identified. 136 nests in total were found between 1976 and 2003, of which 37% (50 nests) had been destroyed. The losses were caused by different factors. Breeding losses were higher in dense alluvial forests than in the relatively open agricultural landscape. Deforestation and subsequent afforestation by humans was the reason for seven cases of nest failure. In seven cases there were nest robberies, or attempted robberies for falconry. Suspected shooting or poisoning of adults was recorded in several cases. Predation by martens (*Martes* sp.) or Goshawk (*Accipiter gentiles*) was recorded in 11 cases, mostly in forest habitats. There were four cases of unsuccessful nesting because of nest competition with White Stork (C*iconia ciconia*). Electricity pylons are a further threat particularly for fledglings with two *Falco cherrug* found to have been killed by electricity.

**Ethiopia:** *Falco cherrug* is a scarce winter migrant to Ethiopia, uncommon to rare, occurring only between October and March/April.

**Hungary:** *Falco cherrug* was formerly widespread in Hungary but a rapid decline began in the first half of the last century. The main reasons for this were shooting, nest robbing and poisoning. Despite the introduction of strict protection in 1954 the population continued to decline mainly due to an increase in nest robbing. In the early 1970s the population was reduced to 20-25 pairs. Following conservation work, the number of breeding pairs is now stabilizing at around 130.

**Israel:** Occurrence is very rare with fewer than 20 sightings each year mainly during migration.

**Malta:** The species is very rare and occurs irregularly.

**Tunisia:** Migratory birds observed only in the area of Cap Bon in the north of the country in recent years.

2. Conservation and management

**Comments received from range States:**

**Czech Republic:** In 1995, a countrywide *Rescue programme for Peregrine Falcon and Saker Falcon in the Czech Republic* was established. The aims of the programme are monitoring and analysis of causes of threats for these species and development of a national Action Plan with proposals on how to avoid or minimize these threats. Conservation methods employed include:

i) Installation of artificial nest sites in suitable habitat and repatriation and reinforcement of existing nests. From the total number of 28 nests installed, *Falco cherrug* occupied seven, some of them repeatedly in several years. During this period 13 young were successfully raised from these nests.

ii) Cooperation with owners and users of property and nest-guarding. This has proved very useful to contact possessors and users of property where *Falco cherrug* nests and the only way how to effectively protect individual nests against negative human affects.

iii) Addition of young to the nests and reintroduction of birds bred in captivity. This method is controversial. According to research, the addition of young to a nest is

successful only in the cases when the birds take care of a single offspring. Adding young to every nest, which may have up to 4 individuals, appears not to be successful.

Reintroduction of birds bred in captivity shows no effect. Between 1981 and 2000, about 150 young *Falco cherrug* were reintroduced in the Czech Republic. Despite intense monitoring of the raptor's population there is no evidence of nesting by individuals reared in the captivity.

*Falco cherrug* is protected by Act No. 114/1992 Gazette on Protection of Nature and the Landscape, included in the Decree of the Ministry of the Environment of the Czech Republic No. 395/1992 Gazette as critically endangered. Taking from the wild is fully prohibited. An exemption from the Act No. 114/1992 Gazette issued by the Ministry of the Environment is necessary for the keeping of each specimen. In addition, because *Falco cherrug* is included in Appendix II of CITES, it is listed in the Ministry of the Environment's Decree to the Act No. 16/1997 Gazette on CITES.

**Hungary:** *Falco cherrug* is a strictly protected species in Hungary according to the D*ecree of the Minister of Environment No. 13/2001 (V. 9.) KöM on the protected and strictly protected plant and animal species, strictly protected caves as well as on the plant and animals species of Community importance.*

Article 43 of the Act on Nature Conservation No. 53 of 1996 orders that for protected and strictly protected species, authorization of the competent national park directorate shall be required for the collection, capture, killing, possession and training of any individual

According to *Article 43* of the *Act on Nature Conservation No. 53 of 1996*, the exchange or sale and purchase, exportation from, importation to or transportation through the Republic of Hungary of any *Falco cherrug* requires authorisation from the competent national park directorate. Commercial trade in *Falco cherrug* is prohibited.

*Government Decree No. 8/1998 (I.23.) KöM on the detailed rules on protection, keeping, display and utilisation of protected species* specifies that it is forbidden to keep, display or utilize strictly protected species except for nature conservation or other public interest purposes. Exemptions are set for a few species of birds of prey for falconry purposes. According to this decree, the keeping or export/import of *Falco cherrug* cannot be permitted for falconry purposes because of the high risk of illegal capture and nest robbing, as well as the protection of the genetic material of the wild population. The hybridization of any protected species is also prohibited. The import (including the temporary import) of *Falco cherrug* hybrids is also not allowed for the above reasons.

The species is listed in Appendix II of the Convention, but listed in Annex A of the domestic regulation for the implementation of CITES. This means that trade in *Falco cherrug* is only possible according to Article III of the Convention and can only be permitted for nature conservation purposes.

**Israel:** No commercial trade in raptors is allowed.

**Malta:** The Protection of Birds and Wild Rabbit Regulations (Legal Notice 146 of 1993 as amended) declares *Falco cherrug* as a protected species. In accordance with Section 12 paragraph (2) of the Regulations, the exhibition, importation, exportation, carrying or offering for sale, or being in possession of any specimen of *Falco cherrug* is prohibited unless the bird was lawfully imported or was bred in captivity.

3. Overview of trade

The types of specimens recorded in trade within the CITES Trade Database are eggs, feathers, bodies, shells, skeletons, skins, specimens and live birds. Table 2 below gives the gross exports of live *Falco cherrug* (direct exports only) by country for the period 1993-2002, in decreasing order of total numbers.

**Table 2. Exports of live *Falco cherrug* by country 1993-2002**

| Country | Year | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **93** | **94** | **95** | **96** | **97** | **98** | **99** | **00** | **01** | **02** | **TOTAL** |
| Pakistan | 65 | 378 | 401 | 454 | 261 | 153 | 33 | 40 | 76 | 4 | 1865 |
| Germany | 35 | 82 | 33 | 32 | 159 | 36 | 66 | 72 | 79 | 137 | 731 |

| Country | Year | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | **93** | **94** | **95** | **96** | **97** | **98** | **99** | **00** | **01** | **02** | **TOTAL** |
| UAE | 9 | 11 | 131 | 4 | 22 | 107 | 84 | 130 | 62 | 37 | 597 |
| Russian Federation | 22 | 2 | 4 | 25 | 60 | 72 | 117 | 120 | 118 | 65 | 585 |
| Mongolia | 0 | 0 | 0 | 25 | 154 | 25 | 61 | 50 | 187 | 0 | 502 |
| China | 4 | 20 | 0 | 27 | 65 | 61 | 65 | 46 | 7 | 21 | 316 |
| UK | 12 | 12 | 3 | 7 | 28 | 18 | 16 | 16 | 18 | 67 | 198 |
| Austria | 11 | 36 | 8 | 4 | 14 | 13 | 2 | 5 | 1 | 10 | 104 |
| Kazakhstan | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 56 | 2 | 42 | 100 |
| Czech Republic | 6 | 10 | 14 | 16 | 8 | 11 | 19 | 10 | 4 | 1 | 99 |
| Saudi Arabia | 0 | 0 | 0 | 0 | 53 | 0 | 7 | 0 | 0 | 20 | 80 |
| Uzbekistan | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 77 | 77 |
| Canada | 3 | 10 | 0 | 4 | 6 | 16 | 12 | 7 | 7 | 7 | 72 |

Source: CITES Trade Database, UNEP-WCMC, February 2004

**Comments received from range states**

**Czech Republic:** Trade in *Falco cherrug* and its hybrids are quite common in the Czech Republic due to high levels of breeding in captivity and falconry purposes. Hybrids of *Falco cherrug x Falco rusticolus* or *Falco peregrinus* are often bred in captivity and they are very popular for trade as well. Export of *Falco cherrug* prevails and the level of import is not so significant. The year 1999 was the main exporting year. There has been a slight decrease both in export and import since the 6 specimens (1 hybrid and 5 *Falco cherrug* falcons) were re-exported for the monitored period (1997 to 2003), in 5 cases to the Slovak Republic, in one case to Germany.

**Hungary:** As a result of nature conservation legislation, there has been no legal trade in the species since Hungary joined CITES. Despite the strict protection, illegal activities, especially nest robbing, still occur most years because of the high trade demand. In 1996, four chicks were confiscated from a game ranger who had taken them illegally from the nest and intended to sell the birds to Arabian falconers. In the same year two more illegally kept birds were confiscated. There are cases almost every year where the nestlings disappear from the nest and circumstances clearly show that the nest was illegally robbed. Due to the ban on keeping birds, these specimens presumably are collected for the international trade. The legal trade in captive bred birds may also be an additional threat because the legal origin of the breeding stock and of specimens claimed to be captive bred is not always satisfactorily proved.

**Malta:** There has been no legitimate import or export of the species since 1989.

**United Arab Emirates:** In 2003, a total of 307 *Falco cherrug* were imported as shown in the table below. Confiscations amounted to 23 birds, 22 from Uzbekistan and one from Yemen. Re-export data is shown in a separate table.

**Table 3. Imports in 2003 of *Falco cherrug* by United Arab Emirates based on data from import permits**

| Country of export | Number of falcons |
|---|---|
| Russia | 96 |
| Kazakhstan | 82 |
| Germany | 75 |
| Uzbekistan | 17 |
| UK | 11 |
| Saudi Arabia | 9 |
| Austria | 7 |
| Kuwait | 5 |
| Bahrain | 3 |
| Canada | 1 |
| **TOTAL** | **307** |

Source: (Abdulnasser Al Sharnsi, in litt. 2004)

**Table 4. Re-export in 2003 of *Falco cherrug* from United Arab Emirates based on data from re-export permits**

| Country of import | Number of falcons |
|---|---|
| Iran | 50 |
| Saudi Arabia | 7 |
| Uzbekistan | 23 |
| Austria | 5 |
| Libya | 4 |
| Germany | 3 |
| Kazakhstan | 2 |
| Qatar | 1 |
| **TOTAL** | **95** |

Source: (Abdulnasser Al Sharnsi, in litt. 2004)

4. Other relevant information, including on captive breeding

The main countries involved in the export of captive bred specimens are shown in Table 5 below. The figures include all specimens not recorded as wild and should be taken as indicative figures only.

**Table 5. Gross exports of live *Falco cherrug* 1993-2002 of sources other than 'wild', i.e. captive-bred, F1 born in captivity, ranched and pre-Convention (data based on direct exports only)**

| Country | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 | 01 | 02 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Germany | 32 | 75 | 33 | 31 | 159 | 35 | 65 | 72 | 79 | 60 | 641 |
| Russian Federation | | 2 | 4 | 25 | 60 | 40 | 90 | 120 | 108 | 65 | 514 |
| United Arab Emirates | | | | | 4 | 47 | 84 | 122 | 62 | | 319 |
| United Kingdom | 11 | 11 | 3 | 5 | 27 | 18 | 14 | 12 | 16 | 67 | 184 |
| Kazakhstan | | | | | | | | 49 | 2 | 42 | 93 |
| Czech Republic | 6 | 10 | 13 | 14 | 7 | 9 | 17 | 10 | 4 | 1 | 91 |
| Austria | 10 | 33 | 8 | 3 | 11 | | 2 | 4 | 1 | 9 | 81 |
| Canada | 3 | 8 | | 4 | 4 | 14 | 9 | 7 | 5 | 7 | 61 |
| Uzbekistan | | | | | | | | | | 52 | 52 |
| Serbia & Montenegro | | | | | | | | | | 24 | 24 |
| Belgium | | 2 | | | | | | | 16 | 5 | 23 |
| China | | | | | 15 | | | | | | 15 |
| Australia | | 12 | | | | | | | | | 12 |
| Slovak Republic | | 2 | | | 5 | 1 | 1 | | 1 | | 10 |
| Qatar | | | | | | | | | | 10 | 10 |

Source: CITES Trade Database, UNEP-WCMC, February 2004

**Comments received from range states**

**Czech Republic:** *Falco cherrug* is one of the most popular species (with Peregrine falcon) used for falconry in the Czech Republic. There are about 300 registered keepers (private owners or organizations) of birds of prey and owls in the country. According to the central database of birds of prey and owls kept in captivity in the Czech Republic, there are about 620 live specimens of *Falco cherrug* registered in November 2003. The number of male and female specimens is similar. Since 1992 (Act No. 114/1992), 183 exemptions for keeping *Falco cherrug* for falconry have been issued by the Ministry of the Environment of the Czech Republic. 136 of them are still valid (more than one specimen is allowed to keep for one exemption). The origin of the *Falco cherrug* in captivity according to the database is as follows: 0.3% taken from the wild or disabled, 2.5% legal import, 87% captive bred, and 10% of unknown origin (mostly acquired before the Act No. 114/1992 and 16/1997 came into force, probably from the wild). Young are mostly used for internal trade or exchange between falconers or are exported. Also hybrids are produced (mostly *Falco cherrug x Falco peregrinus x Falco rusticolus*). Hybrids are

registered as CITES specimens at regional authorities, but so far no central evidence has existed (being under preparation).

**Hungary:** *Article 43* of the *Act on Nature Conservation No. 53 of 1996* orders that for protected and strictly protected species authorization of the competent national park directorate shall be required for the breeding in captivity of any individual.

**Israel:** Israel's wildlife policy disallows the sport of falconry (see Notification 2000/03) and no raptors are bred or kept in captivity in Israel for this purpose.

**Malta:** There are no specimens of *Falco cherrug* bred in captivity in accordance with CITES Resolution Conf: 10.16 (Rev.)

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Helen Corrigan kindly provided information from the CITES Trade Database maintained by UNEP WCMC. Tim Inskipp of UNEP-WCMC provided information on the distribution records for *Falco cherrug*. The correspondents listed above are all thanked for the information they provided.

# The Status of the Saker Falcon (*Falco cherrug*) and Assessment of Trade

**CITES Animal Committee**

**August 2003**

The Environmental Research and Wildlife Development Agency (ERWDA)
P.O. Box 45553
Abu Dhabi
United Arab Emirates

## CONTENT

## EXECUTIVE SUMMARY

The CITES convention recommended a suspension on international trade with the United Arab Emirates in 2001. The trade suspension recommendation was motivated by a number of reasons such as inadequate border controls and lack of effective, appropriate legislation. One of the main requirements for this recommendation to be lifted was the establishment of a falcon registration system in the UAE.

As a result, the UAE initiated a vast programme on falcon registration as well as establishing a falcon passport system in compliance with the CITES recommendations. The UAE is now in possession of a falcon register with more than 3,500 birds and a strict regulation concerning the movements of falcons across borders.

However, the concerns over the level of trade in falcons used for falconry have been at the centre of much work by Agency such as ERWDA in Abu Dhabi.

One species, the Saker falcon (*Falco cherrug*), has seen a sharp decline across its range due to a variety of reasons, including the high volume of trade.

ERWDA has been working on Saker falcon throughout its range for a number of years now, and is able to have a good understanding on the Saker falcon status in the wild as well as having a good understanding on the trade in this species.

This report is giving the background data for the Saker falcon population status, present harvest model and gives information on the trade occurring in the GCC, based on data collected in the various falcon hospitals as well as data extracted from the falcon register in the UAE.

This report is submitted by the United Arab Emirates to the CITES Secretariat making use of Article XIII calling upon the assistance of the Secretariat and following Resolution Conf. 11.18 – Trade in Appendix II and III species.

## SECTION 1

**Work on the conservation of Asian falcons by ERWDA**

Section one of this report summarises work done by the Environmental Research and Wildlife Development Agency (ERWDA), Abu Dhabi on Saker Falcons.

There are two other species of concern: the Peregrine Falcon (particularly the migratory northern form (*Falco peregrinus calidus*) and the Gyrfalcon (*Falco rusticolus*), particularly the Siberian populations. We have employed Russian and British biologists to monitor Peregrines in the Taimyr Peninsula, northern Siberia since 1996. We know this is a source population and its numbers and productivity are good. The Gyrfalcon situation is less certain and requires further investigation.

It should also be mentioned that the Lugger Falcon (*Falco jugger*) is used in Pakistan to trap these falcons. It is CITES Appendix 1, not used in falconry or international trade but is severely harvested. We have stopped work on it at present owing to lack of resources. We believe that its harvest rate in Pakistan is unsustainable.

The Saker Falcon has always been the staple of Arab falconry and is now of conservation concern. We will use it in this report to highlight its conservation problems and possible roles of CITES in their solutions. We use the Saker Falcon (*Falco cherrug*) as an example to illustrate:

1. the conservation work which ERWDA has been conducting
2. the numbers of Saker falcons being trapped
3. whether these numbers are sustainable
4. the likely impact of current harvesting levels
5. the effect that banning legal, captive-bred imports will have on wild populations

6. the immediate need to move Sakers to CITES Appendix 1

**Main causes of decline in the Saker population:**

1. Habitat loss to agriculture, mainly non-reversible.
2. Man-made reductions in small mammal populations.
3. Legal and illegal trapping at nests and during the autumn.

**Additional problems:**

1. Widespread corruption at all levels
2. CITES and other export permits being sold by officials to trappers
3. No attempt to follow sustainable use precepts or to adequately monitor either production or harvest rates
4. Increased ease of communication and transport.

**1. Field research.**

Teams of local field biologists have been trained and resourced by ERWDA to undertake nest surveys of Sakers and Peregrine falcons in their own countries. These projects cover Russia (Western Russia, Crimea, Taimyr, Tuva, Transbaikalia), Kazakhstan, Kyrgistan, Pakistan, Mongolia and China. We also have data from biologists in Ukraine, Turkmenistan, Rumania, Bulgaria and Uzbekistan. Some of these studies include research on baseline data including habitat use, range use, diets, dispersal and migration. This year we are undertaking a programme assessing the use of artificial nests in vole plague areas of Mongolia to boost Saker productivity. Data from these studies are constantly being published in scientific journals and conferences (see www.falcons.co.uk/mefrg/). Data from these surveys are used by some governments, and ignored by others, when assessing sustainable use and deciding on quotas for CITES export permits for wild falcons to the Middle East. The 1999-2001 survey reports for Mongolia were included in their latest CITES report. A list of relevant references and publications is provided at the end of this paper.

**2. Monitoring of trade.**

First we are monitoring falcon production and movements from source to sink, from nests and breeding areas in Asia, through trade routes to end-users. Field biologists implant microchips in young falcons at the nest, avian veterinarians provided with microchip readers check falcons passing through the Middle East falcon hospitals and report recoveries to our database. We have worked on the trade routes from the high Arctic, to the plains of Asia. Over 22,000 falcons have been micro-chipped to date. We have looked at smuggling through the Khyber Pass and the Khunjerab, Pakistan. We have checked (sometimes in disguise) traders in Almati, Bishkek, Peshawar, Lahore, Karachi, Ulan Baatar, Xinjiang, Qingai, Hothot, Beijing, Abu Dhabi, Dubai, Riyadh, Sharjah and elsewhere.

**3. Veterinary support.**

A new public Falcon Hospital has been opened by ERWDA in Abu Dhabi to help reduce losses of falcons through disease or injury. Fifteen years ago falcon mortality in captivity was high because of the lack of veterinary support. Nowadays falcons are surviving many seasons reducing the demand to replace falcons each year. In 1994 ERWDA established the ***Middle East Falcon Research Group*** to network all veterinarians in the Middle East and all biologists working on affected populations. The MEFRG publishes its newsletter ***Falco***, also available online at www.falcons.co.uk/mefrg/. ERWDA also provides quarantine and re-location facilities through its Sweihan Centre for animals confiscated at border controls.

**4. Education.**

The key to tackling these issues is through education and awareness. In 2000 ERWDA published *A Global Strategy for the Conservation of Falcons and Houbara* in Arabic and English. This is to promote

understanding by Arab hunters of the conservation issues. ERWDA staff have also provided training courses for falcon trappers in Pakistan on falcon husbandry, to reduce attrition of trapped birds. We have also produced videos in English, Russian and Mongolian on falcon conservation issues, both for government officials and for public TV in range countries.

We have formed the *Emirates Falconers' Club* as a contact point for falconers and as a focus for awareness programmes. For falconers we are producing a series of videos on bird of prey management to raise standards of husbandry, and improve welfare and survival. Titles produced so far include *Nutrition, Basic Training, Anatomy, Health* Care and four modules on *Captive Breeding*. We are currently writing a film in Arabic on training captive-bred falcons, in order to reduce the dependency on wild-caught falcons and to encourage alternatives to the use of wild-sourced houbara in falcon training. Both a book and a film on the Saker Falcon are well on in preparation.

For scientists and NGOs we are constantly attending or organising conferences on falcon and houbara issues, the most recent hosted one being in Ulaan Baatar, Mongolia in 2000 (see www.falcons.co.uk/mefrg/conference.htm). We provided updates on the Saker situation at the World Working Group on Birds of Prey Conference in Budapest in June 2003.

**5. Captive Breeding.**

We have supported the breeding and use of captive-bred falcons in the Middle East to the point that Gulf falconry has the potential to be entirely supplied by farmed falcons. The numbers of captive-bred falcons in the United Arab Emirates has increased considerably, which could account for the 43% decrease in wild-caught sakers between 1993 and 1998. This is not the case in Saudi Arabia where there are very few captive-bred falcons, there being a preference for wild-caught sakers. In a new hospital established in Riyadh four years ago, 5000 individual falcons have so far been admitted to the hospital. Considering the hospital is relatively new, this number is set to increase dramatically. Almost all of these are pure, wild-caught Sakers with a few Peregrines. The number of captive-bred falcons being exported to Saudi Arabia is negligible and the consequences for the demand for wild falcons clearly seen. In direct contrast, the import of captive-bred falcons into the UAE is considerably reducing the price of and demand for wild-caught falcons.

## SECTION 2

**The Saker Falcon (*Falco cherrug*) population estimates.**

**Extent and speed of decline**

The historical range has reduced and fragmented. The subspecies *cherrug* is now fragmented and is not adequately replacing itself. The *milvipes* sub-species is under quasi-legal harvest in Siberia. In Mongolia, largely due to Buddhism, the nests are left alone and production is good, but trappers are increasingly concentrating on this reservoir. China has already been heavily decimated by human pressure; most of the falcons trapped there are of northern origin. Previous estimates for China of 20,000 pairs have been revised after the surveys in 2003 to about 1000 pairs (Ming, Potapov in press). The Kazakhstan population has shown how the Saker can collapse. Unless the harvest is reduced, the same will happen to the *milvipes* population in perhaps 5 years.

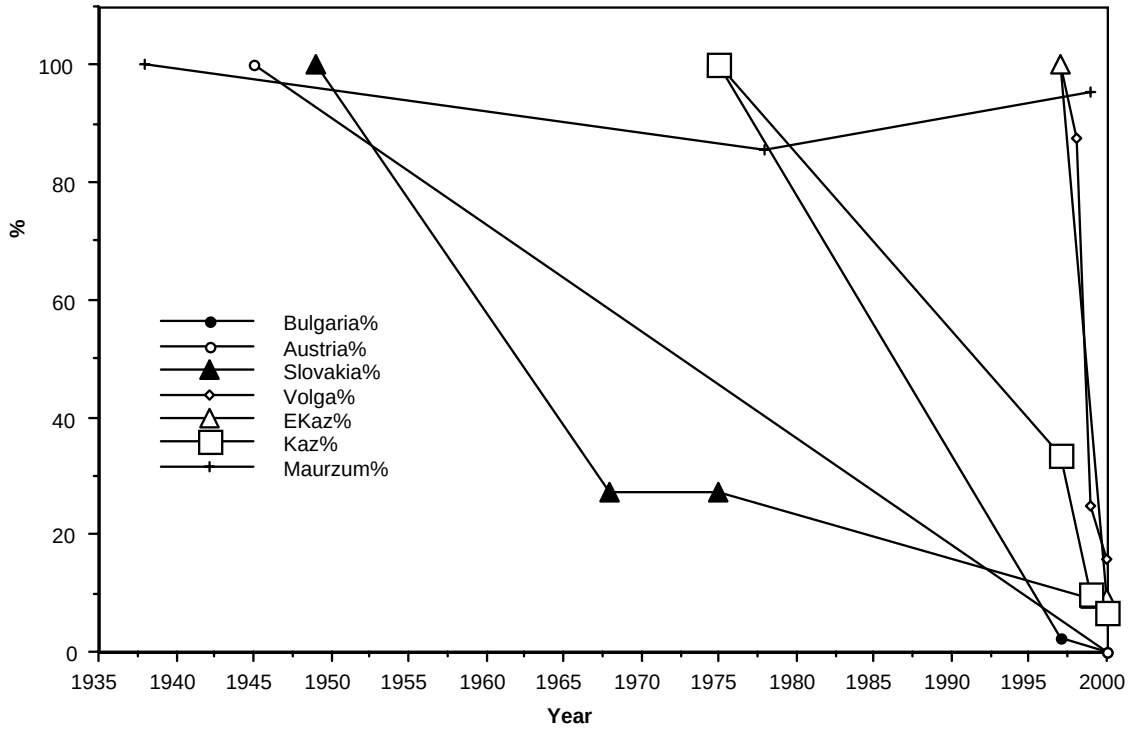



*Figure 1. Crash of some Saker populations.* 100% was the best historical estimate. Data: Bulgaria: Baumgart 1977, Data of the Birds of Prey Protection Society of Bulgaria, 2002., Austria: Bauer 1977, Slovakia (Hudec and Černý 1977, Sládek 1977), Volga (Galushin *et al.* 2001), East Kazakhstan and Kazakhstan (Levin 2001), Naurzum (Bragin 2001).

Table 1. Total number of Saker breeding pairs

| COUNTRY | BREEDING PAIRS | SOURCES |
|---|---|---|
| Russian Federation | 550 – 700 pairs | Galushin et al. 2001; Ryabsev 2001; Galushin, Moseikin, Sanin, Vetrov, Karyakin 2000. Internal report to FRI |
| Hungary | 40 pairs<br>90 known pairs 150 est<br>113-145 pairs in 2002 | Bécsy and Keve 1977<br>Bagyura et al. 1994.<br>Bagyura et al. 2003 |
| Slovakia | 10–30 | late 1960s (Hudec and Černý 1977); now 10–30 pairs (Sládek 1977). |
| Romania | 20 pairs | Pusçariu and Filipasçu 1977 |
| Former Yugoslavia | 10-15 | Baumgart 1977, 1991 |
| Bulgaria | 30–50 pairs<br>40-50 | Baumgart 1977, 1991<br>Stoyanov&Kouzmanov 1998 |
| Ukraine | 120-140 pairs | Galushin *et al.* 2001; Vetrov *et al*. 2001 |
| Kazakhstan | 200 pairs | Levin 2001; Sklyarenko 1998 |
| Turkey | 10–100 pairs | BWP 1980 |

| COUNTRY | BREEDING PAIRS | SOURCES |
|---|---|---|
| Pakistan | 10 pairs | W. Clarke pers com |
| Iran | 50 pairs | Estimate |
| Iraq | 60 pairs | Estimate |
| Afghanistan | 40 pairs | Estimate |
| Uzbekistan | 100-150 pairs | Kreuzberg-Mukhina *et al.* 2001 |
| Turkmenistan | 50 pairs | Estimate |
| Kyrghistan | 150 –200 pairs | Shukurov & Davlyabekov 2001 ; Turganbaev 2001 |
| China | 300 pairs<br><br>1000-1200 pairs | Xiaodi & Fox 2002,Xiaodi *et al*. 2001.,Ziming W. 2001<br><br>Ming and Potapov in press |
| Mongolia | 2200-3000 breeding pairs<br><br>c. 1000-1200 breeding pairs in 2003 | Shagdarsuren *et al*. 2001; Badam 2001<br><br>Potapov in prep. |
| **TOTAL** | **3900 to 5250 pairs**<br><br>**3602 to 4260 pairs** | In 2002<br><br>In 2003 |

## SECTION 3

**Numbers of wild-caught Saker Falcons (*Falco cherrug*) used in falconry in the Middle East (1993-2002)**

**In which countries are the Sakers trapped ?**

Data on trapping estimates and countries of origin for wild-caught sakers include Platt 1988; Remple 1988; Barton 2000. Riddle and Remple (1994) stated:

*'Estimates of the total number of falcons (all species) utilized are commonly quoted as 3000 with yearly replacements for dead, lost or released birds estimated at 2000. Our impression is that those figures should be adjusted upwards based on current information supplied by dealers, knowledgeable falconers and demographic data of falcons at falcon hospitals in the UAE and Qatar.'*

1. They concluded that the number of falcons of all species kept in the Middle East region for falconry is approximately 8,600.

2. They estimated that 2750 new falcons of all species, mainly Saker and Peregrine, are trapped as replacements each year.

Riddle and Remple (1994) determined which countries were major providers using information gained from trappers. However trapping regions change and over the past 5 years more and more trappers are taking Sakers from further east i.e. China, Siberia and Mongolia. Many falcons are trapped in certain countries but were produced in an entirely different country. Many falcons appear to be trapped on migration in China, but have originated in Mongolia. Similarly Pakistan has few if any breeding pairs but Riddle and Remple (1994) quoted 1700 Sakers being taken annually from Pakistan alone. The reason for this is that the majority of falcons are trapped during their autumn migration. Large providers of birds are Iran, Pakistan, China and Mongolia. Afghanistan, Egypt, Syria and Libya all provide falcons to the Middle East; Iraq and Morocco provide small numbers; Saudi Arabia traps unknown numbers within the Kingdom and a few are trapped within the Gulf.

The major users of wild-caught Saker Falcons in the Middle East are Saudi Arabia, Qatar, Bahrain, Kuwait and the United Arab Emirates. The most reliable source of data on numbers of trapped falcons is from the falcon veterinary hospitals in these regions with which we have good collaboration for many years. Throughout this section of the report all figures are for Saker falcons only (no other species included). It is also reasonable to assume that the majority of falcons seen for the first time in the falcon hospitals are falcons trapped that same year. This is definitely the case for juvenile birds which account for the majority in all cases. The hospitals from which we have information are:

Riyadh – Fahad bin Sultan Falcon Center

Qatar – Qatar Falcon Center

Dubai – Dubai Falcon Hospital

Abu Dhabi – Abu Dhabi Falcon Hospital (Environmental Research and Wildlife Development Agency)

Bahrain – Al Areen Falcon Hospital

Kuwait – no hospital contacts, estimates only.

As a note, using data from these hospitals provides us with an estimate of wild-caught Sakers but it is only a minimum estimate. Many falcons within the Middle East are never seen at a veterinary hospital and some of the hospitals are new so that there will be a period of time before numbers of falcons stabilise to allow a more direct estimate. Riyadh for example is one hospital in an enormous country. Within 4 years of the hospital opening, the numbers of new sakers seen each year have risen from 484 to 1727 and will continue to rise.

The UAE is currently introducing a registration scheme for all falcons in the Emirates. Over the next few years this should also provide data on numbers of imported species.

**Falcon hospital data**

The most complete data we have is for Dubai Falcon Hospital. It is also one of the longest established falcon hospitals in the region (established in 1985). The data for this hospital are shown in Table 1.

*Table 1. Numbers of saker falcons seen in Dubai Falcon Hospital each year. Important note – all data are for different individuals. None of the birds counted in each year are repeats.*

| **DUBAI** | **1993-94** | | **1994-95** | | **1995-96** | | **1996-97** | | **1997-98** | | **1998-99** | | **1999-00** | | **2000-01** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ad | Juv | Ad | Juv | Ad | Juv | Ad | Juv | Ad | Juv | Ad | Juv | Ad | Juv | Ad | Juv |
| Male | 26 | 112 | 27 | 73 | 12 | 53 | 15 | 77 | 17 | 72 | 1 | 12 | 3 | 17 | 2 | 25 |
| Female | 225 | 929 | 242 | 623 | 222 | 473 | 208 | 563 | 217 | 426 | 70 | 122 | 40 | 90 | 13 | 103 |
| **Total** | 251 | 1041 | 269 | 696 | 234 | 526 | 223 | 640 | 234 | 498 | 71 | 134 | 43 | 107 | 15 | 128 |
| **Total** | **1292** | | **965** | | **760** | | **863** | | **732** | | **205** | | **150** | | **143** | |

Up to and including 1997-1998, the hospital was open to the general public with many falconers also visiting Dubai from Abu Dhabi. Abu Dhabi did not have its own public hospital until 1999. In 1999 the Environmental Research and Wildlife Development Agency opened its public hospital and the same year the Dubai hospital reduced the numbers of public clients. This probably explains the sudden drop in Saker numbers in Dubai between 1997-1998 and 1998-1999. For this report, Dubai and Abu Dhabi are combined since they are both within the United Arab Emirates.

*Table 2. Numbers of saker falcons seen in Abu Dhabi Falcon Hospital each year. At present, data on age and sex ratios is unavailable.*

| **ABU DHABI** | **1999** | **2000** | **2001** | **2002** | |
|---|---|---|---|---|---|
| Age and sex combined | **363** | **418** | **311** | **349** | **Total 1441** |

When the hospital data for Dubai and Abu Dhabi are combined for the past few years, they see between 450 and 600 new Sakers each year. Between 1993 and 1995 they were seeing over 1000 sakers per year. The main reason for this reduction is that many more people in the UAE nowadays purchase captive-bred falcons.

The biggest single user of Saker falcons is Saudi Arabia. Traditionally the Saker has been the falconry bird of choice. Whereas captive-bred falcons are making a definite impact within the UAE, there is currently no such change within Saudi Arabia. The Fahad Bin Sultan Falcon Center opened in 1998. It is important to note that the huge increase seen over the past 4 years is not because more Sakers are entering the country. It is because Saudi Arabia is an enormous country and there is only one falcon hospital in the country. With any falcon hospital it takes time for the falconers to begin using it and to gain confidence with the veterinarians.

*Table 3. Numbers of saker falcons seen in Prince Fahad bin Sultan Falcon Center (Riyadh) each year. At present, data on age ratios are unavailable.*

| **RIYADH** | **1998-1999** | **1999-2000** | **2000-2001** | **2001-2002** |
|---|---|---|---|---|
| Female | 482 | 1027 | 1610 | 1652 |
| Male | - | 3 | 10 | 7 |
| Unknown | 2 | 3 | 27 | 68 |
| **Total** | **484** | **1033** | **1647** | **1727** |

The Riyadh data raise several important points when it comes to estimating the numbers of Sakers:

1. There are many falcons within regions of Saudi Arabia which are never seen in a hospital.

2. The numbers seen in Riyadh will continue to increase.

3. Very few of the falcons seen in Riyadh are duplicate counts of those seen in the Dubai and Abu Dhabi hospitals.

4. Annual mortality and losses are very high which means that these falcons will continue to be replaced each year.

On the basis of the above, reliable sources in Saudi Arabia suggest that the minimum number of Sakers entering the Kingdom of Saudi Arabia annually is 4000 individuals and possibly as high as 5000.

**Sex ratios of wild-caught Sakers**

The traditional quarry species for saker falcons in falconry is the houbara bustard (*Chlamydotis undulata*). Female Sakers are approximately one third larger than male Sakers. The size of the houbara dictates that only female sakers are suitable to catch them. The effect of this can clearly be seen from the data. In Riyadh over the past 4 years, 97.5 % of the Sakers seen were females. Given that Saudi Arabia is the biggest user this has extreme implications for wild populations.

**Ratio of adult to juveniles**

At the moment it is difficult to give a reasonable estimate for this because we only have detailed data for Dubai.

*Table 4. The number of adult males and adult females as a percentage of the total number of Sakers seen each year.*

| | 93-94 | 94-95 | 95-96 | 96-97 | 97-98 | 98-99 | 99-00 | 00-01 | **MEAN** |
|---|---|---|---|---|---|---|---|---|---|
| **ADULT** | | | | | | | | | |
| Male | 2.0 | 2.8 | 1.6 | 1.7 | 2.3 | 0.5 | 2.0 | 1.4 | **1.8 %** |
| Female | 17.4 | 25.1 | 29.2 | 24.1 | 29.6 | 34.1 | 26.6 | 9.1 | **24.4 %** |
| **JUVENILE** | | | | | | | | | |
| Male | 8.7 | 7.6 | 7.0 | 8.9 | 9.8 | 5.8 | 11.3 | 17.5 | **9.6 %** |
| Female | 71.9 | 64.6 | 62.2 | 74.1 | 68.0 | 65.4 | 71.3 | 72.0 | **68.7 %** |

We have no data from Kuwait. We know there are Kuwaiti trappers active in many countries. We also know that there are many falcons being kept in Kuwait for falconry and that there are falcons markets in Kuwait. Very few of the falcons kept in Kuwait are taken to hospitals in other regions. The general opinion amongst the established falcon hospitals is that a reasonable estimate for Kuwait is at least 500 new saker falcons each year. Qatar Falcon Center has been open only one year and saw 539 Sakers during this time. We have put a conservative estimate of 1000 sakers for Qatar. On the basis of the above information, estimates for the total number of wild-caught Sakers entering different countries of the Middle East each year are given in the table below. These figures give an indication of trapping pressure and are minimum estimates.

**Estimated numbers of Saker Falcons trapped annually for the Middle East.**

*Table 5. Estimates for annual Saker demand.*

| **COUNTRY** | **SAKER NUMBERS** |
|---|---|
| Saudi Arabia | 4000 |
| Qatar | 1000 |
| Bahrain | 500 - 1000 |
| Kuwait | 500 - 1000 |
| United Arab Emirates | 500 - 1000 |
| **TOTAL** | **6500 - 8000** |
| **5% mortality factor added** | **6825 - 8400** |

As with any bird species being trapped and exported there will always be mortalities between the times they are trapped and when they appear in the market. Using a very conservative 5% mortality factor, there could be 6500 - 8500 sakers trapped from the wild each year. In order to establish the sustainability of this level of trapping, we need to estimate the proportion of males, females, adults and juveniles. We also need to know the breeding population size for each country and the numbers of falcons being taken from each of these countries.

**Estimated ratios for age and sex**

**(all values based on the minimum trapping level of 6500 with no mortality factor included)**

Using the data and communications from the different falcon hospitals, we estimate that 20% of all trapped falcons are adults and 80% are juvenile falcons. Using these figures we estimate the following:

**Saudi Arabia (4000 new Sakers each year)**

For Riyadh 98.1 % of the Sakers seen each year were females. An estimated 780 are adult females and 3140 are juvenile females. (N.B. The figure might be slightly higher allowing for the number of birds where sex is unknown).

**Qatar (1000 new Sakers each year)**

We estimate that 90 % of the falcons seen here are female and that there is a ratio of 20% adult to 80% juvenile. Therefore we estimate 900 females and 100 males. We estimate 720 juvenile females and 180 adult females; 80 juvenile males and 20 adult males.

**Bahrain (500 minimum)**

We estimate that 90 % of the falcons seen here are female and that there is a ratio of 20% adult to 80% juvenile. Therefore we estimate 450 females and 50 males:

1. An estimated 360 juvenile females and 90 adult females.
2. An estimated 40 juvenile males and 10 adult males.

**Kuwait (500 minimum)**

We estimate that 90 % of the falcons seen here are female and that there is a ratio of 20% adult to 80% juvenile. Therefore we estimate 450 females and 50 males:

1. An estimated 360 juvenile females and 90 adult females.
2. An estimated 40 juvenile males and 10 adult males.

**United Arab Emirates (500 minimum)**

In the UAE the ratios are as shown above in this report. These give estimates for the UAE of:

1. An estimated 360 juvenile females and 90 adult females.
2. An estimated 40 juvenile males and 10 adult males.

*Table 5. Summary table for the above data on age and sex. The table shows minimum estimates with countries combined.*

| | ADULTS | JUVENILES |
|---|---|---|
| FEMALES | 1230 | 4940 |
| MALES | 50 | 200 |
| TOTAL | 6420 | |

At minimum, 6,400 Sakers are trapped and exported annually to the Middle-East. This is an estimate based on real data and uses minimum numbers throughout. The value could be in excess of 8000 Sakers being trapped annually.

## SECTION 4

**Population parameters of Saker Falcons as observed in Mongolia.**

In Sections 4 and 5 we use a scientific basis for calculation of the maximum sustainable yield and use Mongolia as a model on which the scenarios are based.

The total area representing the study areas is 16,947.5 km2, which is 1.1 % of all territory of Mongolia. Given that the forested territory of Mongolia is 9.65 mln ha (96,500 km2 ), 6% of the territory is flat, sandy deserts and 4% of the territory is above 3,000 m where Sakers do not breed, the study areas represent 1.6% of the Mongolian territory suitable for Sakers breeding (or 1,059,218.8 km2).

The average breeding density of Sakers in study areas increased from 2.7 pairs per 1000 km2 in 1998 to 2.83 pairs per 1000 km2 in 1999, and then decreased to 2.1 pairs per 1000 km2 in 2000. In two areas surveyed in 2000, breeding density decreased (from 8 to 7 breeding pairs in one area and from 16 to 11 in the other). Production decreased from 6.1 young per 1000 km2 in 1998 and 9.4 young per 1000 km2 in 1999 to 5.8 young per 1000 km2 in 2000. The two study areas are not representative for the entire Mongolian territory, as they were affected by vole peaks, and taking the uncertainty coefficient of the increase as 0.25 (i.e. that the probability of similar event happening in all study areas). Keeping in mind that one third of Sakers breeding on power lines in industrialised part of Mongolia failed due to gale winds in spring, and we estimate that the population size of Sakers in Mongolia went up from 2823 pairs in 1998 to 2961 pairs in 1999 and down to 2220 pairs in 2000.

With the average brood size of 3.2 in 1998, 3.7 young in 1999 and 2.9 young in 2000, providing that the percentage of pairs participating in breeding was 70.6% as measured in the study areas in 1998 and 93.5% in 1999 and 69% in 2000, the Mongolian population of Saker falcons produced an estimated 6382 young in 1998 and an estimated 9834 in 1999 and an estimated 4450 in 2000. The significant decrease in the estimated numbers of young produced can be explained by the decreased occupancy of territories and decreased breeding rate thus producing less young per unit area. The improvement of breeding parameters in 1999 was a result of increased occupancy and increased breeding performance of individual pairs. The decrease observed in 2000 clearly was a result of unfavorable ambient conditions in spring and changed food situation.

*Figure 2. Breeding density of Sakers in Mongolia (number of pairs per 1000 km$^2$) and percentage of breeding territory of all occupied territories (occupancy %).*

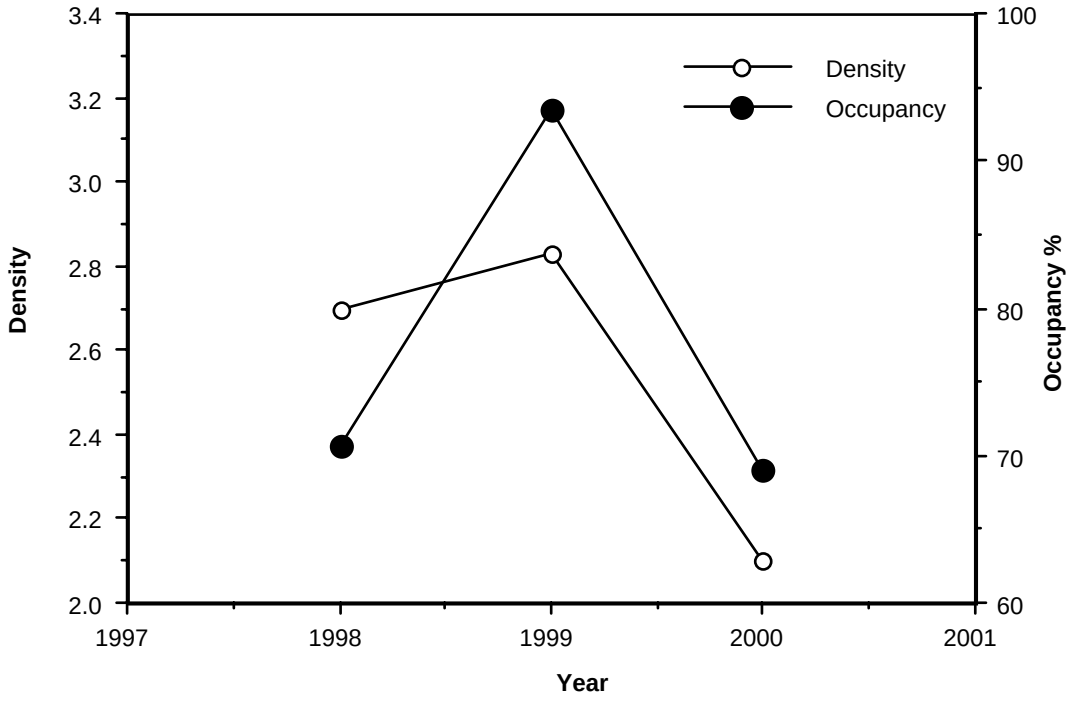
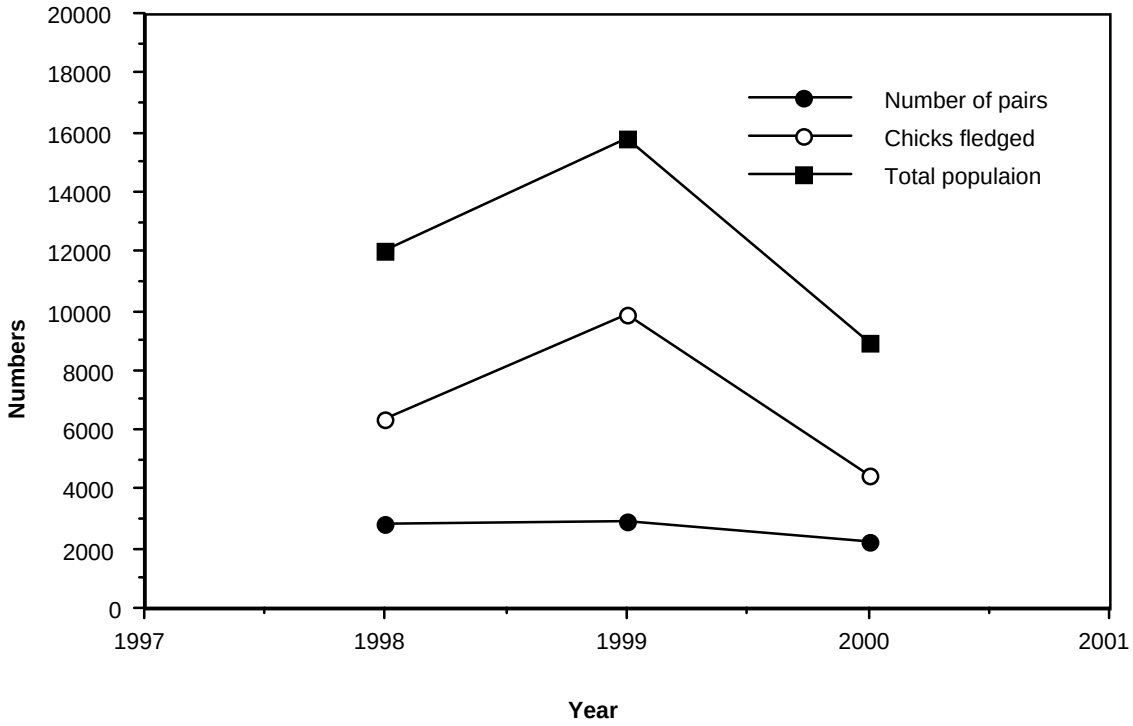



*Figure 3. Numbers of Saker falcons in Mongolia.*




## SECTION 5

**Population fluctuations and the effects of different harvesting levels.**

The number of Sakers in Mongolia fluctuates with the seasons of the year. We do not know how many non-breeding adults there are. In southern Mongolia where snow cover is sparse, breeders are resident all the year round. In northern Mongolia and Siberia, all birds move south, mostly to China, during the months of snow cover. We know this from our satellite tracking data. At the end of the breeding season a big proportion of the population is juveniles. They prefer to stay with their parents at least until September and then disperse. A large proportion of the young die (Newton 1982) and it is only in their second or third season that they breed. We have incorporated this logic into a simple numeric model which emulates fluctuations in the Mongolian Saker population (Figure 3). The basic equation of the sustainable population is as follows:

$N = N_{adults} + N_{young}$ where number of adults is number of adults in the previous year multiplied by the survival coefficient (0.73) plus a number of 3rd year recruits multiplied by the recruitment coefficient R=0.9 ($N_{adults} = N_{matures} + R * N_{3ds}$).

Number of young is the sum of number of young produced in the current year plus number of survived young produced in the previous year ($N_{1st}$) and a year before ($N_{2nd}$):

$$N_{young} = (\frac{N_{adults}}{2} * Brood - size) * occupancy + N_{1st-young} * 0.4 + N_{2nd} * 0.6$$

Brood size was understood as the number of chicks fledged, i.e. brood size includes chick mortality. We used the brood size 3.5 in the model (average according to our observations in Mongolia in 1998-2000), but every 10$^{th}$ year we used the brood size 4 (exceptionally good year), on two random occasions the clutch size was 2.2 (bad year) and on one occasion 2.8 (below average year). The model was run for 30 interactions emulating the 30 years period. The starting number of breeding pairs was taken as 5000 pairs, which is an estimate for the entire Saker range. The total numbers fluctuated 15% which is consistent with the observations of the wild Saker populations.

Using the above model, we have calculated a few modelling scenarios using an estimated world population of 5000 breeding pairs. The following scenarios A to C were analysed using the model and the effects of the various harvesting scenarios are shown in Figure 4:

A) 1000 adult females and 4000 juveniles removed from wild population annually

B) 300 adult females and 2000 juveniles removed from wild population annually

C) 1000 juvenile females and no adults removed from wild population annually

Note that even using scenario A with 1000 adult females and 4000 juvenile females being removed from the total world population each year, this is still less than the estimates calculated in section 3.

**Summary**

Although there are still many gaps and uncertainty in both the survey data and the modelling parameters it is clear that the current level of use of the Saker is unsustainable, with a time-frame of 5-15 years maximum at these rates.

## SECTION 6

**Falcon Registration in the United Arab Emirates**

The falcon registration scheme was established in 2002, as one of the major requirement to be fulfilled by the UAE for the trade suspension to be lifted.

The registration scheme started in July 2002 and by December most of the birds had been registered. Now it is functioning on an ongoing basis. It includes all the falcon species used for falconry, in all the seven Emirates and applied to everyone, from private owners to breeding facilities.

A total of 3,169 falcons (bred in captivity or wild) are now registered (48% hybrids; 4.5% peregrines, 6.5% gyr and 41% sakers falcons). Among the 3,169 falcons registered 40% are wild and 60% are captive bred. For the Saker falcons 91.6% are wild caught birds, 8.4% are captive bred.

The table below gives the detailed origin of the Sakers falcon (as stated by the owners) registered in the United Arab Emirates in 2002.

| Country | Wild caught | Captive bred | Unknown |
|---|---|---|---|
| Afghanistan | 8 | 0 | 0 |
| Bahrain | 0 | 1 | 0 |
| Belarus | 13 | 0 | 0 |
| China | 1 | 0 | 0 |
| Germany | 0 | 3 | 0 |
| Iran | 61 | 4 | 0 |
| Iraq | 2 | 0 | 0 |
| Libya | 1 | 0 | 0 |
| Mongolia | 13 | 3 | 0 |
| Pakistan | 1044 | 0 | 0 |
| Russia | 13 | 3 | 0 |
| Syria | 12 | 1 | 0 |
| Turkey | 1 | 0 | 0 |
| UAE | 3 | 7 | 0 |
| United Kingdom | 0 | 4 | 0 |
| Yemen | 1 | 1 | 0 |
| Unknown | 12 | 82 | 1 |
| **TOTAL** | **1185** | **109** | **1** |

We estimated that 75 to 80% of the birds in the UAE at the time of the registration have been included in the register. The 2003 season will refine these estimations.

It is significant that Pakistan accounts for 89% of all the wild-caught Saker falcons imported into the United Arab Emirates. A large number of the Sakers traded from Pakistan are actually passage migrants coming from other countries or are birds which are exported from Pakistan but have actually been caught in neighbouring countries.

## SECTION 7

**Recommendations to CITES**

Following Resolution Conf. 11.18 – Trade in Appendix-II and –III species the United Arab Emirates is seeking the assistance of the CITES Secretariat (under the provisions of Article XIII) in reviewing and taking the appropriate actions to control the trade in Saker falcons (*Falco cherrug*) as the UAE is of the opinion that the current level of trade may be detrimental to the survival of the species in the wild.

## SECTION 8

**References**

(note - references in **bold** are papers and articles relevant to falcon conservation and produced by **ERWDA staff and co-workers**. Not all references are referred to in the text).


**Badam, Kh., (2000)** CITES and sustainable use of Saker Falcon in Mongolia. Pages 202-208. In: E. Potapov, S. Banzragch, N.C. Fox and N.W.H. Barton – Proceedings of the 2nd International Conference on the Saker Falcon and Houbara Bustard.

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