

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES  
OF WILD FAUNA AND FLORA

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Twenty-fifth meeting of the Animals Committee  
Geneva (Switzerland), 18-22 July 2011

Review of Significant Trade in specimens of Appendix-II species

PROGRAMME FOR THE CONSERVATION AND SUSTAINABLE USE  
OF *FALCO CHERRUG* IN MONGOLIA

1. This attached document is submitted by the Secretariat at the request of Mongolia\*.
2. At its 58th meeting (Geneva, July 2009), the Standing Committee, in line with paragraph u) of Resolution Conf. 12.8 (Rev. CoP13), withdrew its recommendation to Parties to suspend trade in specimens of *Falco cherrug* from Mongolia on the condition that Mongolia maintains an export quota of 300 specimens for the years 2009 and 2010 and, before establishing a quota for 2011, reports at the 25th meeting of the Animals Committee and takes advice from that Committee about the development of the programme.
3. The Animals Committee is invited to review the present report from Mongolia in annex to the present document and make its advice about the development of the *F. cherrug* programme in Mongolia.

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\* *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat or the United Nations Environment Programme concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*

NDF - SAKER FALCON (*Falco cherrug*)  
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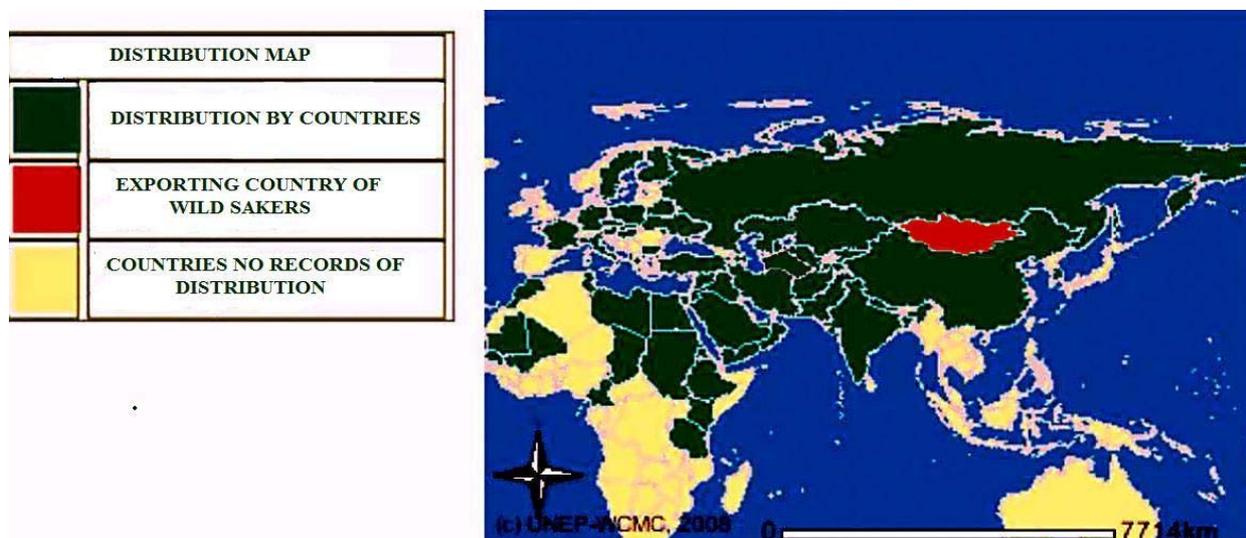


Figure 1. Modified map of (c) UNEP-WCMC, 2008

## I. CITES AND PARTIES CONCERN OVER THE WILD SAKER FALCON EXPORT OF MONGOLIA

1. The CITES National Authority and MNET, Mongolia received from CITES Secretariat numerous documents between 2004 to 2009 (References: AC19 Summary Report, 2003; SC50 Summary Report, 2004; AC20 Doc. 8.1, 2004; AC20 WG 1 Doc. 8.1, 2004; AC20 Summary Report, 2004; CoP13 Doc. 23, 2004; Resolution Conf. 11.3 (Rev. CoP13), 2004; SC51 Doc. 13, 2004; SC51 Summary Record, 2004; AC21 Doc. 10.1.1 (Rev. 1) Annex 1, 2004; AC21 WG2 Doc. 1, 2005; AC21 Summary Record, 2005; SC53 Doc. 22, 2005; SC53 Summary Record (Rev. 1), 2005; AC21 Doc. 5.4, 2005; AC22 Doc. 5.2 (Rev. 1), 2006; AC22 Doc. 5.2 (Rev. 1) Annex 1, 2006; AC22 Doc. 5.4, 2006; AC22 Doc. 10.1, 2006; SC54 Doc. 42, 2006; SC54 Doc. 42 Annex, 2006; SC54 Summary Report, 2006; Notification No. 2006/061, 2006; T-PVS/Inf (2006) 2 FINAL[Not a CITES document], 2006; Notification No. 2007/004, 2007; SC55 Doc. 17, 2007; AC23 Doc. 5.4, 2008; AC23 Doc. 8.3, 2008; SC57 Doc. 29.1 (Rev. 2), 2008; SC57 Summary Record, 2008; Notification No. 2008/052, 2008; NDF Workshop Case Studies, WG 6 – Birds, Case Study 5, *Falco cherrug*, 2008; Notification No. 2009/003, 2009; AC24 Doc. 7.2, 2009; AC24 Summary Record, 2009; Notification No. 2009/023, 2009; SC58 Doc. 21.1 Annex 3, 2009; SC58 Doc. 21.1, 2009; SC58 Summary Record, 2009; Notification to the Parties No. 2009/032, 2009; SC59 Doc. 14.1, 2010; SC59 Doc. 14.2, 2010; SC59 Summary Record, 2010) regarding the trade and export of wild Saker Falcon. These documents were expressing concern over the exports of wild Saker Falcon from Mongolia for the purpose of Arabic Falconry. CITES Secretariat and parties questioned the MNET's non-detriment findings and requested a report on the conservation status and management of wild Saker Falcon by the Notification to the Parties No. 2009/032 dated on July 2009.
2. Through this Notification, the Standing Committee (CITES) withdrew its recommendation to Parties to suspend trade in *Falco cherrug* with Mongolia, provided that Mongolia maintained an annual export quota of 300 specimens for 2009 and 2010, and, before establishing a quota for 2011, reported to the 25th AC about the implementation of a management program for the species. Trade suspension recommendations remain for the species from five range States, which are Armenia, Bahrain, Iraq, Mauritania, and Tajikistan.
3. In 2010 UNEP-WCMC reported on the conservation status of the species in the five range States including: background, species characteristics, management of and trade in the species (UNEP-WCMC,

2010). A forthcoming Review by the 25<sup>th</sup> Animal Committee in 18-22 July 2011 will determine whether continued wild Saker Falcon export from Mongolia will be sanctioned in 2011.

4. To prepare this report the valuable contribution of Dr. Andrew Dixon, International Wildlife Consultants (IWC), Dr. Caroline Upton and Prof. Mike Bradshaw, University of Leicester UK, Claudio Augugliaro, Consultant to Italian SA-CITES, and Jeffrey Jorgenson from FWS/DSA, must be acknowledged.

## II. METHODOLOGY FOR MONITORING

5. **Non detrimental findings (NDF) for wild Saker Falcon in Mongolia:** This report has compiled and included pertinent information on harvesting, trade, management and conservation of Saker Falcon in Mongolia, in accordance with guidelines of the World Conservation Union (IUCN) in making non-detrimental findings (Rosser and Haywood 2002) and with the checklist of CITES. As stated in IUCN guidance, the status of Saker Falcon in Mongolia has been assessed in accordance with the following checklist of categories:
  - Population size
  - Distribution/range
  - Population trends
  - Management plans and protection of the populations from over-harvest
  - Monitoring of the harvest levels and trade patterns
  - Monitoring of population data
  - Establishment of the feedback loops necessary for adaptive management
6. Based on the information presented herein, the status of Saker Falcon has been assessed using NDF scales, with 1 to 5 points for each category and depending on threat levels. For instance 1 corresponds to the lowest risk and 5 to the highest risk level.

Table 1: Checklist to assist in making non-detrimental findings  
(Rosser, and Haywood 2002)  
As applied to Appendix II (Saker Falcon) exports, Mongolia

<b>1</b>	BIOLOGY - Life history	1
<b>2</b>	BIOLOGY - Niche breadth	2
<b>3</b>	BIOLOGY – Dispersal	1
<b>4</b>	BIOLOGY - Human tolerance	3
<b>5</b>	STATUS - National distribution	1
<b>6</b>	STATUS - National abundance	2
<b>7</b>	STATUS - National population trend	2
<b>8</b>	STATUS - Information quality	2
<b>9</b>	STATUS - Major threat	3
<b>10</b>	MANAGEMENT - Illegal off-take	2
<b>11</b>	MANAGEMENT - Management history	2
<b>12</b>	MANAGEMENT - Management plan	1
<b>13</b>	MANAGEMENT - Aim of harvest	1
<b>14</b>	MANAGEMENT – Quotas	1
<b>15</b>	CONTROL - Harvest in PA	3
<b>16</b>	CONTROL - Harvest in strong tenure	3

17	CONTROL – Open access harvest	4
18	CONTROL - Confidence in harvest management	1
19	MONITORING - Monitoring method	2
20	MONITORING - Confidence in monitoring	1
21	INCENTIVES - Effect of harvest	1
22	INCENTIVES - Species conservation incentive	1
23	INCENTIVES - Habitat conservation incentive	3
24	PROTECTION - Proportion protected from harvest	4
25	PROTECTION - Effectiveness of protection	4
26	PROTECTION - Regulation of harvest	2

7. The assessment has evaluated current and recent practices in Saker Falcon trade, conservation, and management in Mongolia, and specifically includes the planned harvest from artificial nests under the recent IWC project (see paragraph 26 below). Based on the above assessment, the following graph has been produced. The graph shows the species dispersal capacity, abundance and national distribution, in conjunction with the stability of the population, levels of conservation incentives, and the managed harvest. The evaluation herein draws on recent work by Dixon (Dixon 2011 refs), according to which the Saker has a high reproductive rate, is long lived, a generalist, with high dispersal ability and tolerance of humans (evaluated above at level 3). In terms of its status: it is found throughout Mongolia and has a stable population (Dixon *et al*, 2009 and Boldbaatar, 2010 unpublished). Management is ongoing but informal; specifically, upper quota limits have been set by CITES since Mongolia joined the Convention in 1996, with the national export quota of Saker Falcon approved by the Mongolian government for each year. However, to date there has been little assessment of the impact of these quotas on the Saker population in Mongolia (Dixon, 2009). In 2009 the Artificial Nest Project (IWC) team prepared a management plan for Saker harvest in conjunction with the artificial nest project and including co-ordinated national and local management plans to assist Mongolia's further activities towards conservation and management. The aim of harvesting in conjunction with the artificial nests is to generate conservation benefits. Quotas will be determined according to the productivity of the artificial nests. Scores for categories 12, 13, and 21, above, reflect these actions and commitments. Very little trapping is done in protected areas, or in areas with clearly delineated private tenure arrangements. Rather, most trapping is currently being carried out in open access areas (Categories 15-17 above). On the basis that ongoing conservation activities, particularly the Artificial Nest Project, continue to be implemented successfully in the future, this will afford a high degree of confidence in harvest management (Category 18, above). Similarly, in the future, if Mongolia continues to adopt proposals (such as regular monitoring, export quota based on the annual productivity, and micro-chipping etc) made by the Artificial Nest project team (IWC), there will be scientific grounds to set harvest and export quotas by using productivity and survival data of Saker Falcon from the artificial nest sites to develop a quantitative index to guide sustainable offtake. This quantitative index will thus ensure high levels of confidence in monitoring and monitoring methods (Categories 18 and 19). Harvesting in conjunction with artificial nests will be beneficial to Sakers in Mongolia by increasing their breeding population and productivity. Controlled harvesting will thus generate funds for the conservation initiative of using artificial nests and provide an important incentive for species conservation in the future (Category 22). Strict protection has no confidence of success as there is no effective means of enforcement (Dixon 2011 Pers. Comm). Overall, available evidence and ongoing initiatives under the Artificial Nest Project suggest that controlled harvesting and trade can be non-detrimental to the future survival of the species. However, excluding this latter project, there has previously been a lack of adequate management planning or reliable data on the impacts of annual harvest quotas on the Saker population.

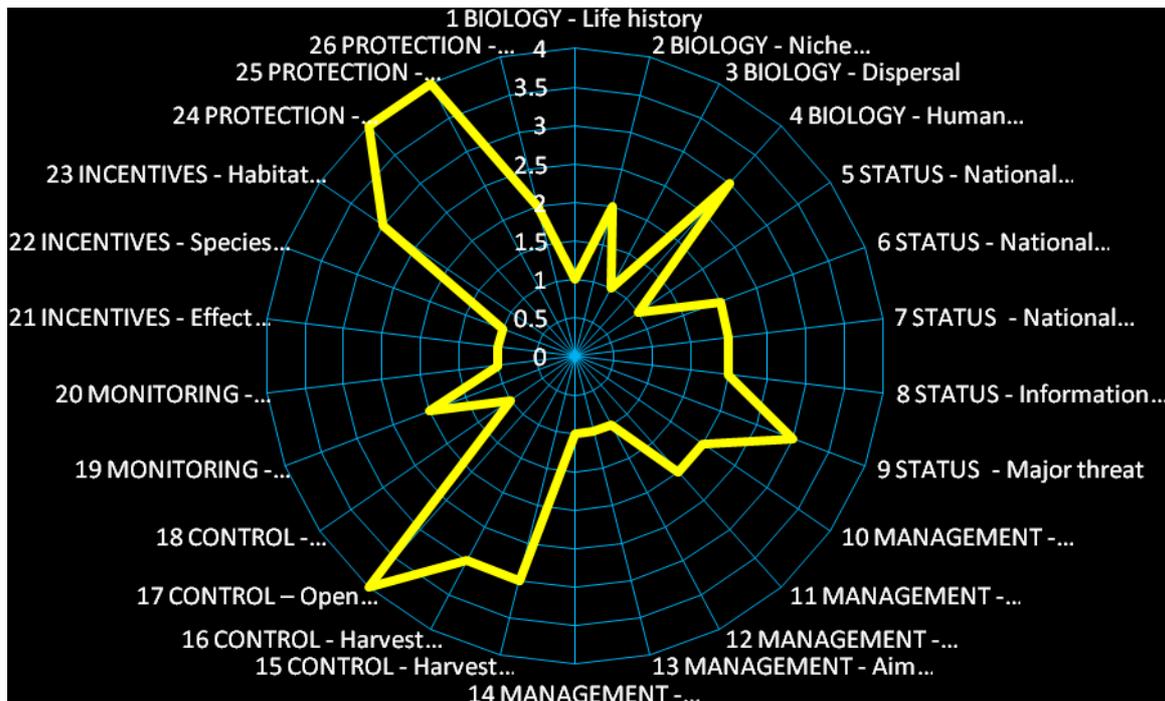


Figure 2. Non detrimental findings of *Falco cherrug*, Mongolia

### III. GENERAL STATUS AND BIOLOGICAL DATA

8. **Scientific names and common names:** The Saker Falcon has two subspecies: *F.c. cherrug* and *F.c. milvipes*. Common name: Saker Falcon. The Saker Falcon (*Falco cherrug*) is one of four closely related species known as hierofalcons, comprising Gyrfalcon (*Falco rusticolus*), Lanner Falcon (*Falco biarmicus*) and Lagger Falcon (*Falco jugger*). The Saker Falcon is larger than the Lanner and Lagger Falcons, but slightly smaller than the Gyrfalcon.
9. **Distribution:** The Saker Falcon is widely distributed throughout the Palearctic region from Eastern Europe to eastern China (Ferguson-Lees and Christie, 2001). Birdlife International has described the geographic range for Saker Falcon breeding, as "Austria, Hungary, Czech Republic, Slovakia, Serbia & Montenegro, Bulgaria, Romania, Moldova, Belarus, Ukraine, Turkey, Iraq, Armenia, Russian Federation, Uzbekistan, Tajikistan, Kyrgyzstan, Kazakhstan, Mongolia and China, and at least formerly in Turkmenistan and probably Afghanistan, possibly India (Ladakh)" (BirdLife International, 2011). BirdLife International also record "wintering or passage populations" in "Italy, Malta, Cyprus, Israel, Jordan, Egypt, Libya, Sudan, Tunisia, Ethiopia, Kenya, Saudi Arabia, Yemen, Oman, UAE, Bahrain, Kuwait, Iran, Pakistan, India, Nepal, Afghanistan and Azerbaijan, with much smaller numbers or vagrants reaching many other countries" (BirdLife International, 2011).
10. **Global Population:** The updated global population data indicates an estimated 9,600-17,000 breeding pairs (BirdLife International unpublished data, 2010). This data is based on Birdlife's recent analysis of IUCN's global population estimate of 13,000-27,000 breeding pairs in 1990, and its decline over the last 19 year period, on the assumption of 6.4 years longevity per generation (IUCN, 2011). In 1990 this number of breeding pairs was shared by China (estimated 4,000-6,000 pairs), Kazakhstan (2,000-5,000), Mongolia (3,000-5,000) and Russia (3,000-9,000). By 2010 a total population of 9,600-17,000 breeding pairs was distributed between main population centres as follows: China 3,000-5,000, Kazakhstan 2,000-3,000, Mongolia 2,000-5,000 and Russia 1,854-2,542 (IUCN, 2011).
11. **Population in Mongolia:** The Government of Mongolia (Ministry of Nature, Environment and Tourism-MNET) in collaboration with The Institute of Biology- National Academy of Sciences (IB-NAS) undertook a national survey and monitoring of the population of Saker Falcon and other birds of prey in 2010. The inventory started on the 5 of June, 2010 and was completed within 25 days. The outcome of this field work and survey was compiled and submitted to the MNET by the research team on October, 2010. Based on this national survey, which used random sampling and line transect methods, the Saker Falcon population in Mongolia was considered to be stable, at an overall estimated Mongolian population of around 8000 birds. When compared to the results reported by Gombobaatar *et al.*,

(2007) for the Saker population over the period 1998-2005, data from this 2010 survey appears to confirm that the Mongolian population of Saker Falcon has remained relatively stable. During the 2010 IB-NAS survey the population of Saker Falcon was found to be unevenly distributed, with the population density varying in relation to the availability of food. Previous studies have suggested that fluctuations in the population of the Brandt's Vole correlate directly with the Saker Falcon population (Shagdarsuren. 2000; Bold, 2002). Anthropogenic impacts such as unsustainable harvesting, habitat destruction caused by overgrazing and the usage of poison for rodent control (large scale poisoning of falcons in 2002 and 2003) could contribute to population declines (Onon *et al*, 2004). However, overgrazing creates conditions that increase Brandt's Vole populations, which may in turn benefit Sakers.

It should be noted that there are currently debates amongst researchers concerning suitable survey techniques for migratory bird species. According to Dixon, Gankhuyag, and Nymbayar (2009), the 2010 IB-NAS survey did not produce any biologically meaningful population estimates or information on population trends. However, despite disagreements over methodology, other research methods and recent estimates also indicate that the Mongolian population of Saker Falcon is relatively stable. Dixon (2009) estimated the number of breeding pairs at 2000-5000, based on breeding densities in survey areas monitored by Gombobaatar *et al*, 2007. He further concluded that the Saker population in central Mongolia was at least stable because a non-breeding surplus exists in the region, which would not exist if the breeding population was in decline. This non-breeding surplus can be recruited into the Mongolian breeding population by the provision of artificial nests in nest site limited habitats.

12. **Data on life history:** In Mongolia Saker Falcon generally lay in March and April in nests on cliff ledges and crags, tall trees, pylons and other man-made constructions. They do not build their own nests but instead occupy nests of other raptors, such as ravens (*Corvus corax*), black kites (*Milvus migrans*), upland buzzards (*Buteo hemilasius*), and golden eagles (*Aquila chryseatos*) (Boldbaatar, 2010 unpublished).

Mongolia is a breeding and wintering ground of Saker Falcons. The species is a partial migrant, with some adults and most juveniles migrating from the country in autumn (September to November) to wintering areas in China. Other birds remain in Mongolia for the winter, some in their breeding territories and others in separate wintering ranges. Migratory Sakers arrive back in their breeding grounds in March (Boldbaatar, 2010 unpublished).

Each clutch is normally 3 to 6 eggs. Incubation lasts approx 30 days, and is mainly carried out by the female, with the male bringing most of the food. The female usually does not hunt until the second half of the nesting period (Boldbaatar, 2010 unpublished). Average fledging success in Central Mongolian study areas is approx. 3 chicks per nest (Dixon, 2009). Fledging generally occurs after 40-45 days and the young still depend on the parents for up to 30 days, at least amongst the Mongolian population (Boldbaatar, 2010 unpublished).

Table 2: Key characteristics of the Mongolian Saker Falcon population

No	Characteristics	Male	Female	General
1.	Body length	45-52cm	52-59cm	
2.	Body weight	800-900g	972-1300g	
3.	Wing length	35-39cm	39-41.5cm	
4.	Wing spin	105-115cm	120-130cm	
5.	Sexual maturity	3-4 years	2-3 years	Note: for female albeit exceptionally as early as one year old
6.	Clutches	3-6		
7.	Incubation	30 days		
8.	Fledging	40-45 days		
9.	Survival	3 from each clutch		
10.	Longevity	5-7 year		Maximum 10yrs

Source: Boldbaatar, 2010 unpublished, Dixon *et al*, 2007, and Naldo *et al*, 2004

13. **Diet:** The diet of the Saker Falcon varies by habitat type. For instance, in steppe habitats, they rely on small mammals for example Brandt's vole for up to 90% of their diet, while in forested areas, small mammals comprise only around 50% of their diet in general (Anderson and Squires, 1997; Cade, 1982). The remaining part of the diet could be filled by small birds (Baumgart, 1991) or substituted by domestic pigeons (Baumgart, 1991; Snow and Perrins, 1998).
14. **Habitat types:** The main habitat of Saker Falcon is continental steppes, semi-desert steppes, and semi-forested areas of Mongolia. Saker Falcon is widespread across the country except for the taiga forested Khovsgol province in the north, though here they breed in large forest clearings and open river valleys. Outside the breeding season, their habitat is widened mainly into the open steppes due to the availability of food supplies (Boldbaatar, 2010 unpublished).
15. **Role of the species in its ecosystem:** The main role of Saker is as a predator of small mammals and birds (Birdlife International, 2010).

#### IV. HARVEST AND TRADE

16. Saker Falcons from wild sources are highly prized for Arabic falconry. They are considered to be superior to falcons produced by captive breeding. Currently, Saker Falcons are commercially harvested from Mongolia mainly for five states in the Middle East: Kuwait, Qatar, Bahrain, United Arab Emirates, and Saudi Arabia. (UNEP-WCMC, 2009) Saker Falcons are not marketed within Mongolia, but exported internationally, mostly to the Middle Eastern market. The decline of the Saker in former Soviet states has been accompanied by an increase in trapping of birds for Arabic Falconry since the early 1990s. Harvest levels have fluctuated from 1995 to the present day (UNEP- WCMC, 2010). However, the number and allocation of permits issued by Mongolia, and hence the export quota, is controlled by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).
17. Saker Falcons generate state revenue through permit fees for their harvesting for export purposes, in accordance with the Government order #112 approved on 15 April 2009. Local people and government officials do not have direct access to monies generated in this way from the Saker Falcon trade. Recent increases in Saker Falcon prices from USD 4330 in 2004 (Onon *et al*, 2004) to approximately USD10,000 in 2007 (MNET, 2008) may be in response to the market demand for wild populations, and thus do not reflect the global economic downturn<sup>1</sup>. The Government of Mongolia has renewed the permit fee from 1 January 2011 as USD1650 for business entities and USD450 for individuals for harvesting wild Saker Falcon (Law on State Fees and Fines, 2011). Before this renewal, The Decree No.171 of Mongolian Government dated on 19 July 2006 was valid in regard to setting up the numbers of live Saker Falcons to be exported and renewing Saker Falcon's comparable price, payment and other fees. Based on the decree, the maximum number of Saker Falcons to be exported in 2006-2007 up to 300 individual birds with comparable price of USD10 000 each. The fee was USD800 per permit and plus USD 9000 for other payment state fees (MNET, 2008).
18. The Government of Mongolia has approved the export quota of Saker Falcons as 240 in 2009 and 2010 (The Government Decree # 112, 15 April 2009). The level of export quota has been maintained at the same number over the last 5 years. This decision on export quotas has taken accounts of relevant decisions made by CITES and recommendations of national research institutes.
19. Mongolia requires specific licenses, permits, and tags for trappers and buyers intending to harvest wild Saker Falcon commercially (Ministerial Order # A205, 2010). Examples of tags for vehicle of trappers and rules and procedures of harvesting, transportation, and exportation are enclosed (See Annex 1).
20. During the 2009-2010 seasons harvesting of Saker Falcons was permitted in twelve provinces of Mongolia, namely Arkhangai, Bayan-Olgii, Bayankhongor, Gobi-Altai, Dundgobi, Zavkhan, Ovorkhangai, Sukhbaatar, Tov, Uvs, Khovsgol, and Khentii provinces (MNET, 2010). MNET has signed commercial contracts for issuing permits with nine private parties from Kuwait, Qatar, and United Arab Emirates in 2010 (MNET, 2010).

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<sup>1</sup> *The pricing of Saker Falcon is annually approved by the Government of Mongolia based on the submission of the Ministry of Nature, Environment and Tourism.*

## V. STATUS OF MANAGEMENT AND CONSERVATION

21. **Management history:** The law on ratification of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) was adopted in Mongolia on 1 May 1995 by the Great Hural (Parliament). On 4 April 1996 Mongolia became the 133rd Party to the Convention. The Mongolian National programme on Saker Falcon conservation was established in 2003. The purpose of the management plan (The National Programme on Saker Falcon Conservation, 2003) was to eliminate the illegal trade of Saker Falcons and control the legal trade. It was also aimed at allowing international regulated wildlife trade between Mongolia and mainly Arab countries, with full implementation of international law, in particular CITES. According to this management plan, the conservation measures were to prevent a dramatic decrease in the viable population of Saker Falcon by eliminating known causes of declines (for example: illegal harvesting, agrochemicals, and electrocution), developing effective management tools, and identifying appropriate government policies under the national legislation.

However, no specific financial or other resources were allocated to the implementation of this plan and to date these negative factors remain unresolved for Saker Falcon in Mongolia.

22. **Current management and conservation:** Commercial harvesting of Saker Falcon in Mongolia is managed by the Ministry of Nature, Environment and Tourism (MNET). The Ministry makes recommendations about management and regulation of commercial harvest to the trappers and buyers, who have the responsibility to abide by the national and international regulations. Trappers usually come from outside of Mongolia. They should hire a local guide, translator, and driver. They have to be licensed and approved by MNET (See Annex 1).
23. In 2010 Ministerial Order # A-20 was passed with the Annex: "Rules to follow in actions to harvest, transport, care and export of Saker Falcon in Mongolia". This rule is to regulate the harvesting, trapping, transporting, and exporting of wild Saker Falcon from and in Mongolia.
24. From 2009 to 2010, the MNET had an open season for the Saker Falcon harvest and allowed commercial harvest of Saker Falcon during the months of July and February of each year.
25. In order to enforce the rules and regulation and monitor the implementation of the existing legislative framework, the Minister of Nature, Environment and Tourism passed the Order #A235 on 15 July, 2010, to establish a working group on the Saker Falcon trade. The purpose of the working group is to regularly monitor trappers' camps, and other, possible illegal, activities during the harvesting season. The working group includes not only environmental inspectors and environmental agency officials, but a number of national law enforcement agencies' officials, customs, airport and border agency officials, academics of the Institute of Biology, NAS, local NGO representatives, and local government officials for designated harvesting areas of the country. The MNET did not detect any significant illegal harvesting or export activities in 2009 and 2010.
26. Mongolia has implemented the Artificial Nest project since September 2005 in collaboration with International Wildlife Consultants (IWC, UK) and funded by the Environmental Agency of Abu Dhabi, United Arab Emirates. As part of this project 250 artificial nests were erected and monitored regularly by Mongolian and UK biologists between 2006-2008. Based on the outcome of this initial phase of the project, a further 5000 artificial nests were erected in the central region of Mongolia by September, 2010 (Artificial Nest Project Report, 2010. See Annex 3).
27. On September 21, 2010, the MNET signed a Memorandum of Understanding (MoU) with the Environmental Agency of Abu Dhabi, United Arab Emirates in collaboration with International Wildlife Consultants (IWC, UK) to establish a joint programme for research and conservation of birds of prey in Mongolia. This MoU aims to develop sustainable harvesting and trading strategies as well as to conduct further biological studies based on the artificial nest sites of wild Saker Falcons (See Annex 4).

Table 3: Relevant legislation for harvesting wild Saker Falcon in Mongolian

No	Name of legislation	Explanation and relevance	Year
1	Convention on International Trade in Endangered Species of Wild Fauna Flora (CITES)	The Washington convention was established in 1973. Mongolia ratified the convention in 1995.	1996
2	Law on Environmental protection	National Framework Law on Environmental Protection of Mongolia	1995
3	The Government Order #264 and the #18	The 4 <sup>th</sup> Appendix regarding the use and fee per pigeon for hunting and trapping wild Saker Falcons in Mongolia	2001
4	The National Programme on Saker Falcon	Aims: 1. To develop a legal environment and create an economic basis for breeding and sustainable use of Saker Falcon; 2. To create an information database for conservation, to identify resources and to set a rational trade quota, based on scientific, ecological, and biological research; 3. To improve the involvement of local people in conservation of Saker Falcon; 4. To create a network to improve wild population with breeding; 5. To carry out projects to conserve and increase populations of Saker Falcon.	2003
8	The Government order #248	This order is to regulate the trapping and hunting wild Saker Falcon for research and scientific purposes as well as the procedure for ecological and economic assessment	2005
9	Order 120/51	"Rule of harvesting and tagging wildlife for scientific purposes" jointly approved by the Minister of Nature, Environment and Tourism and Head of the Science Academy	2008
10	The Government order #112	Harvesting Saker Falcon for export purposes	2009
11	Ministerial Order# A205 and its annex	"Rule to follow in actions to harvest, transport, care and export of Saker Falcon in Mongolia"	2010
12	Law on State fees and tariffs	This law sets the fees and tariffs of official forms and stamps for all types of state certified documentations	2011

## V. CONCLUSION

28. After reviewing the information provided by the relevant publications and research reports, the Management Authority of CITES and MNET assessed the export of wild Saker Falcon harvested from the central region of Mongolia during the 2008-2009 and 2009-2010 season. Historically, comprehensive, accurate data has been lacking concerning the impact of harvesting on Mongolian Saker populations, although available evidence, as cited herein, does indicate that populations have remained relatively stable and therefore that harvesting levels may be deemed non-detrimental. The inception of the Artificial Nest Project will enable determination and modeling of sustainable harvesting levels and thus provide scientifically grounded evidence of non detrimental offtake in the future.
29. The purpose of the Artificial Nest Project is to increase the Saker breeding population in nest site limited habitats of Mongolia. Mongolia has already a total of 5250 artificial nests erected in the central region of the country. In accordance with the signed agreement with UAE, the new breeding population of Sakers using these nests will be monitored annually to assess productivity over the period 2011-2015 inclusive. Data on adult survival and breeding recruitment will be obtained from the artificial nest population by using genetic markers. This will enable researchers to model age and sex specific survival rates. All chicks will be micro-chipped and all harvested falcons will be scanned for microchips to

determine what proportion of the harvested population has come from artificial nests. All harvested falcons must be micro-chipped and the micro- chip number recorded on the CITES export permit, providing proof of Mongolian wild origin. The Mongolian government must record the age and sex of all birds harvested, as this is very important in determining the sustainable quota. Ultimately, the sustainable harvest quota can be determined by a model using productivity and survival data from the artificial nests together with data on the age and sex of the birds harvested. Based on this assessment, monitoring and management plans have yet to be fully implemented within the existing legal and financial frameworks. These plans need to include the capacity building of relevant government and research institutes and to encourage the involvement of local people for the conservation activities of Saker Falcon.

30. In the case of Saker Falcon conservation and sustainable use, it is necessary to establish a feedback mechanism, for example by micro-chipping birds for exportation and in respect of both national and international regulations.
31. In respect of transportation and shipping, national regulations should make efforts to ensure that specimens are treated and handled in accordance with Conf.10.21 (Rev. CoP14) on the Transport of live specimens by CITES and other regulations of The Air Transport Association (IATA).

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MINISTERIAL ORDER  
OF NATURE, ENVIRONMENT AND TOURISM OF MONGOLIA

Year 2010 month 06 date 30

Order# A-205

Ulaanbaatar

Subject: Approval of Rule

In accordance with the Article # 15.1.2 of Law on Environmental protection and Decision of 9<sup>th</sup> meeting of Committee of Minister of Nature, Environment and Tourism , held on 24 June 2010, the Minister ORDERS that:

1. "Rule to follow in actions to harvest, transport, care and export of Saker Falcon in Mongolia" and "Sample sticker to be stick on vehicle that is used for harvesting Saker Falcon" are approved respectively by the annex 1 and 2 of this order.
2. All Aimag and Soum Governors of Saker Falcon harvesting location must improve registration of foreign citizens to the country and organize actions to harvest Saker Falcon appropriately in their territory and intensify their inspection on the mentioned actions.
3. Director, Department of Environment and Nature Resources of the Ministry /Mr. Enkhbat. D/ is assigned to organize implementing this order and to provide overall coordination, guidance and methodology to all related Aimag and Soum Agencies for Nature, Environment and Tourism, related stakeholders and civil servants. It is also sanctioning to Directors of related all Aimag and Soum Agencies for Nature, Environment and Tourism to organize actions to harvest Saker Falcon in their territory in accordance to Mongolian legislation.

MINISTER GANSUKH Luimed

Rules to follow in actions to harvest, transport, care and export of  
Saker Falcon in Mongolia

One. General Provisions

- 1.1 The purpose of this rule is to regulate matters relating to harvest, transport, care and export of Saker Falcon in Mongolia.
- 1.2 120/51 order “Rule of harvesting and tagging wildlife for scientific purposes” of 2008 jointly approved by the Minister of Nature, Environment and Tourism and Head of the Science Academy must be adhered to when harvesting Saker Falcon for research purposes.

Two. Conclude a Contract

- 2.1 Exporters of Saker Falcon (hereinafter referred to as buyer) shall conclude a contract with the Ministry of Nature, Environment and Tourism concerning harvest, acquisition and export of Saker Falcon.
- 2.2 In case of non-compliance of the contract, the Ministry of Nature, Environment and Tourism holds full right to cancel the contract.
- 2.3 Based on permission to harvest Saker Falcon granted by State central organization in charge of environmental issues to the buyer, Local governor shall conclude a contract with Saker Falcon hunter’s camp leader. The following need to be included in the contract:
  - 2.3.1 Name and location of the hunter’s camp site
  - 2.3.2 Duration of the hunter’s camping
  - 2.3.3 Responsibility of both sides

Three. Grant Permission

- 3.1 In order to harvest Saker Falcon for export purposes, the buyer must obtain permission from the Ministry of Nature, Environment and Tourism.
- 3.2 The following matter must be reflected in the permission for Saker Falcon harvesting:
  - 3.2.1 Request
  - 3.2.2 Full name of the signatory of the contract
  - 3.2.3 Name of importer country
  - 3.2.4 Occupation of the signatory of the contract
  - 3.2.5 Number of Saker Falcons to be harvested
  - 3.2.6 Full name and name of residence country of an agent or envoy of the contractor
  - 3.2.7 Valid duration of the permission
- 3.3 The hunter camp leader must carry the permission with him/her granted by the Ministry of Nature, Environment and Tourism while performing the transport of the harvested Saker Falcon.

- 3.4 Prior to harvesting Saker Falcon in the field, the hunter camp leader must go over and sign this rule and an official notification from the Ministry of Nature, Environment and Tourism. The official notification must include:
  - 3.4.1 Aimag and Soum name of Saker Falcon harvesting location
  - 3.4.2 Number of camps under the signatory of the contract and full name and passport number of Saker Falcon hunter camp leader and other camp members.
  - 3.4.3 Plate and License number of the vehicles to be used for camp.
- 3.5 The vehicles to be used in the field for transport of the Saker Falcon shall be granted special validation by the Ministry of Nature, Environment and Tourism and two stickers given must be stick on the two front doors of the vehicles.
- 3.6 Design of the two stickers mentioned above must be approved by the Cabinet member in charge of Nature, Environment and Tourism.
- 3.7 If the two stickers are not put on the designated location of the car or lost, harvesting of Saker Falcon is not allowed and this will be considered as a violation of the contract and can result in cancellation of contract.
- 3.8 Prior to working in the field to harvest Saker Falcon, the hunters must inform their request of camp site to the related Aimag Governor's Office and obtain permission on camp site. Hunter's work in the field without the prior permission stated above is extremely prohibited.
- 3.9 The Aimag Governor will commission the Soum Governor to implement and follow the contract made with the hunter camp. The Aimag Agency for Nature, Environment and Tourism and Aimag Specialized Inspection Agency will work closely with the Soum Governor and support them and inspect the above action.

#### Four. Papers and documents to be completed for Harvesting Saker Falcon

- 4.1 Upon completion of harvesting Saker Falcon, the hunters must notify the Soum Governor and clean and hand over the camp site to the Soum Governor. Harvested Saker Falcons must be checked along with the official act. This process must be noted in the formal minutes.
- 4.2 In the case that the camp site is not cleaned and handed over to the Soum Governor and the official note is not taken during the completion of the camp site work and contradiction of payment of the hunter camp will be terminated and the Saker Falcon will not be permitted to be exported.
- 4.3 One official act will be recorded harvesting of up to 3 Saker Falcons.
- 4.4 In the case that more than the permitted amount of Saker Falcon is harvested and is recorded in the act, legal action will be executed for illegal hunting, the recorded act must be invalidated and to be imposed on violators of legislation. The fees collected for the Saker Falcon will not be transferred to the Local government office.

#### Five. Fees, payment and transfers

- 5.1 Fee must be paid in order harvest Saker Falcon for export purposes.
- 5.2 When harvesting Saker Falcon for export purposes, the Government order #112 approved on April 15<sup>th</sup>, 2009 must be followed for fee payment.
- 5.3 When harvesting Saker Falcon for research and scientific purposes, the ecological and economic assessment that is approved by the Government order #248 on December 14<sup>th</sup>, 2005 must be followed.
- 5.4 Prior to harvesting Saker Falcon, the contractor for harvesting Saker Falcon for export purposes must advance 30% out of total fee for harvesting Saker Falcon stated in the contract to the designated bank account of the Ministry of Nature, Environment and Tourism.

- 5.5 If the Saker Falcon is not harvested during the valid period of the permit, the above stated 30% of the advance will not be refunded.
- 5.6 The remaining amount of fee must be transferred to the designated bank account of the Ministry of Nature, Environment and Tourism within 3 days after completion of harvesting Saker Falcon.
- 5.7 Two copies of the recorded acts and notes in the minutes along with the original copy must be submitted to the Ministry of Nature, Environment and Tourism. After receiving the original documents, the Ministry will transfer the funds collected from fee for harvesting Saker Falcon to the designated bank account of related Soum Governor`s Office.

Six. Mediation of actions to harvest, transport, care and export of Saker Falcon

- 6.1 Foreign citizens may conclude a mediation contract on harvesting Saker Falcon with economic entities and individuals.
- 6.2 Economic entities and individuals that made a mediation contract shall provide all necessary information related to Saker Falcon to Steering committee and Scientific committee of the CITES convention.
- 6.3 Mediator is responsible for obtaining certificate of health condition of harvested Saker Falcon and submitting necessary documents to the Ministry of Nature, Environment and Tourism prior to period (stated at 8.11 and 8.12) of the Ministry to make its request to related organization for above purposes.

Seven. Organize actions to harvest, transport, care and export of Saker Falcon

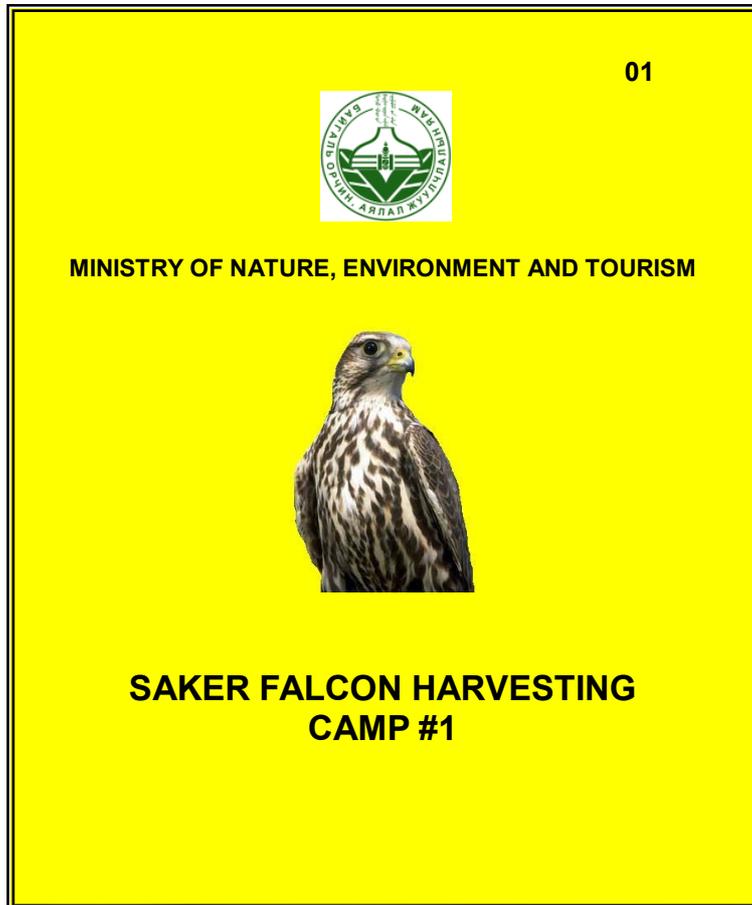
- 7.1 A Working group that is responsible for organizing actions to harvest, transport, care and export of Saker Falcon shall be established and assigned by the Ministerial order.
- 7.2 The working group shall inspect actions to harvest, transport, care and export of Saker Falcon and shall oblige hunters to follow related legislation. It must provide state services and supports to buyers and is responsible for protect foreign citizens from any type of aggression in the territory of all Aimags of Saker Falcon harvesting location.
- 7.3 Aimag and Soum Governor`s Office of Saker Falcon harvesting location shall establish and assign a Working group that is responsible for organizing matters related to harvest, transport and care of Saker Falcon in their territory.
- 7.4 The Working group shall include representatives from the following organizations:
  - 7.4.1 Officer in charge of related issue of the State central organization in charge of environmental issue
  - 7.4.2 Representative from State Specialized inspection agency or local environmental inspector, or boarder inspector
  - 7.4.3 Related officer from state central organization in charge of customs
  - 7.4.4 Representative from NGOs
  - 7.4.5 Representative from Citizen`s Representative Khural at local level.

Eight. Others

- 8.1 Number of vehicle for harvesting Saker Falcon shall be no more than 5 for every 10 falcons of each contractor.
- 8.2 Number of foreign citizens shall be no more than 8 for 10 falcons of each contractor.
- 8.3 No more than five pigeons will be used as bait to harvest one Saker Falcon.
- 8.4 Based on the #18 of the 4<sup>th</sup> appendix of the Government Order #264 of 2001, a 5000 tugrug will be applied and paid to every pigeon used as bait.

- 8.5 When releasing harvested Saker Falcon back into the wild, the local environmental inspector, representative of the Local Soum Governor's Office need to be present and the number of released Saker Falcons, name of the place, and health condition of the Saker Falcons shall be officially recorded and taken notes by both sides.
- 8.6 When releasing a Saker Falcon back into the wild, a microchip may be put on the falcon as allowed by Science committee of the CITES and the Bird Research Laboratory of Institute of Biology. Any other form of mark on falcon's organ, or damage to falcon's fly and feather are prohibited and if it is violated, hunters will be fined according to 8.10.
- 8.7 The contractor must employ one translator (not pertaining to 8.2) and one representative from the Soum or Aimag Governor's Office in every hunter's camp through the duration of harvesting Saker Falcon.
- 8.8 The representative of the Soum or Aimag Governor's Office is responsible for making sure the hunters camp follows rules and protocols while harvesting Saker Falcon and must inspect number of harvested Saker Falcons and their care and make sure hunter's note or act is recoded as an appropriate events.
- 8.9 The assigned working group from the Local Governor's Office must inspect the process of harvesting Saker Falcon, transport and care every three days and register and record number of harvested and released Saker Falcons.
- 8.10 If the Saker Falcon is hurt and damaged during the process of harvest, transport, care and release of the Saker Falcon, the buyer must cover all costs associated with treating and curing the falcon. If the Saker Falcon is untreatable and cannot survive, the buyer must compensate related fees.
- 8.11 At least 7 days before the Saker Falcon is exported; the falcon must be taken medical examination by State veterinary and Sanitation laboratory by hunters and have had a certificate of health condition.
- 8.12 Under the terms of the contract, after obtaining a certificate of health condition for the harvested Saker Falcon, the Ministry of Nature, Environment and Tourism will submit its request to obtain a CITES certificate and a custom's clearance to the appropriate organizations 3 days before exporting Saker Falcon.

Sample of stickers must be stick on vehicles that is used for harvesting Saker Falcon



SHORT REPORT ON BREEDING OF SAKER FALCON *FALCO CHERRUG* AT ARTIFICIAL NESTS,  
IN 2010 AND 5000 ARTIFICIAL NEST PROJECT

Prepared and submitted by

Gankhuyag. P and Nicola Dixon

To

Ministry of Nature and Environment, Tourism of Mongolia

CONTENTS:

1. Proposal of the project
2. Study areas
3. Methods
4. General results
5. Conclusion/outcomes
6. Appendix

## **INTRODUCTION**

In 2003 ERWDA (Environmental Research and Wildlife Development Agency of the UAE, now the Environment Agency of Abu Dhabi (EAD)) submitted data to CITES (Convention on International Trade of Endangered Species) in support of a request for a review of significant trade of Saker Falcons, an Appendix II species. Appendix II is the classification given to Saker Falcons by CITES and includes any species that are not necessarily now threatened with extinction, but may become so unless trade is strictly controlled. In 2004 Birdlife International reassessed the conservation status of the Saker based primarily on the data submitted by ERWDA and an unpublished undergraduate dissertation. Using this reassessment, the World Conservation Union (IUCN) amended the 'Red List Category' of the Saker from 'Least Risk/Least Concern' to 'Endangered'. This uplisting occurred in 2004 and was based on evidence that the species had undergone a significant rapid population decline in its Central Asian breeding grounds. One reason given for this decline was uncontrolled capture and export for the falconry trade, mainly to Arabic countries.

## **PROJECT PROPOSES**

We have provided artificial nest sites where few or no suitable nesting sites exist. It is increasing the breeding population of Saker Falcons can be used to develop a sustainable system for the harvesting of wild Sakers for the falconry trade.

## **EXECUTIVE SUMMARY**

- The project was based on the premise that the number of Saker Falcons trapped and exported from Mongolia will be compensated by increased productivity of the wild population through active management.
- The management consists of providing artificial nesting sites in regions where these were in short supply and limit the size of the Saker Falcon breeding population.
- In nest-site limited regions there was an existing non-breeding population of adult Saker Falcons. These non-breeders can be encouraged to breed by providing artificial nests, and so increase the size of the breeding population in these areas.
- The number of juvenile Saker Falcons produced from these artificial nest sites can thus be harvested without impacting on the pre-existing Saker Falcon population.
- The number of juvenile Sakers produced at artificial nests each year will depend on (i) level of occupancy at artificial nests, (ii) breeding success at occupied nests and (iii) survival of young birds to independence. These biological measures are variable and will need to be independently assessed each year in order to determine a sustainable harvest quota.
- Experimental studies indicate that annual harvestable quotas of between 300 to 1000 juvenile female Saker Falcons are achievable under the proposed system.
- The proposed system would have significant financial benefits for local communities as a key part of the sustainability of the project. The project is to be funded by the Arabic end- users of the falcons through a permit payment system.

## **STUDY AREAS**

The previously established grid of artificial nest sites in Darhan a second site near Bayan in central Mongolia was chosen and established in the autumn of 2006. The second site was selected according to three main requirements, the first of which was the presence of a large population of Brandt's voles. The second requirement was that the area was nest-site limited and the third requirement was accessibility for establishment and subsequent monitoring. Satellite tracking data obtained from dispersed fledglings in the autumn of 2006 revealed that there was a flat steppe area near Bayan ca. 100 km southeast of Ulaanbataar where the birds congregated, and inspection of this area in November 2006 showed that it met all three of the criteria described above.

#### DARHAN STUDY SITE

In autumn 2005 a grid of artificial nest sites was established near Darhan sum in Khentii Aimag, in central Mongolia. The grid consisted of 99 artificial nests arranged in a 10 x 10 grid spaced at 2 km intervals. The purpose of this study set-up was to trial four designs of artificial nests to see if Saker Falcons exhibited a preference for a particular type and to determine if artificial nest design has any influence on breeding success. The nest designs consisted of 60 cm diameter metal barrel cut into four types a shallow open barrel, a deep open barrel, a sheltered open barrel, and a closed box barrel.

#### BAYAN (A) STUDY SITE

Due to a low level of occupancy by breeding Saker Falcons at the artificial nest sites in our Darhan study area during the 2006 field season, we were not able to determine if Sakers exhibited a preference for any particular design of artificial nest. Consequently, we used the sheltered design because it provided protection from elements and was simple to make when establishing the Bayan study site in autumn 2006.

A total of 8 grids were established in the Bayan study area of three different types, which are summarised in Table 1. Artificial nests were positioned in four 5 x 5 grids spaced at 1 km intervals, each covering an area of 16km<sup>2</sup>.

In the first year four grids had artificial nests, two grids had only poles and two squares were empty. In the second year, nesting barrels are to be removed from two of the grids and placed in the poles only grids. The purpose of this experimental design is to determine if the density of raptors can be increased by providing nest sites and/or perches. This data will then be correlated with a quantitative study of Brandt's voles in order to determine if any increase in raptor density is reflected in the population of Brandt's voles.

#### BAYAN (B) STUDY SITE (AN250)

This is one of the grids of 5000 artificial nest project. The grid was established in the Bayan (b) study area in Tov aimag on autumn in 2009, which are summarised in Table 1. Artificial nests were grids spaced at 1.5 km intervals, each covering an area of .....km<sup>2</sup>.

#### BAYANTSAGAAN STUDY SITE (AN96)

This is one of the grids of 5000 artificial nest project. The grid was established in the Bayantsagaan study area in Tov aimag on autumn in 2009, which are summarised in Table 1. Artificial nests were grids spaced at 1.5 km intervals, each covering an area of .....km<sup>2</sup>.

#### Nests on power line in Choir (35 nests)

Electricity pylons and poles provide nesting sites for birds of prey and Ravens in districts of central Mongolia where few other suitable nesting places exist. They have a positive conservation benefit in that they extend the potential breeding range of these species in the nest-site limited plains of Mongolia. However, the large nests of these birds can cause significant problems for electricity power companies as the trailing nest material, particularly discarded wires, can cause arcing and power outages along the lines. Consequently, in many areas teams of power line workers patrol the lines during the breeding season to remove any nests. Raptor nests on power poles and pylons are expensive for power companies to manage as power outages and teams of line workers employed to remove nests all cost money.

We have undertaken survey work of electricity transmission and distributions to ascertain the extent of the problem and to assess the potential management options available that could benefit both the breeding birds and the electricity companies.

## **METHOD**

### 1. Nest monitoring of Saker Falcons

- To monitor the nests of Saker Falcons during the breeding season (April to July)
- During each 10-day nest monitoring visit whole pellets and prey remains should be collected from nest sites.

- On each nest visit the number of eggs and/or chicks should be recorded on prepared data record sheets. Broods of chicks should be assigned a development stage code using the standard development chart.

## GENERAL RESULTS

In 2010, we had total 696 nests of 5 study areas in 3 provinces in central Mongolia. We monitor them for each 10 days interval during the breeding season and collect clutch, brood and fledged size of Saker Falcon which nested at artificial nests. We mentioned here about nesting and breeding result of Saker Falcon at the artificial nests (Table1).

Table 1. Breeding data on nesting all Saker Falcons at available artificial nests in all areas, 2010.

Breeding data of Saker Falcon at all the artificial nests in 2010						
Study areas	Darkhan	Bayan A	Bayan B	Bayantsagaan	Choir	Total nesting pairs
Province	Khentii	Tov	Tov	Tov	Govisumber	
Number of nest	87	138	250	96	25	596
Number of nesting pairs	21	15	15	5	3	59
Occupancy level, %	24.1	10.9	6.0	5.2	12.0	9.9
Saker Falcon	21	15	15	5	3	59
Clutch size	-	66	26+	13+	-	-
Brood size	77+	54	-	-	-	-
Fledged size	-	50	-	-	-	-

- Data is not available

We have been working on Darkhan study area since 2006 and in 2010, total 24% (N=87) is occupied by Saker Falcon. It is fifth year for this grid. In 2010, total 10.9% (N=138) of nests in Bayan study area is occupied by Saker Falcon for its fourth year. It was first year for Bayan "b" and Bayantsagaan study areas and more than 5% is occupied by Saker Falcon, in 2010.

### 5000 Artificial nest project

We have started to make the 5000 artificial nests in autumn, 2009 which is represents the culmination of four years of trials and research in the Central Mongolian steppe.

Areas suitable for placement of artificial nests were identified during field visits in 2009. Areas were selected in 20 districts that could accommodate 250 nests. The selected areas were discussed at the soum leaders meeting in January 2010 and that can be divided 1-2 sections which depend on density of the rodent population in selected areas.

The positions of the nests were plotted using Google-Earth Pro and downloaded into GPS receivers. Transporting 5000 nests across vast stretches of road-free steppe to their local destinations was not an easy task, all our drivers were trained in the use of GPS to find the correct locations.

Two teams of three men were employed to concrete the 5000 nests into 60 cm deep holes. Each of the twenty district selected have 250 nests erected within the district boundaries, located 1.5 km apart. The last of the 5000 nests were erected in Darhan district on the 12<sup>th</sup> September 2010.

Locations of 20 districts, shaded in red, where artificial nests have been erected

Tov Aymag : Bayanjargalon, Bayansagaan, Bayan, Buren & Bayan-Onjuul.  
 Hentiy Aymag; Darham Soum, Bayanmonh, Bayanhutag & Galshar.  
 Suhbaatar Aymag; Monhhaan, Suhbaator, Uulbayan, Tuvshinshiree, Halzan & Bayandeiger  
 Dornagovi Aymag; Ayrag & Ihhet.  
 Dundgovi Aymag; Gurvansayhan, Mandalgovi & Adaatsag.

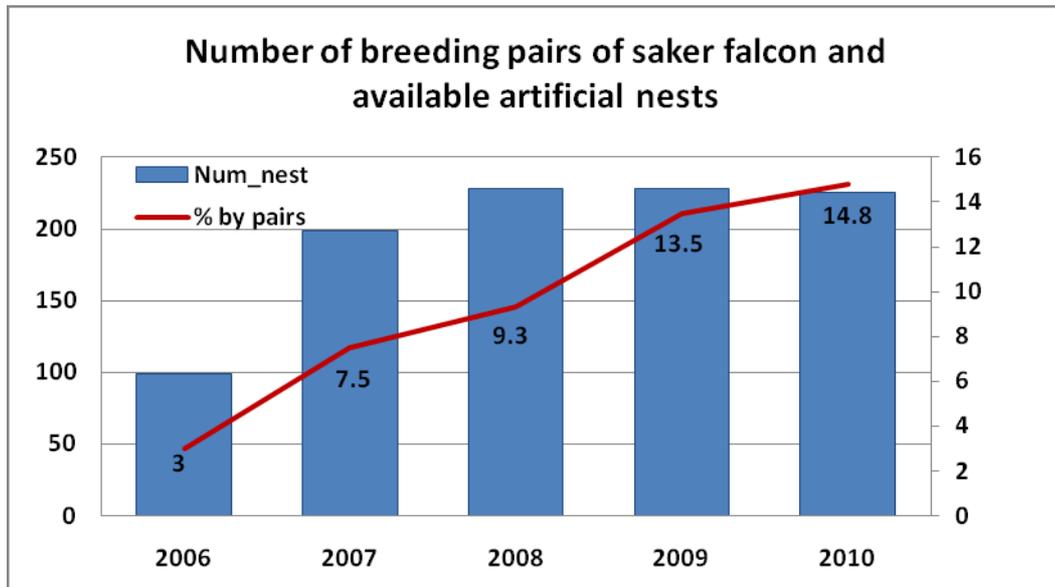
### Future plans for 5000 artificial nests

Four teams will monitor the 5000 nests from April to August for the next five years. Success of each nest will be recorded and young Saker Falcons will be micro chipped. Results will be given to The Mongolian Ministry of Environment and Tourism (MNET) and Environment Agency Abu Dhabi (EAD). In the future MNET can set their export quotas for Saker Falcons based on the number of birds that are fledged from the 5000 artificial nests. CITES (Convention on International Trade in Endangered Species) plan to review Mongolia's quota in 2011 depending on the success of the artificial nest project.

### CONCLUSION/OUTCOMES

Each year, number of breeding Saker Falcon at artificial nest is increasing. We can say that number of breeding Saker Falcon in central Mongolia is increasing or at least it is stable (please look at the picture-2).

Picture2 Occupancy of breeding Saker Falcon at the available artificial nests in between 2006-2010.



**Appendix 1**  
**Breeding data of Saker Falcon nested on experimental study area in Bayan-a, 2010**

Species	Nest ID	E	E	Clutch size	Brood size	Fledged size	Outcome
<i>F.cherrug</i>	A09	47.24460	107.39941	4	4	3	Successful
<i>F.cherrug</i>	A18	47.25289	107.42635	1	0	0	Unsuccessful
<i>F.cherrug</i>	A20	47.23459	107.42486	3	0	0	Unsuccessful
<i>F.cherrug</i>	B01	47.18546	107.38924	4	4	3	Successful
<i>F.cherrug</i>	B09	47.15811	107.40050	5	5	5	Successful
<i>F.cherrug</i>	B18	47.16602	107.42818	4	3	3	Successful
<i>F.cherrug</i>	B21	47.18358	107.44306	5	4	4	Successful
<i>F.cherrug</i>	C25	47.13133	107.29203	3	3	2	Successful
<i>F.cherrug</i>	F03	47.00767	107.04622	5	4	4	Successful
<i>F.cherrug</i>	F10	47.02489	107.07409	4	1	1	Successful
<i>F.cherrug</i>	F16	47.00637	107.08579	5	5	4	Successful
<i>F.cherrug</i>	F19	46.99743	107.08501	5	5	5	Successful
<i>F.cherrug</i>	G04	47.06128	106.92795	5	5	5	Successful
<i>F.cherrug</i>	G12	47.07843	106.95551	4	4	4	Successful
<i>F.cherrug</i>	G25	47.05024	106.97925	5	3	3	Successful
<i>F.cherrug</i>	H04	46.97417	106.92586	4	4	4	Successful

**Appendix 2**  
**Data on breeding raptors at the available 596 artificial nests in 2010**

Study areas	Darkhan	Bayan-A	Bayan-B	Bayantsagaan	Choir	Total
Provinces	Khentii	Tov	Tov	Tov	Govisumber	
Nest number	87	138	250	96	25	596
Breeding pairs	65	125	39	17	11	257
Occupancy level, %	74.7	90.6	15.6	17.7	44.0	43.1
Saker Falcon	21	15	15	5	3	59
Upland buzzard	31	27	13	8	0	79
Common kestrel	1	72	2	0	5	80
Common raven	12	11	9	4	3	39