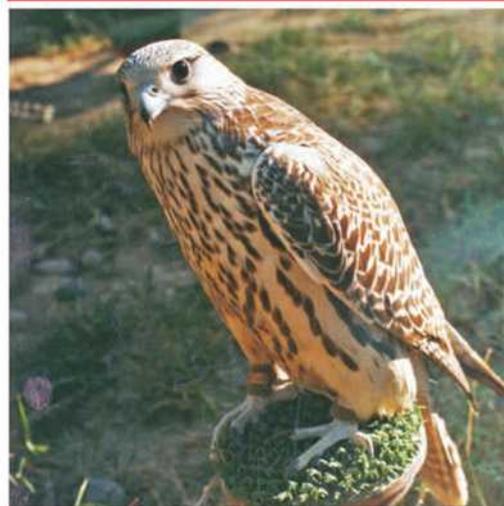


ACTION PLANS

ON CONSERVATION
OF THE WORLD'S
ENDANGERED BIRD
SPECIES IN
UZBEKISTAN



Uzbekistan Society for the Protection of Birds
The BirdFair/RSPB Research Fund for Endangered Birds
International Fund for Saving the Aral Sea
State Biological Control of the State Environmental Committee of the Republic of Uzbekistan

ACTION PLANS

ON CONSERVATION OF THE GLOBALLY ENDANGERED BIRD SPECIES IN UZBEKISTAN

Issue 1: Saker Falcon. Egyptian Vulture



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INTERNATIONAL

Action Plans on Conservation of the World`s Endangered Bird Species in Uzbekistan

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In the present publication, for the first time ever, Action Plans on conservation of the two globally endangered bird species – the Saker Falcon and the Egyptian Vulture – are presented with an emphasis on the situation in Uzbekistan. They present basic biological features and the population position for each of the species, a description of the dangers facing them, relevant legislative and regulatory systems, required conservation measures and designate the organisations that bear responsibility for the plans' realisation. The main goal of this publication is to provide information on, and learning support for, activities engaged in by representatives of state and social conservation and scientific organizations, members of natural resource management teams and other interested people who are directly involved in conservation of the Saker Falcon and the Egyptian Vulture and its habitats.

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Introduction

Birds of prey play a very important role in biocommunities by eradication of fallen birds and selectively catching ill and weak animals. In the second half of the XXth century there was a sharp decline in the number of birds of prey due to their direct extermination, wide use of pesticides and other toxic substances in farming, transformation of habitats, anthropogenic disturbance and illegal commercial trapping. At the present time many birds of prey are rare species and are in need of conservation actions. 19 species or 46% of the species composition of birds of prey which are active during the daytime are presented in the National Red Book of Uzbekistan, whereas 88 species or 28.6% of the whole number of birds of prey in the world are included in the Red List IUCN.

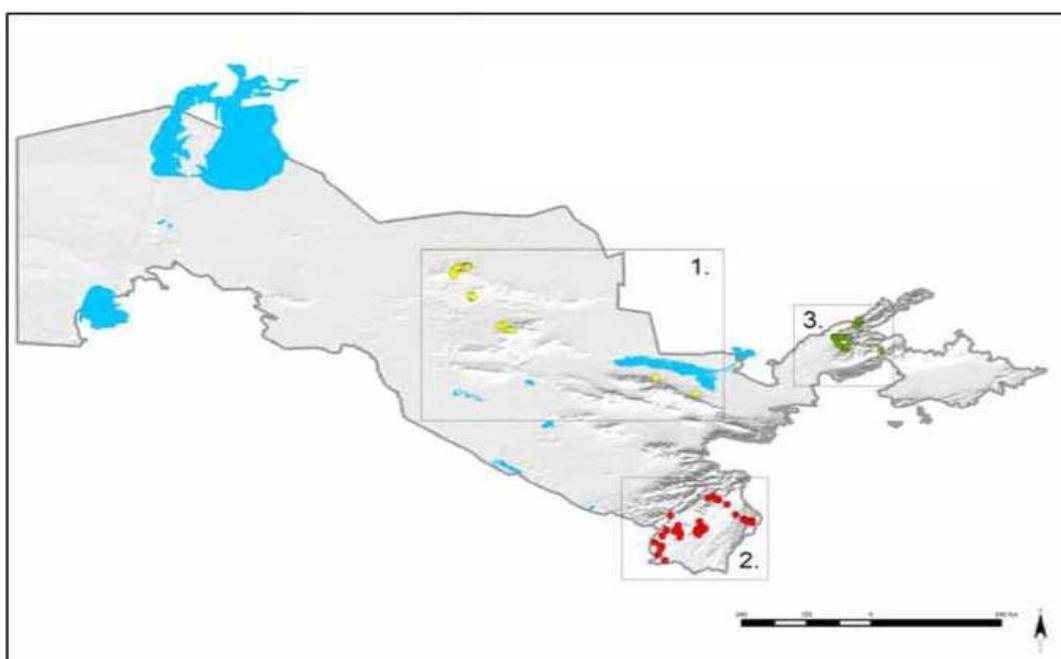
The Saker Falcon, according to IUCN, is classified as “vulnerable” (Red List IUCN 2010). According to experts` estimates, the Saker Falcon`s number has been reduced by 90%. In Uzbekistan, the Saker Falcon is a rare species: its average number is 120-150 individuals, although this data has not received the latest approval.

The Egyptian Vulture, according to IUCN, was transferred from the category of “least concern” (LC) to the “endangered species” (EN) category as a result of the sharp decline in the birds` numbers which has taken place in India, Europe and Western Africa – as a whole, throughout the Egyptian Vulture`s distribution area, its number has decreased by 90%. In Central Asia, it numbers some 2000 pairs. In Uzbekistan, numbers of this species are poorly studied and, despite having “endangered species” status, the Egyptian Vulture is not included in the National Red Book.

In 2010, the British RSPB Research Fund for Endangered Species (BirdFair/RSPB) supported the Uzbekistan Society for the Protection of Birds` “The Population and Distribution of Saker Falcon and Egyptian Vulture in Uzbekistan” programme. The goal of this programme was to collect information on the present situation regarding populations of both species, dangers facing them and the following design of Action Plan on the conservation of these species.

In February-March 2010, on the basis of all accessible sources, the database was created – it numbers 111 records of Saker Falcon and 180 records of Egyptian Vulture for the last 100 years. In terms of getting accurate information about the present situation, and taking into account available data, three regions where it would be possible to conduct the study were chosen. They are the following: 1 – the plain area of the central part of Uzbekistan; 2 – spurs of Gissar-Alay in Southern Uzbekistan; 3 – south-western spurs of western Tian Shan in north-eastern Uzbekistan (Figure 1).

In April-July 2010, in the above mentioned regions, the following operations were conducted: 22 surveys from car that had a 1080-km stretch; 15 surveys on foot that had an 80-km stretch; 15 surveys on point from prevailing heights. Data including 50 records of Egyptian Vulture (6 nests, 44 records of 98 birds) and 16 records of Saker Falcon (6 nests, 8 single birds and 2 pairs) was received there. The latest information on the situation in the Nuratau and Gissar (Hissar) mountain range was prepared by N.Yu.Beshko and B.Oromov. Apart from this, data gathered in the collaborative expedition to the eastern cliffs of the Ustyurt Plateau in June 2010, with the involvement of UzSPB and Fauna & Flora, was also studied. All received data were applied in the process of developing the present Action Plans.



Picture 1. Regions of conducted studies in 2010.

As to the programme implementation process, people who participated in it are the following: Doctor of Biological Sciences O.V. Mitropolsky and Candidate of Biological Sciences R.D. Kashkarov (The National University of Uzbekistan); Candidate of Biological Sciences E.N. Lanovenko and Research Scientist A.K. Filatov (Institute of Zoology of Academy of Science of the Republic of Uzbekistan); A.G. Ten and A.A. Atakhodzhaev (members of UzSPB); students at the National University of Uzbekistan and the Samarkand State University. The Action Plan publication became available due to the support of the International Fund for Saving the Aral Sea. The Action Plan's approval by the State Biological Control of the Republic of Uzbekistan confirms its applicability. The Uzbekistan Society for the Protection of Birds appreciates the above mentioned specialists and organisations for efforts made and their support in the process of work.

The programme manager R.D. Kashkarov

Falco cherrug

Балобан

Saker falcon

Итолғу



Biological characteristics (features) of species

Phylum: Vertebrates *Chordata*

Classis: Birds *Aves*

Ordo: Falconiformes *Falconiformes*

Familia: Falconidae *Falconidae*

Genus: Falcons *Falco*

Species: Saker Falcon *Falco cherrug* Gray, 1834

It is a polytypic species. According to some sources, subspecies *F. ch. coatsi* Dementiev, 1945 (Mitropolsky et al., 1987; Stepanyan 1990) breeds in Uzbekistan; according to others, the nominative subspecies *F. ch. cherrug* Gray, 1834 (Nagy, & Demeter, 2006) breeds there. In winter the vagrant birds of subspecies *F. ch. milvipes* Jerdon, 1871 (Ayupov, 1978) that prefer to breed north-east of this area are known. Data from wintering grounds of the nominative species may reflect the situation happening with this species in the Syrdarya River basin (Mitropolsky et al., 1987).

It is a large-sized falcon with a body length of 47-55 cm and a wingspan of 105-129 cm. The main differences between the saker and similar species of falcons are the following: a wider wing, a longer tail, brown colouration on the upper part of body and a distinctive white head. The malar stripes (moustachial streaks) are not as clearly defined as in *Falco peregrinus*. The lower part of the body is fair, or it may be tinged with a yellow or ochre colour. In some birds it may be white with longitudinal brown drop-shaped spots. There is a significant geographical and individual variation in plumage colour that changes even during a year as a result of its burning-out in areas with a dry, severely continental climate. Moreover, each geographically localised colour variation is represented in one of two possible forms – it may be white or a dark one.

Distribution

It inhabits the Western Palearctic, starting from Europe and spreading to western China, and may be observed in the continental regions of the mid-latitudes, particularly in the forest-steppe, steppe and foothills (Figure 2). It nests in Austria, Hungary, Czech Republic, Slovakia, Serbia, and Montenegro, in Bulgaria, Romania, Moldova, Belarus, Ukraine, Turkey, Iran, Iraq, Armenia, Russian Federation, Uzbekistan, Tajikistan, Kyrgyzstan, Kazakhstan, Mongolia, and China, in Turkmenistan and, presumably, in Afghanistan and – supposedly – in India (Ladak). During the wintering and migration period it is regularly observed in Italy, Malta, Cyprus, Israel, Jordan, Egypt, Libya, Sudan, Tunis, Ethiopia, Kenya, Saudi Arabia, Yemen, Oman, United Arab Emirates, the Kingdom of Bahrain, Kuwait, Iran, Pakistan, India, Nepal, Afghanistan, and Azerbaijan (Baumgart, 1991, 1994; ERWDA, 2003; Snow and

Perrins, 1998).

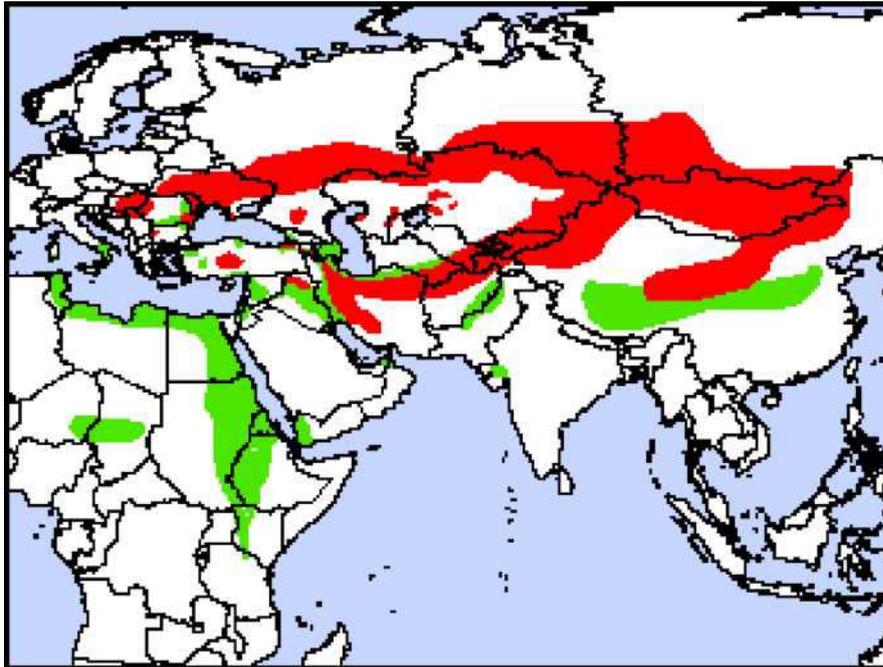


Figure 2. Distribution of Saker Falcon (according to BirdLife Int., 2008). Red colour signifies breeding areas, green colour – its wintering grounds.

In the southern parts of their geographical range Saker Falcons are quite sedentary, but they may leave breeding areas for the winter. Similarly, birds from Kazakhstan spend winter in India, West Asia and North Africa. A proportion of birds stay in the south of the country all winter long (Korelov, 1962).

In Uzbekistan, the majority of the breeding population is sedentary. Some pairs may be seen near their nests before the end of February (Salikhbaev et al., 1970). The young birds start to leave their nests from the middle of May, but for the most part this occurs in the middle of June and after this they stay near the nest for a long time. When the breeding period ends, some birds migrate to the higher mountain areas (Meklenburtsev, 1986). It is difficult to establish dates of the autumn arrival of birds on passage in Uzbekistan because the young birds from the disintegrated broods and adults that have finished their breeding period start nomadic migrations in July-August and, consequently, are seen beyond breeding areas. During winter their numbers on breeding areas considerably decrease as a result of their migration to the adjacent plains. During the period when the ground is continuously covered with snow, birds completely leave their territories in the north. In Uzbekistan it is possible to observe birds that spend winter beyond its boundaries. That is why during the migration and wintering period the Saker Falcon is observed in all plain areas of the Republic, oases and even big cities and its suburbs (Mitropolsky et al., 1987), Figure 3.

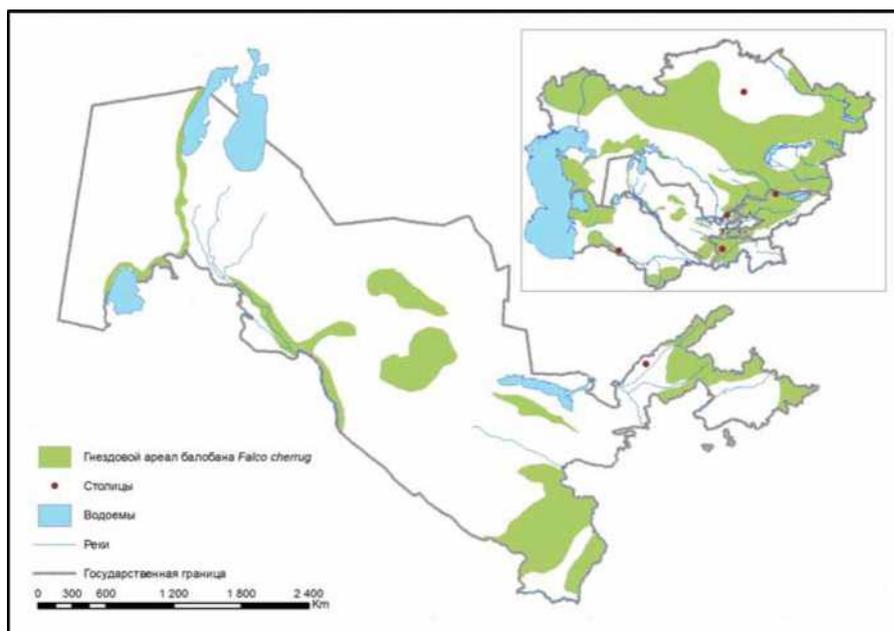


Figure 3. Distribution of Saker Falcon in Uzbekistan (according to Mitropolsky et al., 1987); *the inset shows the contour of the Saker Falcon's breeding range in the central part of Asia (according to Abdusalyamov, 1971; Dementiev, 1951, 1952; Ivanov, 1940; Korelov, 1962; Red book of Kazakhstan, 1996; Rustamov, in print; Yanushevich et al., 1959)*

The average population number and trends of its change

The average figures for the population of this species and trends in its change are estimated differently by various sources. Thus, the average European Saker population in the second half of the 19th century was 5-10 thousand pairs. A significant decrease in the population number began after 1945 (Baumgart, 1991).

In the period between 1970 and 1990-2000, a decrease in the species' numbers took place across all countries of Eastern Europe; generally, the population has undergone a significant decrease – it reduced by more than 20% over two generations. Today the European breeding population equals 600-700 pairs; the geographical range of the nominative subspecies has become narrower and fragmented (BirdLife International, 2004).

According to the estimates of the CITES Trade Database (2004), the numbers of the breeding pairs of Saker Falcon in the Asian countries equals 3200-3850 pairs: in Afghanistan – 40 pairs, in Iran – 50 pairs, in Iraq – 60 pairs, in Pakistan – 10 pairs (W. Clarke, personal communication), in Turkmenistan – 50 pairs, in Kazakhstan – 200 pairs (Levin, 2001, Sklyarenko, 2001), in Kyrgyzstan – 150-200 (Shukurov, Davletbakov, 2001; Turganbaev, 2001), in Russia – 550-700 pairs (Galushin, 1995; Galushin et al., 200, 2001; Ryabtsev, 2001). Since there was an active trapping of the birds that arrived in China from the north in 2003, the total number of Saker Falcon is just 1000-1200 pairs (Ming and Potapov, in press). During the last century a decrease of some 40-45 % in Saker numbers took place in Mongolia as well – it lowered from 2200-3000 pairs (Shagdarsuren et al., 2001; Badam, 2001) to 1000-1200 pairs in 2003 (Potapov, in press).

According to ERWA (2003) data, in 1990 the global population of the Saker Falcon

was estimated at 8500-12000 pairs, and by 2003 its number was only 3600-4400 pairs, i.e., the decline was in the range from 48 to 70%. The same source reports that Saker numbers declined by 69% in the Russian Federation, in Moldova they lowered by 59%, in Kyrgyzstan by 68% and in Uzbekistan by 90%.

According to BirdLife International (2010) data, the global population of the Saker Falcon was estimated to stand at 9600-17000 birds (IUCN, 2011).

In Uzbekistan, at the beginning of the 1980`s, the Saker population was estimated as being optimal for this species, the population dynamics being determined by natural processes and not dependent on the practical activities of man. Nesting on power lines was contributing to widening of geographical range and the appearance of Saker Falcons in places that are unnatural for this species (Mitropolsky et al., 1987). A disastrous decline in the species' numbers happened because of poachers who had hunted adult birds and the destruction of nests which took place in the middle of the 80`s and at the beginning of the 90`s. This was explained by the keen demand for the Saker Falcon in the Arab-speaking countries and insufficient control of trade and export of birds from the country. At the same time the birds who suffered first were those that were nesting on power lines and low-hill terrains of the Kyzyl Kum desert. In subsequent years the illegal trapping and taking of young birds from nests continued to take place, but the annual number of birds taken from nature is not stated yet. The only fact that is known is that in 2002 a group of birds consisting of 77 birds was seized by Uzbekistan Customs, where 52 of them were bred in a breeding centre, and 25 of them were taken from nature. The birds were imported to Uzbekistan from Kazakhstan and were seized at Tashkent airport in an attempt to export them from the country (CITES Trade Database, 2004).

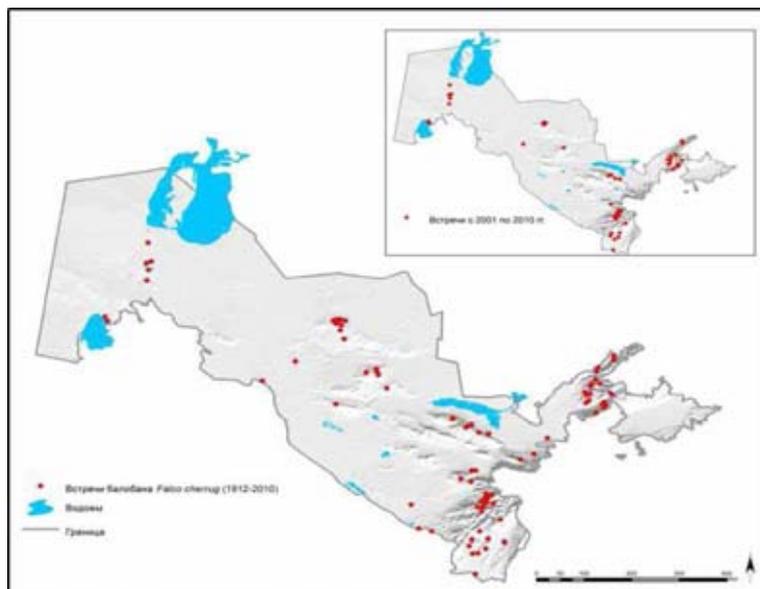


Figure 4. Places of Saker Falcon records in Uzbekistan. *In the inset we see their records over the last 10 years (according to materials based on a database of UzSPB)*

The data from recently conducted studies indicates that the Saker Falcon population in Uzbekistan is small. Consequently, B.A. Abdunazarov (1990 b) estimated it at 100-120 pairs, E. Kreuzberg-Mukhina et al. (2001) – at 100-150 pairs. According to materials from the database of Uzbekistan Society for the Protection of Birds, in the period between 2000-2010 the distribution of birds across the regions (Figure 4) was as follows: on the Southern and the Eastern cliffs of the Ustyurt Plateau 7 pairs were identified; on the spur of the Western Tien Shan mountains 14 pairs were observed; on the Nuratau range 5 pairs were seen; on the Pistalitau range 5 pairs were seen; on the Turkestan range 2 pairs were seen; on the Zarafshan range 2 pairs were seen; on the Gissar range – 16 pairs were identified; on the Kuritang range 3 pairs were seen and in the Amur Darya floodplain 5 pairs were observed. Hence, the number of nesting birds in Uzbekistan makes up about 70 pairs, which, in turn, emphasises a decline of nearly 50% when compared to the data gathered in 2001. The comparison of material from studies of 2010 with the data about the situation in the Kyzyl Kum desert that was published earlier (Mitropolsky et al., 1987) shows that nesting birds were not observed in regions where they probably bred before. Perhaps this is related to the decline in rodent populations which is widely known today, and which usually leads to a decrease in the Saker Falcons` numbers.

Habitat preferences

The Saker Falcon breeds in the forest-steppe, steppe, semideserts, deserts, and mountains. The determining factor for Saker Falcons to select a habitat is a sufficient amount of food, with suitable sources located near places that are appropriate for building a nest. The species is adapted to hunt at low altitudes on open areas, preferring to eat small and average-sized rodents that are active during the daytime. In the west of its geographical range the species hunts on meadows, hills, mountain ranges, wetlands and even agricultural landscapes where a large number of rodents and birds that are available during daytime are settled in order to raise their chicks. In some territories this species selects birds as the main type of their food. Hence, latterly, in some European countries the rodents that are typically found in the Saker's diet are replaced by domestic pigeons. In the eastern part of its geographical range and Central Asia this species occurs predominantly in mountainous areas, flying to the steppe and desert regions in order to hunt. Outside of the breeding season it is observed practically in all open landscapes.

It builds nests in trees, on cliffs, power transmission line towers and sometimes even on the ground, using old nests of other birds of prey and also artificial nests. During the breeding season it avoids settling close to humans. In Uzbekistan, the breeding sites of Saker Falcon may be on peaks of low hills in desert terrain, cliffs located in the valleys of rivers flowing across the plain, cliffs of the Ustyurt plateau (Figure 5), the whole ridge of foothills of the Western Tien Shan and the Pamir-Alay mountains with the vertically dissected relief.

While nesting in the Western Tien Shan, it may lift off the ground and fly at heights of up to 2500-3000 m above sea level. In the south of the country it is observed in Kugitang – predominantly in the gorges of the lower part of the mountains (Dementiev, 1951) and on the Gissar range – in the gorges of the lower and middle section of the mountain range. In the Kyzyl Kum desert, it inhabits low hill terrain; it also nests on high-voltage power lines located in the region of such mountain ridges like Kuldzhuktau, Bukantau and between the cities of Uchkuduk and Zarafshan (Mitropolsky et al., 1987).



Figure 5. The nest of a Saker Falcon; Eastern cliff of Ustyurt Plateau

Rodents – the Great Gerbil (*Rhombomys opimus*) (Figure 6) and the Red-tailed Gerbil (*Meriones libycus*), the Yellow Ground Squirrel (*Spermophilus fulvus*) (Mambetzhumaev, 1968) – constitute the main food source (85%) of the Saker's diet in the open desert landscapes of Uzbekistan. Birds constitute 48,5% of the Saker Falcon's diet within the boundaries of riparian woodland. There are known cases of Saker's preying on colonies of European Bee-eaters (*Merops apiaster*) and feeding their chicks with such type of food. In cities, migratory and wintering Saker Falcons hunt domestic pigeons. In the mountainous areas of Western Tien Shan and Pamir-Alay the Saker Falcon is connected with the local settlements of Tien Shan souslik (*Spermophilus relictus*) and colonies of Rose-coloured Starling (*Sturnus roseus*). It is possible to observe a direct correlation between the Saker Falcon and the Yellow Ground Squirrel in the Kyzyl Kum desert that provides all conditions for the Saker Falcon to breed there (Figure 7).



Figure 6. The Great Gerbil is represented as the basic food object for the Saker Falcon.

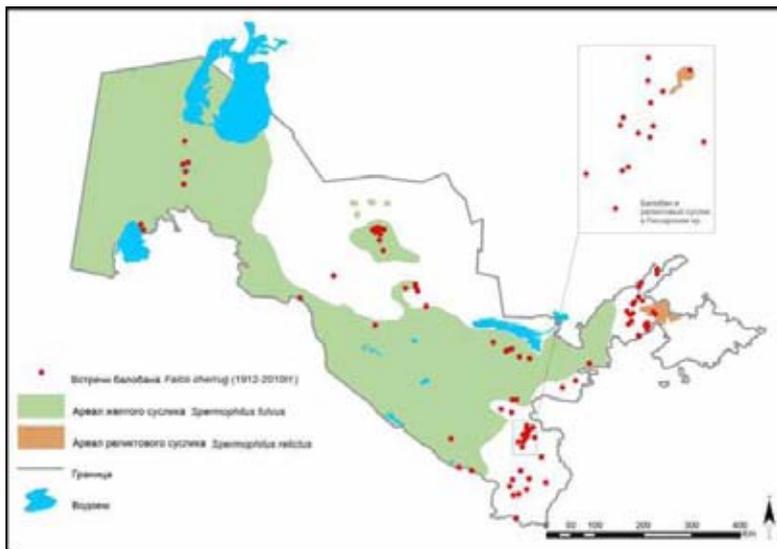


Figure 7. The correlation between the distribution of the Saker Falcon and its main food objects

The Saker Falcon is attracted to power lines because of the abundance of food resources in the immediate vicinity of a nest and the presence of completed nests built by birds of prey – namely the Golden Eagle (*Aquila chrysaetos*), the Long-legged Buzzard (*Buteo rufinus*) and the Brown-necked Raven (*Crovis ruficolis*) et al. (Zinoviev, 1994). Whilst attempting to move into the depth of the sandy deserts the Great Gerbil and the Thin-toed Ground Squirrel (*Spermophilopsis leptodactylus*) become the main targets for hunting Sakers. From time to time, when the population of such rodents has declined, many Saker nests remain unoccupied (Mitropolsky, 1980; Mitropolsky et al., 1987).

The breeding sites are largely isolated and located at a great distance from each other – on average one pair of birds occupies one gorge. However there is data that covers the situation in the Kyzyl Kum desert which shows that 3 pairs were seen in a gorge with a length of 3,5 km, and 5-6 pairs were observed within the limits of a 20 km stretch of power lines (Mitropolsky et al., 1987). According to data from 2000-2001, three pairs of birds were found breeding on a 17km run of cliffs on the Ustyurt plateau.

Reproduction and survival

In Uzbekistan, the Saker Falcon's breeding season begins in February-March. Egg laying begins in the first and second ten-day period of March, and by the end of March in 91% of pairs the breeding season usually ends. Complete clutches consist of 3 to 5 eggs: on average this number equals 4,9 eggs per clutch. The duration of the incubation period is 30-32 days; chicks start to appear in the middle of April. In cases when their clutch is destroyed birds repeat the same process once again. Adult birds feed their young ones for nearly 45 days. In the Kyzyl Kum desert the dates of chicks' hatching are identical to the dates of appearance of young Great Gerbils and Yellow Ground Squirrels that become visible to the birds of prey as they are active during the day – that is the reason why they are such an easy type of food during the period when birds spend time feeding their chicks (Mitropolsky et al., 1987). Young birds begin to leave their nests in the middle of May: in the South of Uzbekistan this commences much earlier. However the majority of young birds leave their nests in June and after this stay with the adults until July.

Birds begin to breed when they are two years old. There are known cases when nests were left by broods that generally consisted of 3 chicks. The database also contains single cases when 4 and 5 chicks have fledged (Mitropolsky et al., 1987). We may assume that the breeding success depends upon the numbers of the dominant desert rodents, although specific studies have not been conducted yet. There is the only short report of S.A. Zinoviev (1994) saying that the breeding success of birds breeding on power lines in the Central part of the Kyzyl Kum desert stands at 45% and at 35% in low hill terrains.

Description of possible dangers facing Sakers

Habitat loss

Agricultural activities

In Uzbekistan, the areas that experience the largest pressure from agricultural activities are the foothill plains and the foothills themselves. After the highways were laid, and as a result of cultivation and irrigation of soil, the species composition and numbers of small mammals significantly decreased in the Mirzacho'l (Golodnaya steppe) and Karshin Steppe, on plains around Tashkent and on all foothills of the Western Tien Shan and Pamir-Alai Mountains. Overgrazing that is caused by cattle in foothills and the middle mountain range leads to soil degradation and a decline in the number of rodents in these areas (Figure 8). However, at the same time in some mountainous areas we can see a decrease in grazing pressure caused by a decline in livestock numbers as well as toughening of border regimes or regulations in protected areas, which leads to the filling up of open areas with tall grass and the disappearance of ground squirrels and other rodents that form the Saker Falcon's diet.



Figure 8. Pieces of land overgrazed by cattle in the upper reaches of the Nauvalisay River



Figure 9. The overgrowing of pastures in the middle mountain region of the Pskem mountain range

The development of infrastructure

During the construction of highways and railways, together with office buildings, accommodation units and leisure zones, the redistribution of different fauna species is observed. In particular, in deserted areas there is a tendency for the number of sousliks (ground squirrels) and gerbils to increase, since they are usually seen near to road embankments, smallholdings etc. The Saker Falcon never hunts close to urban areas. In addition, the aggregation of rodents along traffic arteries in the deserted regions is an additional source of food for Sakers and hence this can be considered as a contributory factor. Herewith we see the increased risk of direct persecution of birds by man. In the mountains, Saker Falcons feed mainly on birds: they hunt them near villages since it is easy for them to catch prey flushed by man.

The exploitation of natural resources

The exploitation of natural resources is associated with the building of transport corridors, workers' settlements, the presence of the workforce, constant sounds that the operative techniques produce, blasting operations and the destruction of cliffs and hill peaks by undermining their foundations. As a result, the Saker Falcons leave their former breeding sites. In Uzbekistan the process of excavation of petroleum has become more active during the last decades. This issue is very serious and may affect the Ustyurt Plateau and the south of the country.

The series of other globally known factors that have a negative effect on the Saker Falcon's habitats throughout the entire species range has no great value in the territory of Uzbekistan:

-The extermination of rodents in large territories makes immeasurable harm to the Saker Falcon's diet (Belik, 1999; Fox et al., 2003; BirdLife International, 2008). However in the vast natural areas of Uzbekistan the extermination of rodents was always conducted locally – namely, in the vicinities of urban areas – and so did not necessarily affect the Saker Falcon's diet in a negative way. The statement made by S.E. Fundukchiev and F.G. Fayzulin (1978) about the fact that due to the mechanical destruction of the Great Gerbil colonies, conducted in aid of protecting the population of the Yangiyer city against leishmaniosis, the Saker Falcon was not seen in the Mirzacho'l Steppe anymore – does not reflect the actual reason for this phenomena.

-The rehabilitation of forests (forest planting) on a large scale may decrease access to open hunting areas and lead to a decline in the Saker's breeding population. This was observed on the Delibato sand plain in Serbia (Ham, 1980; Puzovic, 2000). In Uzbekistan the creation of shelterbelts, forest nurseries, planting of saxauls in the Kyzyl Kum desert, the Karshin steppe and the southern part of the area around the Aral Sea were intensely carried out in the 50-70's of the last century. However the Saker Falcon numbers in these areas was naturally low and forest management activities have not affected the species' status anyhow. In present times, activities involving the afforestation of large squares in Uzbekistan are carried out on the drained bottom of the Aral Sea. However these areas are not considered as key hunting grounds for the Saker Falcon.

Direct anthropogenic risks

Electrocution

The birds suffer from injuries caused by electrocution when they make an attempt to sit on the power transmission tower – this happens if they touch two cables or one cable and any earthed metallic item that is placed on a tower. As to the description of existing risks, the group of power lines that constitutes the highest risk includes the power lines of middle voltage (10-35 kVt) – they are routed through open territories where the number of objects that birds are hunted on is very high and a scarcity of natural hunting perches is observed. Consequently, in the Navoiy Province of the Kyzyl Kum desert, on the power-line segment starting from the Kyzylkuduk railway station up to the crossing loop No. 142, in 1980, one Saker Falcon was recorded among the birds of prey electrocuted to death. On the 26th of April 1989, two Saker Falcons were found dead on an 18 km long power-line segment located in the territory of the Farish Steppe (Abdunazarov, 1987, 1990 a). Saker Falcons migrating across plain areas in their breeding season are exposed to risk more than any other birds. In the 1980-90's a large part of the existing power transmission towers was equipped with special protection means. However, according to studies of UzSPB of 2007 (Kashkarov, 2008), not all but just a few power transmission towers located in the Kyzyl Kum desert were equipped with this system. Today, controls on the mortality rate of birds on power lines are not carried out, and their mortality rate has not yet been ascertained. This, therefore, is the reason why the real extent of risk that each power line carries is still unknown.

Collision with constructions

Cables and towers of the middle-and-high-voltage power transmission lines, antenna towers and their guy lines and other similar structures represent a real danger of collision for birds while hunting. For instance, in desert regions, lines of telegraph wires are routed along highways and railroads. The high number of rodents that are seen near road embankments attracts Saker Falcons, and therefore the risk of collision for birds in those areas is quite high. The other objects whose presence has a devastating effect on migratory and nomadic Saker Falcons that are busy searching for food are support wires for vineyards where, after the harvest, concentrations of corvids congregate. Reports on the deaths as a result of collision with the above-mentioned objects have come in from Europe, in particular, from Czech Republic (Dereliev and Ruskov 2005). Despite the fact that in Uzbekistan the data as such is not confirmed yet, this problem can have very serious consequences in areas where the growing of grapes is widespread.

Trapping

The trapping of adult Saker Falcons in Central Asia has risen due to the high demand for falcons in the Middle East. Hence, in Kazakhstan, the illegal trapping of Saker Falcons in 1992-2000 has led to a 10-fold decline in the species' numbers; every year the number of Saker Falcons that continues to be exported from the country is 200-300 birds (Sklyarenko, 2001).



Figure 10. Net designed for trapping birds of prey, the Sukoktash gorge, 18th of April 2010).

In Uzbekistan, a similar situation took place in 1970-1990. Moreover, in this country there is a group of people called bird fanciers who catch adult Saker Falcons in order to keep them in captivity (Figure 10). The quantitative estimates of the illegally trapped birds in Uzbekistan are absent. In recent years, due to the increase of controls on the capture of, and trade in, Sakers that are carried out by conservation bodies and customs authorities, the level of this danger has significantly reduced.

The destruction of nests

The destruction of Saker Falcons' nests before the 1980`s was a very serious problem in the western part of its geographical range (Ruskov, 1995, 1998 a, 1998 b). Today this problem should be urgently addressed in Ukraine (V.Vetrov, Ju. Milobog, pers. comm.), Russia (Karyakin, 2005), Bulgaria, Turkey, and Kazakhstan (Karyakin et al., 2004). This might be conditional upon the existence of a market for both Saker eggs and chicks in the Middle East and Europe.

In Uzbekistan, at the beginning of the 1980`s, there was massive destruction of nests which were very easy to access (Figure 11) – this was done either by local citizens or professional poachers that were specialised in the trade of falcons. The measure of access to nests was studied by B.B. Abdunazarov (1990 a). According to his data, 29 of 43 examined nests were located in easy to reach places, 3 were in not very easy to reach places and, finally, 11 were in difficult to reach spots. Despite the fact that at the present time the scale of nest destruction has been significantly lowered due to the increased control of the falcon trade, the removal of eggs and chicks from their nests is annually recorded almost in all breeding sites.



Figure 11. The easily reachable nest of a Saker Falcon in the Bukhantau mountain range

The other reason for this is the use of large falcons in order to deter corvids from airports: falcons were used for this purpose at the airports of Tashkent. Taking into account that in recent years, as a result of the development of national airlines, the airports of Samarkand, Bukhara, Karshi, Urgench and Nukus have ranked high on the international level, increased demands and, consequently, an increase of illegally trapped Saker Falcons might take place here. The real “consumers” of Saker Falcons may be the breeding centres that breed falcons illegally.

Birds` disturbance

The disturbance of birds in their breeding sites may lead to a failed attempt to breed. If adults are flushed from a nest, eggs or small chicks may be frozen or overheated, or even make up the diet of the Eurasian Eagle-Owl, the Raven, etc. The disturbance of birds may be triggered by agricultural activities or forest operations, as well as the construction of roads, hunting, rock climbing, disorganised tourism, bird control or photography etc. In Hungary,

on average, 26% of breeding attempts are considered failed ones because human activities disturbed birds during their breeding season (Bagyura et al., 2003). In Uzbekistan, studies of the role that disturbance played in birds' poor reproductive success have not been conducted. However, B.B. Abdunazarov (1990 a) considered it as a great danger.

The next described risks may be quite serious provided that they may, to some extent, affect the whole geographical range, but in terms of conditions of Uzbekistan are meaningless or even absent:

-Shooting. According to data gathered by B.B. Abdunazarov (1990 a), in the period between the 1980`s and 1990`s there were 4 known cases of Saker Falcons being shot to death. For later periods, data on such risks is absent. According to our estimates, in Uzbekistan, the shooting of Saker Falcons is realised for taxidermy purposes only and therefore has a sporadic character.

-Chemical poisoning

In Uzbekistan before the 1990`s the use of pesticides and weedkillers in agriculture was widespread. However, poisoning of Saker Falcons and other birds of prey was not confirmed. Before the beginning of the 2000`s the struggle against rodents through the use of cereal baits coated with zinc phosphide was realised on the basis of estimates by the epidemiological service in the vicinities of various urban areas in the Kyzyl Kum desert. However, taking into account that the great number of rodents die in their holes, the risk of food contamination for birds of prey is very low.

-The destruction of artificial nests

The owners of hunting grounds may destroy nests in order to stop the Saker Falcon breeding there, because they consider this species to pose a threat to small game. This problem took place only in Czech Republic. In Uzbekistan the practice of establishment of artificial nests for Saker Falcon is not implemented, but this problem may appear in the foreseeable future on specialised (chukar, pheasant) hunting grounds.

Natural dangers

Being a common issue that takes place throughout the Saker Falcon`s geographical range, these problems do not lead to irreversible loss and their influence on the species` population is meaningless. However it is essential to consider them during planning for actions aimed at conservation of species.

Predation

In Uzbekistan, the birds that represent a danger to the eggs and chicks of Sakers are the Eurasian Eagle-Owl (*Bubo bubo*), the Brown-necked Raven (*Corvus ruficollis*) and the Common Raven (*C. corax*) and also the Hooded Crow (*C. corone*). The Eurasian Eagle-Owls may also catch a recently fledged young bird on cliffs that they inhabit together, though generally such cases happen with inexperienced breeding pairs. The taking of eggs from a clutch may happen when Saker Falcons flushed by man leave their nest. The level of such risk is low.

The destruction of nests

When Saker Falcons use old, ramshackle nests of ravens, buzzards or any other birds of prey, sometimes the nest falls down and, as a result of this, chicks die.

Extreme weather conditions

Cold weather during the incubation period may lead to the death of embryos or even small chicks. Heavy rainfall may inundate nests that are located in rock niches.

Genetic introgression (the acquisition of genes from other species during the interspecific hybridisation)

Hybrid forms of the Saker Falcons are very popular with some falconers because of their optimal hunting characteristics. Hybrids escaped into the wild may form pairs with the Saker Falcons – this may present a real danger for the introgression of genes of other species in the Saker Falcon’s natural populations. Thus, during the last years in Germany and Slovakia, 9 cases of crossings between the Saker Falcons and hybrids were registered there (Nagy & Demeter, 2006).

In Uzbekistan the breeding of hybrid Saker Falcons is not practiced yet, though in the 1990`s these specimens were imported into the country by Arab hunters and there were also known cases when these hybrids were released into the wild after the end of the hunting season.

Table 1.

The severity of risks that Saker Falcon populations face in different regions of Uzbekistan

	The Ustyurt plateau	The Kyzyl Kum desert	The Karshin steppe	The Nuratau range	The Western Tien-Shan	The Zeravshan range	The Gissar range	The Kugitang range	The Babatag range
Loss of habitats									
Agricultural activities	A	H	H	M	H	H	H	C	M
The development of infrastructure	L	?	A	A	A	O	M	M	L
The exploitation of natural resources	M	?	H	M	H	H	H	M	M
The extermination of rodents	A	L	?	A	A	A	A	A	A
The rehabilitation of forests (forest planting)	A	A	A	A	A	A	A	A	A
Direct anthropogenic risks									
Electrocution	L	M	M	A	A	L	L	L	?
Collision with constructions	L	M	M	L	M	L	L	L	?
Trapping	A	L	L	L	H	?	?	?	?

The destruction of nests	L	H	H	M	H	H	C	C	?
Birds` disturbance	M	M	H	M	H	?	C	C	?
Shooting	A	L	?	?	L	L	L	?	?
Chemical poisoning	A	A	A	A	A	A	A	A	A
The destruction of artificial nests	A	A	A	A	A	A	A	A	A
Natural dangers									
Predation	L	L	L	L	L	L	L	L	L
The destruction of nests	L	L	L	L	L	L	L	L	L
Extreme weather conditions	L	L	L	L	L	L	L	L	L
Genetic introgression									
Crossing with hybrid falcons in the wild	?	?	?	?	?	?	?	?	?

Notes. The level of risks are shown with the following symbols: **H** - high, **M** - medium, **L** - low, **A** - absent, **?** – under question

The legislative and regulatory system for the control of species

Global conservation status

The Saker Falcon is a globally endangered species that has received this status because of the rapid decline in its numbers, particularly where this has happened in Central Asian breeding sites. It is classified as “vulnerable” (VU) in the Red List of the International Union for Conservation of Nature (IUCN, 2010). The species is protected under national and international agreements and conventions. It is included in the Appendix II of the Convention on the Conservation of Migratory Species of Wild Animals (CMS) and Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

National politics and legislative systems (legislation)

The Saker Falcon, as a globally endangered species, is included in the Red Book of the Republic of Uzbekistan (2009) with the status 3 (NT) – “near threatened.” At the present time, because of the sharp decline in the population of the species that has taken place globally, and especially in the Central Asian part of its geographical range, it is necessary to upgrade the national conservation status of the Saker Falcon to the category No. 1 (EN) – “endangered.”

The conservation of the Saker Falcon on the territory of the Republic of Uzbekistan is carried out under the provisions of national legislation. The species is protected by laws with the following names: “On Nature Conservation” (1992), “On Conservation and Use of Wildlife“ (1997), “On Conservation Areas (2004) and Special Government Enactments on Conservation of Biodiversity” – “On Red Data Book of the Republic of Uzbekistan” (1992), “On National Strategy and Action Plan of the Republic of Uzbekistan on Conservation of Biodiversity” (1998), “On Increase of Control of Rational Use of Biological Resources and the Import and Export of them to or from the Territory Located Outside of the Republic of Uzbekistan” (2004). “Rules of Hunting and Fishing in the Territory of Uzbekistan” (2006) forbid the catching of all types of birds of prey, including the Saker Falcon. The trapping of this species by poachers (Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 508 of 28.10.2004) is punishable by a fine of 250 minimum wages (this is equivalent to \$7 500 US Dollars).

The research and conservation of territories and habitats of the species

In the breeding season and on passage the Saker Falcon is encountered in Chatkal, Gissar, Kyzylkum, Nuratau, Surkhan Nature Reserves, Ugam-Chatkal National Park; on passage the species is observed in the Zaamin, Zaravshan, and Kitab Nature Reserves. The existing system of protecting territories of the Republic serves to be a quite important part in the conservation of this species. According to their status, the nature reserves of Uzbekistan are also considered to be research institutions, whose duties are the regular monitoring of fauna and the keeping of “Nature Chronicles.” The most consistent monitoring of species, including the control of the Saker Falcon, is undertaken by workers of the Chatkal, Gissar, and Nuratau Nature Reserves.

Research into the population status of falcons and problems related to their conservation, including the situation with the Saker Falcon, was conducted by B.B. Abdunazarov in 1980-2000. In 1977-1986, in the Nuratau Nature Reserve, a study of the ecology and biology of birds of prey was carried out by E.N. and E.N. Korshunov. In the first volume of the monograph “Birds of Uzbekistan” (1987) O.V. Mitropolsky, E.R. Fotteler and G.P. Tretyakov presented a comprehensive analysis of the Saker’s distribution and ecology in the country on the basis of their own long-term data and literature.

Since 1987, in Uzbekistan, work on falcon breeding took place in specialised centres with the support of the State Environmental Committee of the Republic of Uzbekistan. In 2 breeding centres, in the period from 1991 to 2001, more than 100 young Saker Falcons were being raised (Figure 12). The experimental reintroduction of birds marked with aluminium rings into suitable habitats was undertaken in the following way: 11 birds were introduced into the conservation zone of the Nuratau Nature Reserve in 1996; 6 and 5 birds into the Dalverzin Hunting Farm in 1998 and 2000 respectively; 5 birds into the conservation zone of the Chatkal Biosphere Reserve in 2000. The further fate of released birds is unknown (Atadzhanov, 2001, 2002; Atadzhanov, Abdunazarov, 2002).



Figure 12. Young Saker Falcons in the breeding centre of the State Biological Control

From 2005 to 2010 research into the Saker Falcon among the other globally endangered species was done by the Uzbekistan Society for the Protection of Birds within the framework of the international programme “Important Bird Areas” (IBA). Data on the Saker’s distribution was updated with 50 cases of birds of this species being met there. According to results from studies conducted, 15 sectors that are important in terms of the Saker Falcon’s habitats located in Uzbekistan are described in Table 2. These sectors are included in the international network of IBA (Important Birds Areas of Uzbekistan, 2008).

Table 2.

The list of IBAs for the species in Uzbekistan

Code of IBA	Name of IBA	Status	Square (ha)	Conservation Status, IUCN Category
UZ002	The Sudochoye Lake	B, M	46467	The Sudochoye Game Reserve, IV
UZ004	The Northern part of the Assake-Audan Hollow	B, M	5288	-
UZ006	The Bukantau Range	B, M, W	8927	-
UZ009	The Bazaubay Massif	M	285376	-
UZ010	The Aktau Mountain	B, M, W	4306	-
UZ013	The Sarmysh National Park	M	5769	The Sarmysh National Park, IV
UZ018	The Karnabchul Steppe	W	177156	The Karnabchul Game Reserve, IV
				Bustard Game Reserve, IV
				The Mubarek Game Reserve, IV
UZ025	The Pulatkhan Site	B	2323	The Ugam-Chatkal National Park, I
UZ028	The Baskvzylsay region of the Chatkal Nature Reserve	B, M	11431	The Chatkal Biosphere Nature Reserve, I
UZ033	The Central part of the Kuramin range	B	34693	Forestry, VI
UZ037	The Nuratau range	B, M	34681	The Nuratin Nature Reserve, I
UZ042	The Gissar State Nature Reserve	B, M	110105	The Gissar State Nature Reserve, I
UZ044	The middle part of the Sherabad River	B, M, W	22576	-
UZ045	The Darasay Gorge	B, M	638	-
UZ047	The Amurdarya River floodplain near Termez	B, M, W	10693	-

Notes. **B**- breeds; **M** – is observed during the nomadic movements and migrations; **W** – winters

In 2010-2011 the Uzbekistan Society for the Protection of Birds with the support of the British Research Fund for Endangered Birds («BirdFair»/RSPB) set up the “Numbers and Distribution of the Saker Falcon and Egyptian Vulture in Uzbekistan” programme. The study involved the observation of all main habitats of the Saker Falcon in Uzbekistan – the Kyzyl Kum desert, the lower and mid mountains of the Western Tien Shan and Gissar-Alay and the Eastern cliffs of the Ustyurt Plateau. Finally, a map of the present Saker Falcon distribution in Uzbekistan was compiled; the database (111 records from 1912 to 2010) focused on this species was made in an Excel and ArcGIS format; the experts` estimates of the present numbers of species were received and the main dangers are known. The present “Action Plan on the Conservation of the Saker Falcon in Uzbekistan” was also prepared within the framework of this programme.

THE NATIONAL ACTION PLAN ON THE CONSERVATION OF SAKER FALCON IN THE REPUBLIC OF UZBEKISTAN

Geographical borders

The Action Plan covers the territory that is located within the administrative borders of the Republic of Uzbekistan that, in its turn, is considered to be a part of the Saker Falcon's breeding area in Central Asia (Figure 2). The Action Plan is prepared with awareness of the value of populations in other areas of the geographical range that are located outside of Uzbekistan and within the geographical limits of Central Asia and, more importantly, with awareness of the fact that existing problems related to the conservation of this species in the given region bear a trans-boundary character.

Revision

The Action Plan should be reviewed and updated every ten years, with the first review to be carried out in 2020. Revision beforehand may be accomplished in the case of some serious effects on the populations' status being observed.

The main objective

The main objective is the conservation of breeding population and migratory Saker Falcons in Uzbekistan within the limits of their present numbers: 70 breeding pairs currently whilst, according to future predictions, an increase in its numbers may reach up to 100 pairs.

Table 3.

Expected outcomes (presented as issues) of Action Plans on the
Conservation of the Saker Falcon in Uzbekistan

Task	Activities	Priority	Definite period	Responsible bodies
Issue No. 1. Conservation and stabilization of conditions suitable for the species distribution				
The decrease of anthropogenic factors affecting habitats in a bad way	The stimulation of practice of the rational use and control of pasture rotation in order to conserve its natural fauna	High	Long-term	State Environmental Committee and Ministry of Agriculture and Water Resources of the Republic of Uzbekistan, Hokimiyats (Regional Farmers Association), and local authorities
	Creation of awareness among design and construction services about the key habitats of the species	High	Long-term	State Environmental Committee of the Republic of Uzbekistan, Departmental Environmental Services

Task	Activities	Priority	Definite period	Responsible bodies
	The promotion of projects that do not have a crucial effect on habitats	High	Long-term	State Environmental Committee of the Republic of Uzbekistan
A decrease in levels of disturbance experienced by birds in their breeding sites	The provision of information about rules of human behaviour near breeding sites of the species to construction, mining, tourist companies, sport clubs and visitors of recreational areas	High	Long-term	Departmental Ecological Services, Regional Nature Conservancies, UzSPB, and other Non-state Not-profit Organizations
	The establishment of local information boards detailing the sensitivity of the species to disturbance that takes place in the bird's breeding grounds	High	Short-term	Regional Nature Conservancies, UzSPB, and other Non-state Not-profit Organizations
Issue No. 2. A decrease of bird mortality caused by human activities as well as the scale of illegal trapping of Saker Falcons				
A reduction of risk to be electrocuted and die afterwards as a result of collision with different constructions	Evaluation of the most dangerous power-line segments and the monitoring of bird mortality level; the search for ways of risk reduction	Medium	Short-term	State Environmental Committee of the Republic of Uzbekistan together with the Ecological Service of the State Joint Stock Company "Uzbekenergo"
	The establishment and regeneration of protective appliances on power lines	Medium	Short-term	State Joint Stock Company "Uzbekenergo"

Task	Activities	Priority	Definite period	Responsible bodies
	The design and implementation of safe construction solutions and territorial decisions during the construction of new buildings	High	Short-term	State Joint Stock Company "Uzbekenergo"
	The provision of information on the availability of key habitats of the Saker Falcon on planned territories to experts on Environmental Impact Assessment Procedure and design companies; the control of safety level of constructing objects	High	Short-term	Departmental Ecological Services under supervision of the State Environmental Committee of the Republic of Uzbekistan
The prevention of illegal trapping of adult birds and taking of chicks for commercial purposes	The stopping of illegal trapping of birds on migration pathways and in breeding grounds; the seasonal control of known breeding sites; an increase of premiums from fines for the inspection staff	High	Short-term	Regional Nature Conservancies with the support of local authorities, State Biological Control of the Republic of Uzbekistan
	The control of realisation of existing legal acts and improving the legislative system focused on the conservation of the species	High	Short-term	State Biological Control of the Republic of Uzbekistan

Task	Activities	Priority	Definite period	Responsible bodies
	The explanatory work and stimulation of local citizens to take part in the conservation of breeding sites	High	Long-term	Regional Nature Conservancies, UzSPB, and other Non-state Not-profit Organisations
The struggle against the illegal market of falcons	The search for alternatives to wild falcons for the purposes of the aviation ornithology	Medium	Long-term	"O`zbekiston havo yo`llari" National Air Company
	The explanatory work with the enthusiasts that are involved in keeping birds of prey in captivity	Medium	Long-term	Regional Nature Conservancies, UzSPB, and other Non-state Not-profit Organizations
Breeding in captivity in order to make the pressure that wild populations experience smaller	The organisation of state nurseries and official falcon market for various consumers	Medium	Long-term	State Biological Control of the Republic of Uzbekistan, "O`zbekiston havo yo`llari" National Air Company, Uzzookompleks
Issue No. 3. The prevention of crossing between hybrid Saker Falcons and representatives of indigenous species				
The increase of control for hybrid falcons imported to the country	An educational campaign by specialists from the State Environmental Committee, The Main Department of Forestry and the customs inspection that is focused on identification of the falcons and the provision of information materials to them	High	Short-term	State Environmental Committee, The Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan, UzSPB
	The design of reliable methods for marking imported falcons and their identification when they are exported from the country	High	Short-term	State Biological Control of the Republic of Uzbekistan, The Customs Committee

Task	Activities	Priority	Definite period	Responsible bodies
Issue No. 4. The control system of the latest data for the conservation of the species` population in the country				
The organisation of the national monitoring and the integrated study of the species	The creation of a network of state and public scientific and environmental organisations for participation in monitoring and observation of the species	Medium	Mid-term	State Biological Control of the Republic of Uzbekistan , Institute of the Zoology of the Academy of Sciences of the Republic of Uzbekistan, UzSPB
	The creation of a database containing information about the species	Medium	Mid-term	State Biological Control of the Republic of Uzbekistan , Institute of the Zoology of the Academy of Sciences of the Republic of Uzbekistan, UzSPB
	The distribution of information on the species` status among the interested organizations	Medium	Mid-term	State Biological Control of the Republic of Uzbekistan , Institute of the Zoology of the Academy of Sciences of the Republic of Uzbekistan, UzSPB

Neophron percnopterus

Стервятник

Egyptian Vulture

Кал журчи



Biological characteristics of species

Phylum: Vertebrates *Chordata*

Classis: Birds *Aves*

Ordo: Falconiformes *Falconiformes*

Familia: *Accipitridae* *Accipitridae*

Genus: *Neophron* *Neophron*

Species: Egyptian Vulture *Neophron percnopterus* (Linnaeus, 1758)

A polytypic species, the subspecies *N. p. percnopterus* (Linnaeus 1758) breeds in Uzbekistan.

The Egyptian Vulture is the smallest species of vulture; it is a little larger than the Long-legged Buzzard. Its body length is 47-55 cm and the wingspan is 105-129 cm. The colouration of adult birds is white with black remiges. White central tail feathers are a characteristic of this species. The segment of naked skin on the front part of the head and a large part of the thin, large, hooked beak are white. There are long feathers of yellow and, in old birds, of orange colour on the feathered part of the head and neck, with yellow spots on its chest. Legs are bluish-grey. This feature makes the bird a remarkable species. Sexual dimorphism is not present. The young birds have a dark-brown colour. At the age of 2 and for each of the following years from this time the birds' white feathers are constantly increasing. The full adult plumage is formed in birds only in their 5th – 6th year. Sometimes the voice they pronounce reminds one of the sound produced by a bell (Dementiev, 1951; Swensson & Grant, 1999). It moves fast on the ground. Adults do not form flocks, the young birds are found in groups of less than 100 or more specimens.

Distribution

The distribution area of the Egyptian Vulture includes the following territories: southern Europe, the Mediterranean Sea islands, the Caucasus, West and Central Asia, Africa (excluding the tropical forests), the Middle East, India and Arabia (Figure 13). The subspecies *N.p. percnopterus* is spread throughout southern Europe, Northern Africa, Arabia and in the zone of the Sahel and South-Western and Central Asia. The subspecies *N.p. majorensis* is endemic to the Canary Islands. The subspecies *N.p. ginginianus* is spread in India (except the north-west of it).

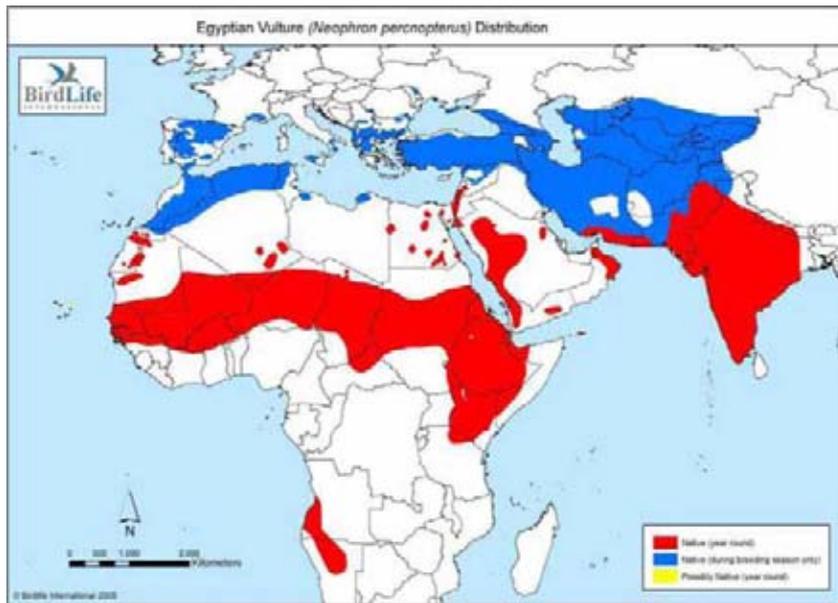


Figure 13. Distribution of Egyptian Vulture (according to BirdLife Int., 2008). *Red colour shows the Egyptian Vulture`s sedentary populations, whereas blue colour indicates its breeding and migratory populations*

The migration paths from Central Asia for wintering in Arabia and southern Africa have not yet been studied (Elphick, 1995). Presumably, birds flying from Kazakhstan stay for winter in Iran, Mesopotamia, and, perhaps, in Balochistan (Korelov, 1962).

In Uzbekistan, it breeds in the deserted low mountains and the marginal arid regions of the mountain ranges like Tien-Shan and Pamir-Alay (Figure 14). The upper limit of the Egyptian Vulture`s distribution during its breeding season reaches 1300-1500 m above sea level, although in the second half of the summer, after the breeding season ends, some birds continue spreading to altitudes of up to 2500-2700 m (Mitropolsky et al., 1987). After the wintering season ends, Egyptian Vultures appear on their breeding grounds in March (Bogdanov, 1956; Lakhanov, 1965). The majority of birds leave their habitats for wintering in September-October. It is quite uncommon for Egyptian Vultures to stay for wintering in their natural habitats and they do so quite rarely, but mainly winter southermost (Meklenburtsev, 1958; Salikhbaev, Ostapenko, 1967; Stepanyan, 1970). Young sexually immature specimens, except those ones that have recently left their nests, do not actually appear in the northern parts of the Republic (Mitropolsky et al., 1987). In the southern regions they were observed in the Kashkadarya River basin on the 11th and 29th of June (Meklenburtsev, 1958). In the Sherabad River valley (Mitropolsky et al., 1987) and the Amu Darya River near Termez city (Stepanyan, 1970) young birds were seen in May, indicating first year chicks.

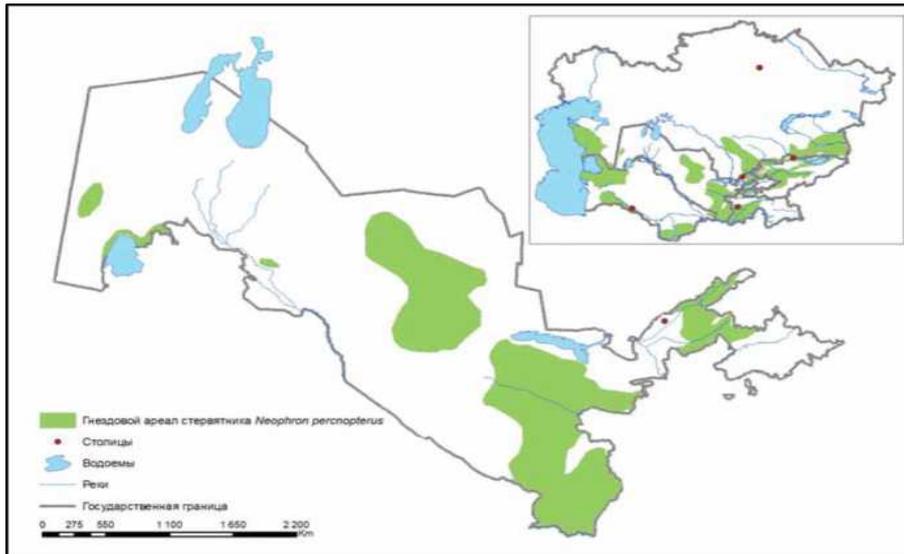


Figure 14. Distribution of Egyptian Vulture in Uzbekistan (according to Mitropolsky et al., 1987); the inset shows the contour of the Egyptian Vulture's breeding range in Central Asia (according to Abdusalyamov, 1971; Dementiev, 1951, 1952; Ivanov, 1940; Korelov, 1962; Red Book of Kazakhstan, 1996; Rustamov, in print; Yanushevich et al., 1959)

The average population number and trends of its change

By the beginning of the current millennium, the Egyptian Vulture's population in Europe, including Russia, was estimated at 3500-5600 pairs (Burfield & van Bommel, 2004), representing 25-49% of the species' global population. The overwhelming majority of birds inhabits Turkey (1500-3000 pairs) and Spain (up to 1300-1500 pairs). 70-120 pairs (Michenko et al 2004; Belik, 2005) breed in northern Caucasus. The Central-Asian population of Egyptian Vulture is estimated at more than 2000 pairs, several thousand pairs inhabit the Indian subcontinent, and about 1000 pairs are seen in the Middle East. The African population consists of more than 7500 pairs (BirdLife International, 2008). Accordingly, the number volume of the Egyptian Vulture world population may be estimated at nearly 30,000 breeding specimens.

The species has undergone a significant population decline in a large part of its geographical range. In India, the use of diclofenac in veterinary practice has led to a disastrous annual decline in the Egyptian Vulture's numbers of more than 35% since 1999, and a 68% decline took place in the period between 2000 and 2003 (Cuthbert et al. 2006). The decline has also affected sedentary populations in African countries such as Ethiopia, the Republic of Djibouti and Angola. In Namibia only 10 pairs of this species remained. At the present time the population of migrating Egyptian Vultures that breed in Europe and fly to winter in Africa exceeds the number of many sedentary populations in Africa. In the Middle East and Israel, a decline in the Egyptian Vulture's numbers of 50-75% has also occurred. At the same time, a stable population consisting of 1000 birds is registered on Socotra Island. In Europe, the Egyptian Vulture's population has undergone a 50% decline over the last 50 years. The species has disappeared from the territory of Austria, Bosnia and Herzegovina, Croatia, Serbia and, supposedly, Moldavia. Nowadays, if we consider European countries, an increase in the species' number takes place only in France and the Canary Islands. This is the reason why this species is classified as "endangered" on an international level (BirdLife International 2008).

Nowadays, about 135 pairs of Egyptian Vultures inhabit Uzbekistan (a database of UzSPB for the period between 2000 and 2010 years). The studies conducted by the Society

for the Protection of Birds within the framework of the “Birdfair/RSPB” programme in 2009-2010 give evidence to assume that the maximum numbers of this species is in the southern regions of the Republic: in the Kugitang and Babatag ranges 37 pairs were registered, in the Gissar range 25 pairs were encountered and 15 pairs in the Baysuntau. In the remaining parts of the territory, the figures for the number of species are not very meaningful: in the Chatkal range 13 pairs were seen, in the Pskem range 4 pairs were seen, in the Kuramin range 1 pair was observed, in the Turkestan range 6 pairs were met, in the foothills of the Zerafshan range 2 pairs were seen, in the Karatepin range 3 pairs were met, in the Nuratau mountain range 12 pairs were observed, in the Pistalitau mountain range 2 pairs were seen, in the Central part of the Kyzyl Kum desert 11 pairs were observed, on the Ustyurt cliff 2 pairs were seen and in the Amu Darya River floodplain 2 pairs were registered (Figure 15).

Data from other sources shows the trend taking place tends towards a decrease in Egyptian Vulture numbers in Uzbekistan. Similarly, according to expert estimates of B.B. Abdunazarov (1990), the Egyptian Vulture numbered more than 550 specimens. In the latest literature, the species’ population in the country is estimated at 200 pairs (Sklyarenko, 2006). According to estimates of E.A. Kreuzberg (2006), 5-10 pairs nest in the Nuratau range, 10 pairs nest in the Inselberg mountains located in the Kyzyl Kum desert, 30-50 pairs were observed in the low mountains of the Gissar, Turkestan and Zerafshan mountain ranges and 50-100 pairs were seen in the low mountains of southern Uzbekistan (namely, the Kugitang and Babatag mountain ranges). L.E. Belyalova (2006) reports on the large numbers of Egyptian Vultures during their breeding season in the Turkestan range (19.2 specimens per 1 km of a route). E.N. Lanovenko reports on the decrease of the Egyptian Vulture’s number in the spurs of Western Tien Shan. In the Kyzyl Kum desert, the natural scarcity of the species is caused by a shortage of places that are adequate for them to breed (Kashkarov, 2006).

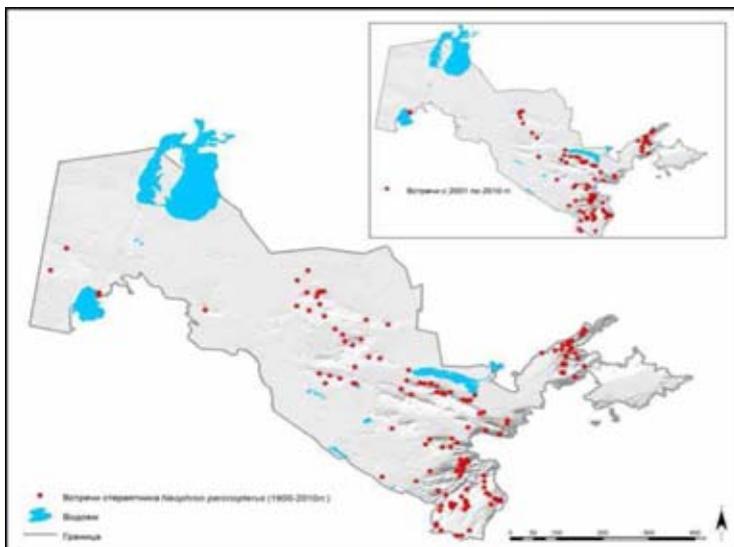


Figure 15. Places of Egyptian Vulture records in Uzbekistan.

In the inset we see their records over the last 10 years (according to materials based on a database of UzSPB)

While comparing these data, it became clear that during a 6-year period since 2003-2004 up to 2009-2010 in regions with a small number of Egyptian Vultures, the population of breeding birds was stable. The significant decline, a decline of more than 26%, took place in southern regions – in the Kugitang and Babatag ranges.

Habitat preferences

The Egyptian Vulture`s habitats are piedmont and mountain landscapes; in plains it chooses to settle on areas with uneven topography: cliffs, hills etc. It avoids settling in wet areas. The Egyptian Vulture breeds in projections and niches of low (up to 100 m) cliffs and rocky outcrops. In India there are known cases of Egyptian Vultures being bred in large trees. In Western Europe and Middle Asia it nests mainly at low and medium heights – from 1200 to 1800 m above sea level; in India – up to 2500 m above sea level (Dementiev et al., 1951; Hagemeyer & Blair 1997).

In Uzbekistan, Egyptian Vultures prefer to breed in niches of rocks and cliffs – it does this under overhanging projections that protect birds from sunlight (Figure 16).



Figure 16. The nest of an Egyptian Vulture; Cliffs of the Ayak-Agitma hollow.

Very often Egyptian Vultures reuse unoccupied nests of birds of prey, adding materials to the finished base such as pieces of wool, rags, pieces of cotton wool and other soft materials. There was a case when the Egyptian Vulture was registered during its breeding season in the vicinity of Farish village – it was observed on the power line tower in a nest that was previously used by other raptors (Mitropolsky et al., 1987).

A significant factor that determines the selection of habitats is the nearness of open areas with pastures and settlements, where Egyptian Vulture may find appropriate food (Korelov, 1962). The main food objects that form the Egyptian Vulture`s diet are arthropods, reptiles (Figure 17) and small mammals – mainly dead ones. Hence, in the Kyzyl Kum desert, in the Egyptian Vulture`s pellets the Solifugae, scorpions and insects formed 16.3%, reptiles – 27.2%, birds – 13.9%, rodents – 75.8% (Ishunin, Pavlenko, 1966).



Figure 17. The Horsfield`s Tortoise is represented as the basic food object for the Egyptian Vulture

Farm animal waste and food residues in the vicinities of cattle breeders` stations play quite an important part in the Egyptian Vulture diet. Wool, cattle excrement and domestic waste are used by Egyptian Vulture for constructing a nest. Historically, livestock rearing was widespread in the Egyptian Vulture`s breeding grounds which are the residual low mountains and piedmont regions (Kashkarov, 2006).

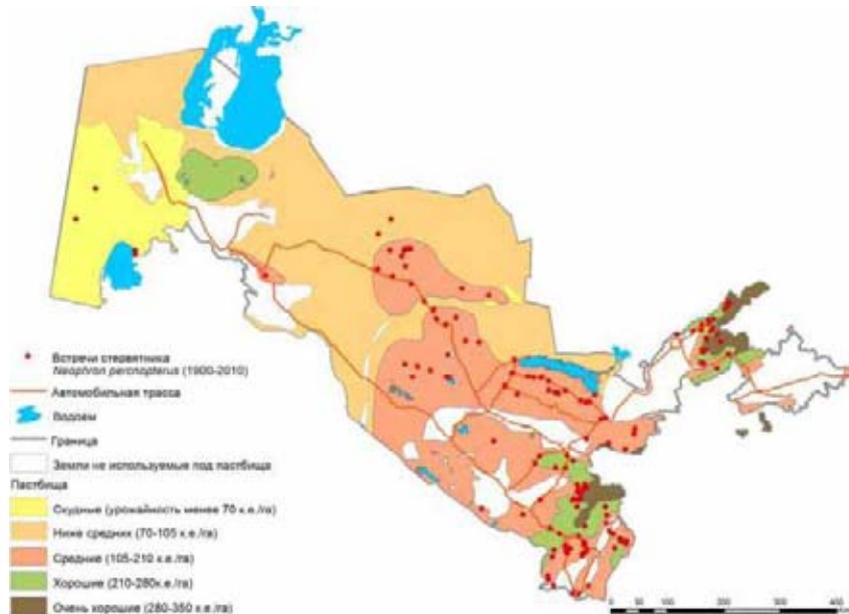


Figure 18. Distribution of Egyptian Vulture is shown depending on the intensity of livestock production and highway network.

The development of the transport network has a clear positive effect on the habitat of this species (Figure 18). In many regions of the Republic, the highways are routed along foothills that provide adequate conditions for the Egyptian Vulture to breed. A large number of terrestrial vertebrates (turtles and other reptiles, hedgehogs, gerbils and sousliks (ground squirrels), rabbits and small predators) die under the wheels of vehicles. During the construction and repair period small mammals and birds are incidentally trapped in the melted goudron (liquid asphalt). All these objects are easily accessible for the Egyptian Vulture (Mitropolsky et al., 1987; Lanovenko, 2006; our data). At the same time, traffic arteries pose a certain threat to the species (see below).

Reproduction and survival

In Uzbekistan, the first birds appear on their breeding grounds in the middle of March (Bogdanov, 1956). The earliest eggs are laid during the first ten days of April. The time of most active hatching takes place in the second half of April, and by the end of first 10 days of May in a majority of pairs the breeding season is usually over. Single clutches, probably second clutches, are registered until the end of May. The size of the Egyptian Vulture`s clutches is quite regular, normally consisting of 2 eggs or, quite seldom, 1 egg. The incubation period begins with the first egg and lasts for 35-38 days; both adults are involved with this process. The offspring become sexually mature in their 5th and 7th year (Mitropolsky et al., 1987).

The survival of chicks is quite low. According to O.V. Mitropolsky (1987), the average number of chicks in the Egyptian Vulture`s brood equals 1.2. Very often one of chicks is lost straight after being hatched, and usually there is more than 1 fledged chick per pair.

According to data of Inigo A. *et al* (2008), in the European population, chicks stay in the nest nearly for 75 days; in a short time after chicks leave the nest, they become independent of their parents and migrate alone. According to O.V. Mitropolsky together with his co-authors (1987), in Uzbekistan, young birds start to leave their nests in 43-45 days. R.G. Pfeffer (1990) states that under conditions in Kazakhstan young Egyptian Vultures stay near their parents up to their departure and during their attempt to migrate.

The average lifespan of specimens in the European population is 17.8 years, but at the present time it has decreased to 10 (BirdLife International, 2004, 2008). The Egyptian Vulture's survival rate increases with age – starting from 0.73 in first two years of life up to 0.78 years in the following 3rd and 4th years. At the age of 5, when birds start to form pairs, the survival rate drops to 0.60. In old non-breeding birds the rate is 0.75, and in breeding birds it stands at 0.83 (Grande *et al.* 2008). Such researches were not conducted in Uzbekistan but we may predict the similar pattern.

Description of possible problems facing Egyptian Vulture

Throughout its geographical range, including Uzbekistan, the Egyptian Vulture is well adapted to living in transformed ecosystems and more often prefers to settle in anthropogenic territories rather than avoiding them. On the one hand, this brings several benefits to the species that ensure its survival. On the other hand, sharp changes in the agricultural activities of man create severe risk to this species.

Food shortage

Decline in a small cattle numbers

Over the past few decades, as a result of the sharp increase of prices of transport services and the transition from collective agriculture to farming, the number of small cattle in Central Uzbekistan, especially in places that are far from large urban areas, decreased dramatically. Thus, in the 1980's, during the spring-summer period in the residual low mountains of the Bukantau, there were between 20 and 50 flocks of sheep, but in 2010 only 2 flocks were registered there (Figure 19). Therefore, during the breeding season, the Egyptian Vulture did not appear there anymore. According to the inset of picture 15, all current records of the Egyptian Vulture in Uzbekistan are limited to either urban areas, or animal breeders' stations.



Figure 19. A small herd of sheep in the low mountains of the Bukantau

Improvement of livestock production methods

Modern veterinary techniques have significantly contributed to a decline in the cattle mortality rate. The transition to private animal farming has also seen a sharp decline in the

rate of mortality of small cattle through natural phenomena such as rainfall or a lack of fodder. Under the market economy, in the desert regions of the Republic, the intensity of Karakul farming has experienced a decline with a massive slaughter of lambs accompanying it. Health requirements demand the eradication of farmers' fallen stock. All these factors have led to a decline in food sources available for the Egyptian Vulture and this, in its turn, has contributed to the reduction of breeding grounds and the Vulture's survival rate. While searching for food, birds appear in refuse dumps located within large urban areas where they face many other risks as well (see below).

Commercial exploitation of the species' natural fodder (food objects)

In Central and southern Uzbekistan, the Horsfield's Tortoise (*Agrionemys horsfieldi*) is one of the main food sources for adult Egyptian Vultures during their egg laying and incubation period – this is especially so in places where this reptile is observed in high numbers. In the current decade, the volume of Horsfield's Tortoises that were trapped (including the officially accepted and illegal ones) amounts annually to 30,000 or more specimens. In places with a high number of tortoises the removal of such animals from the wild takes place regularly, leading to a dramatic reduction in the turtle's numbers and, consequently, a negative impact on the state of the Egyptian Vulture's food base and reproductive potential.

Direct anthropogenic risks

Direct persecution

In Central Uzbekistan where the Egyptian Vulture is a rare species, and in sparsely populated regions where it is frequently encountered, the direct persecution of birds by man does not take place. However in southern Uzbekistan, according to our observations, this is one of main dangers. Among shepherds there is an assumption that Egyptian Vultures hunt lambs, hence them shooting the birds whenever possible and destroying their nests.

Poisoning

In India, the dramatic decline in numbers of vultures, including the Egyptian Vulture, appears to have been caused by diclofenac that was used for preventing diseases in cattle. In the European part of the Egyptian Vulture's geographical range, the poisoned bait used for exterminating rodents in rubbish dumps is the cause of its poisoning (Inigo et al 2008). There are known cases when birds have died from poisoned baits in the Stavropol Territory (Khohlov, 2005).

In Uzbekistan, until the 1990s, the poisoned baits used in control operations against terrestrial predators and birds of prey were widely used not only in the desert but also in mountainous pastures, especially in places where the lambing season brings a high number of lambs. In the Western Tien-Shan, O.V. Mitropolsky with co-authors (2005) indicates that the Egyptian Vulture was one of the victims of such poisonings, but precise data on this topic is absent. At the present time, due to the increased control of poisons' use and a decrease in intensive animal farming in most of the desert regions, this risk is not serious. Also, anti-epidemic measures designed to struggle with wild rodents are not dangerous at all because the majority of them die in their holes.

The reduction of food resources (see above) forces Egyptian Vultures to visit refuse tips in large urban areas. Here the poisoned baits that are intended to kill synanthropic rodents, cats and dogs represent a real danger for birds.

Electrocution

In connection with the intensive development of industry, especially in Central and southern Uzbekistan, there is frequently an ever-expanding network of high-voltage power lines. Personal testimony (data), or records in literature, of Egyptian Vulture deaths on power lines in Uzbekistan are absent. Also, in works on similar topics in Kalmykia (Medzhitov et al., 2005), Betpak-Dale (Karyakin, Barabashin, 2005), the eastern area around the Aral Sea and western and Central Kazakhstan (Karyakin, 2008) the Egyptian Vulture is not present in a list of electrocuted birds. However in open landscapes, the power line towers are used by Egyptian Vultures as perches – and thus they may pose a potential threat to birds.

The development of infrastructure

The development of oil and gas complexes and the appearance of adjacent urban areas, the increase in volume of car transport and economic integration causes the construction of new highways, especially in the desert and piedmont areas of Uzbekistan. According to Figure 18, the Egyptian Vulture is attracted to highways due to the availability of easily accessible food. As a result, feeding birds themselves become the victims of motor vehicles. Precise data on the scope of this problem is absent, but taking into account the considerable length of highways in Uzbekistan (more than 115 thousand km), it may be quite serious.

Disturbance of birds

The Egyptian Vulture is quite sensitive to the disturbance factor that is imposed on birds during their breeding season. In the European part of its geographical range disturbance factors includes forestry activities, noise produced by small aircraft and activities that take place within recreation areas. Hence, in northern Spain, where disturbance factors occurred within a radius of 600 m from the birds' breeding grounds, this led to breeding failure and affected the reproductive success in 42% of pairs (Zuberogoitia *et al* 2008).

In Uzbekistan, a decline in the Egyptian Vulture's numbers caused by disturbance is observed in Western Tien-Shan. Hence, before the 1990's, in the low mountains of the Tashkent Region less than 7 pairs were observed breeding there. A rise in the value of recreational activities taking place in the Ugam-Chatkal National Park, plus an increase of number of visitors and noise, has led to a pause in bird breeding in all previously studied territories (Lanovenko, 2006). A similar situation is supposed to be observed in the westernmost tip of the Zerafshan range – namely in recreational areas near the Amankutan.

Table 4.

The severity of risks that Egyptian Vulture populations face in different regions of Uzbekistan

	The Ustyurt plateau	The Kyzyl Kum desert	The Karshin steppe	The Nuratau range	The Western Tien-Shan	The Zerafshan range	The Gissar range	The Kugitang range	The Babatag range
Food shortage									
Decline in small cattle numbers	L	H	M	M	A	A	L	M	M
Improvement of livestock production methods	M	M	M	M	M	M	M	M	M
Commercial exploitation of the species' natural fodder	A	H	H	H	A	A	A	A	A
Direct anthropogenic risks									
Direct persecution	A	A	A	A	A	A	H	H	H
Poisoning	A	M	M	M	L	L	L	?	?
Electrocution	L	L	L	L	A	A	L	?	?
The development of infrastructure	L	M	M	M	A	A	M	M	A
Disturbance of birds'	A	A	A	L	H	H	L	L	?
Natural dangers									
Competition for breeding sites	?	L	?	L	L	?	L	?	?
Predation	?	?	?	?	?	?	?	?	?
Extreme weather conditions	L	L	L	L	L	L	L	L	L

Notes. The level of risks are shown with the following symbols: **H** - high, **M** - medium, **L** - low, **A** - absent, **?** – under question

Natural dangers

The competition for breeding sites

In relations with other birds the Egyptian Vulture is quite a tolerant species and its nests may be located near nests of other birds of prey – these include Griffon Vultures, Saker Falcons, Long-legged Buzzards – and even among colonial settlements (Mitropolsky et al., 1987; Pfeffer, 1990). There is data indicating only single cases when Egyptian Vultures have experienced conflicts with Saker Falcons and European Black Vultures that were breeding within a small distance from its nest.

Predation

In materials available to us, there are no records on the loss of Egyptian Vultures' eggs and chicks to other raptors.

Extreme weather conditions

The probability that clutches or chicks will die from abrupt freezing or nest flooding exists today. However, like all other natural phenomena, these risks are not the critical ones.

The legislative and regulatory system for the control of species

Global conservation status

The Egyptian Vulture is classified as a globally “endangered” (EN) species, receiving this status because of the rapid decline in its number that has happened over recent years (IUCN Red List, 2011; BirdLife International 2008). International Agreements and Conventions that are aimed at the conservation of biodiversity are also basic tools for the conservation of the Egyptian Vulture. The Convention on the Conservation of Biodiversity (CBD), ratified by Uzbekistan in 1995, shall contribute to the rehabilitation of endangered species through a development and realisation of Action Plans or other strategic tools. Among other birds of prey, the Egyptian Vulture is included in Appendix II of the Convention *on International Trade in Endangered Species of Wild Fauna and Flora* (CITES). Being a migratory species that has an unfavourable conservation status, the Egyptian Vulture is included in the Appendix II of the Convention on the Conservation of Migratory Species of Wild Animals (CMS).

National politics and legislative systems (legislation)

The conservation of the Egyptian Vulture in the Republic of Uzbekistan is carried out under the provisions of national legislation. The species is protected by laws with the following names: “On Nature Conservation” (1992), “On Conservation and Use of Wildlife” (1997), “On Conservation Areas (2004) and Special Government Enactments on Conservation of Biodiversity” – “On National Strategy and Action Plan of the Republic of Uzbekistan on Conservation of Biodiversity” (1998) and “On Increase of Control of Rational Use of Biological Resources and the Import and Export of them to or from the Territory Located Outside of the Republic of Uzbekistan” (2004). “Rules on Hunting and Fishing in the Territory of Uzbekistan” (2006) forbids the catching of all types of birds of prey, including the Egyptian Vulture. The trapping of this species by poachers (Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 508 of 28.10.2004) is punishable by a fine of 50 minimum wages (this is equivalent to \$1,500 US Dollars).

The existing “Law on Nature Conservation” (1992, parts VI-VIII) provides a compulsory ecological framework that will evaluate the influence of planned agricultural activities on different species and their habitats. Today, a separate draft law “On the ecological control” of the Republic of Uzbekistan is being elaborated.

The Egyptian Vulture is not included in the Red Book of the Republic of Uzbekistan (2009) because it received the status of globally “endangered” species only in 2008. According to the enactment “On the Red Book of the Republic of Uzbekistan” (1992), it is

necessary to upgrade the national conservation status of the Egyptian Vulture by including it in the Red Book of Uzbekistan with the status 2 (VU) – “vulnerable.”

The research and conservation of territories and habitats of the species

In the breeding season the Egyptian Vulture is encountered in the low-mountain regions of the Ugam-Chatkal National Park and the Chatkal Biosphere Nature Reserve, Nuratau, Gissar, and Surkhan Nature Reserves, and, probably, in the Kitab Nature Reserve; during the migration season the species is also observed in the Zarafshan Nature Reserve. Therefore, the main specially protected territories of the country play an important role in the conservation of this species. Also, the nature reserves' duties involve the regular monitoring of fauna and the keeping of “Nature Chronicles.” The long-term monitoring of birds of prey, including the Egyptian Vulture, is undertaken in the Chatkal, Gissar, and Nuratau Nature Reserves.

Before 2000, the status of the Egyptian Vulture's populations did not raise any concerns. Task Programmes of research and conservation of the species were not realised in the country at that period. Despite this, in Uzbekistan, the Egyptian Vulture was studied quite well. A detailed description of the species' distribution and biology is published by O.V. Mitropolsky, E.R. Fotteler and G.P. Tretyakov in the 1st volume of the monograph “Birds of Uzbekistan” (1987).

A dramatic decline in the world population of the Egyptian Vulture at the beginning of the 21st century called much attention to this species. In 2005-2006, at the request of the Secretariat of the BirdLife International in order to clarify the status of species presented in the “red list” of International Union for Conservation of Nature (IUCN), members of the “Important Bird Areas in Central Asia” programme collected current data on the numbers and distribution of 8 species, including the Egyptian Vulture. 9 specialists/ornithologists from Uzbekistan were involved in this work. The collected materials were published (The Studies on Important Bird Areas in Kazakhstan and Central Asia, Almaty, 2006) and allowed evaluation of the current population estimates of the Egyptian Vulture in the region's countries, being used for the identification of status of the species in the IUCN list.

From 2005 to 2010 research on the Egyptian Vulture, among the other globally endangered species, was done by the Uzbekistan Society for the Protection of Birds within the framework of the international “Important Bird Areas” (IBA) programme. According to results from studies conducted, data on the Egyptian Vulture's distribution was updated with 92 current records of birds of this species being met there. 16 sectors that are important in terms of the Egyptian Vulture's habitats in Uzbekistan are described in Table 5. These sectors are included in the international network of IBA (Important Birds Areas of Uzbekistan, 2008).

In 2010-2011 the Uzbekistan Society for the Protection of Birds, with the support of the British Research Fund for Endangered Birds («BirdFair»/RSPB), set up the “Numbers and Distribution of the Saker Falcon and Egyptian Vulture in Uzbekistan” programme. The study involved the observation of all main habitats of the Egyptian Vulture in Uzbekistan – the Kyzyl Kum desert, the lower and mid mountains of the Western Tien Shan and Gissar-Alay and the eastern cliffs of the Ustyurt Plateau. Finally, a map of the Egyptian Vulture's current distribution in Uzbekistan was compiled; the database (180 records from 1900 to 2010) focused on this species was made in an Excel and ArcGIS format; experts' estimates of the present numbers of species were received and the main dangers identified. The present

“Action Plan on the Conservation of the Egyptian Vulture in Uzbekistan” was also prepared within the framework of this programme.

Table 5.

The list of IBAs for the species in Uzbekistan

Code of IBA	Name of IBA	Status	Sumare (ha)	Conservation Status, IUCN Category
UZ004	The Northern part of the Assake-Audan Hollow	M	5288	-
UZ006	The Bukantau Range	B	8927	-
UZ010	The Aktau Mountain	B	4306	-
UZ013	The Sarmysh National Park	M	5769	The Sarmysh National Park, IV
UZ018	The Karnabchul Steppe	M	177156	The Karnabchul Game Reserve, IV
				Bustard Game Reserve, IV
				The Mubarek Game Reserve, IV
UZ025	The Pulatkhan Site	B	2323	The Ugam-Chatkal National Park, I
UZ026	The Terekli say Site	M	5294	The Chatkal Biosphere Nature Reserve, I
UZ028	The <i>Rashkvzvl say</i> Unit (Region/Area)	B	11431	
UZ035	The Tuzkan lake	M	107732	<i>The Arnasay Ornithological Game Reserve, IV</i>
UZ037	The Nuratau Range	B, M	34681	The Nuratau Nature Reserve, I
UZ040	Dzhum-Dzhum	M	41517	-
UZ042	The Gissar State Nature Reserve	B	110105	The Gissar State Nature Reserve, I
UZ043	South-Western foothills of the Gissara Mountain Chain	B	19928	-
UZ044	The middle part of the Sherabad River	B, M	22576	-
UZ045	The Darasay Gorge	M	638	-
UZ048	The Aktepe Water Reservoir and Three Lakes	M	2987	The “Aktepe” National Park, IV

Notes. B- breeds; M – is observed during nomadic movements and migrations

THE NATIONAL ACTION PLAN FOR THE CONSERVATION OF THE EGYPTIAN VULTURE IN THE REPUBLIC OF UZBEKISTAN

Geographical borders

The Action Plan covers the territory that is located within the administrative borders of the Republic of Uzbekistan that, in its turn, is considered to be a part of the Egyptian Vulture's breeding area in Central Asia (Figure 14). The Action Plan is prepared with awareness of the value of populations in other areas of the geographical range that are located outside of Uzbekistan and within the geographical limits of Central Asia and, more importantly, with awareness of the fact that existing problems related to the conservation of this species in the given region bear a trans-boundary character.

Revision

The Action Plan should be reviewed and updated every ten years, with the first review to be carried out in 2020. Revision beforehand may be carried out in the case of some serious effects on the populations' status being observed.

The main objective

The main objective is the conservation of the breeding population and migratory Egyptian Vultures in Uzbekistan within the limits of their present numbers: 135 breeding pairs currently whilst, according to future predictions, an increase in its numbers may reach up to 200 pairs.

Table 6.

Expected outcomes (presented as issues) of Action Plans on the
Conservation of the Egyptian Vulture in Uzbekistan

Task	Activities	Priority	Definite period	Responsible bodies
Issue No. 1. Regeneration of the food base in the species` habitats				
Improving access to farm animal wastes which are the Egyptian Vulture`s food objects	Adding amendments into sanitary regulations on the disposal of fallen livestock in the Egyptian Vulture`s habitats	High	Short-term	<i>The Ministry of Public Health of the Republic of Uzbekistan, State Environmental Committee and Ministry of Agriculture and Water Resources of the Republic of Uzbekistan, the Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan</i>
	Identification of the most attractive feeding grounds of the species	High	Short-term	The Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan, State Biological Control and Regional Departments of State Environmental Committee of the Republic of Uzbekistan, UzSPB

Task	Activities	Priority	Definite period	Responsible bodies
	The “natural” utilisation of farm animal waste in the Egyptian Vulture’s habitats	High	Long-term	Local Veterinary Control Bodies, local authorities and farmers
	The development of mechanisms stimulating farmers to create feeding lots for Egyptian Vultures and other vultures in places with intensive animal farming	High	Long-term	UzSPB under the support of regional departments of State Environmental Committee of the Republic of Uzbekistan, local authorities and other Non-state Non-profit Organisations
The preservation of natural food objects of the species	Scientifically based quotas on the realisation of commercial laying-in of fodder for the the Horsfield’s Tortoise, ensuring the preservation of its numbers in exploited regions	High	Long-term	The Academy of Sciences of the Republic of Uzbekistan, State Biological Control of the Republic of Uzbekistan, CJSC “Uzzokompleks”
Issue No. 2. A decline in anthropogenic mortality rate and disturbance to the birds.				
Combating direct persecution	Education of local animal breeders should be carried out in order to prevent deliberate killing of Egyptian Vultures and the destruction of their nests in places where this species faces the greatest risk of human persecution.	High	Mid-term	Regional Departments of State Environmental Committee of the Republic of Uzbekistan, local authorities of UzSPB and other Ecological Non-state Non-profit organisations

Task	Activities	Priority	Definite period	Responsible bodies
A decrease in levels of disturbance experienced by birds in their breeding sites	The stimulation of local citizens to preserve the Egyptian Vulture's breeding grounds.	High	Short-term	UzSPB and other ecological Non-state Non-profit organisations local authorities
	Providing codes of conduct for people near the species' breeding sites to directors of tourist companies, sport clubs and visitors to recreational areas	High	Long-term	The Ugam-Chatkal State National Park, Regional Departments of State Environmental Committee of the Republic of Uzbekistan, UzSPB and other ecological Non-state Non-profit organisations
	The establishment of local information boards detailing the sensitivity of the species to disturbance that takes place in the bird's breeding grounds	High	Short-term	
Reducing the risk of Egyptian Vultures being poisoned on refuse dumps	The use of poisoned baits on refuse dumps in areas which are inaccessible to birds of prey	Medium	Long-term	Regional Sanitary-epidemiological Agencies of the Ministry of Public Health of the Republic of Uzbekistan, Hokimiyats (Regional Farmers Association), Departmental Environmental Services, UzSPB and other ecological Non-state Non-profit organisations
	Arranging fodder lots that are safe for Egyptian Vultures and other vultures near waste dumps that synanthropic rodents and stray animals can't reach	Medium	Long-term	

Task	Activities	Priority	Definite period	Responsible bodies
A reduction in the risk of electrocution	The identification of the most dangerous power-line segments` for the Egyptian Vulture	Medium	Short-term	State Biological Control of the Republic of Uzbekistan, the Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan, State Joint Stock Company “Uzbekenergo” , UzSPB
	The installation of dangerous power line towers with deterrent devices	Medium	Short-term	State Joint Stock Company “Uzbekenergo”
	Control of disposal of carrion and organic waste in vast territories near dangerous power-line segments	Medium	Long-term	Environmental Service of State Joint Stock Company “Uzbekenergo” and Regional Sanitary-epidemiological Agencies of the Ministry of the Public Health of the Republic of Uzbekistan
Reduction of the risk of being killed by vehicles on highways	Identification of the most dangerous highway segments	Medium	Short-term	The Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan, State Biological Control of the Republic of Uzbekistan, UzSPB
	The design and establishment of warning signs for drivers on highways that pose a serious threat to the species	Medium	Short-term	Directorate of the State Automobile Inspectorate of the Ministry of Interior of the Republic of Uzbekistan, UzSPB and other ecological Non-state Non-profit organizations
	The design and establishment of local information boards detailing the problems occurring in places where many car drivers usually rest (such as petrol stations, vehicle service stations and cafés)	Medium	Short-term	

Task	Activities	Priority	Definite period	Responsible bodies
Issue No. 3. The control system of the latest data for the conservation of the species` population in the country				
The organisation of national monitoring and the integrated study of the species	The creation of a network of state and public scientific and environmental organisations for participation in monitoring and observation of the species	Medium	Mid-term	State Biological Control of the Republic of Uzbekistan , the Institute of the Zoology of the Academy of Sciences of the Republic of Uzbekistan, UzSPB
	The creation of a database containing information about the species	Medium	Mid-term	State Biological Control of the Republic of Uzbekistan , the Institute of the Zoology of the Academy of Sciences of the Republic of Uzbekistan, UzSPB
	The distribution of information on the species` status among the interested organizations	Medium	Mid-term	

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Action Plans on the Conservation of Species is one of significant modern conservation tools. In different countries of the world such Action Plans have been developed and they are successfully realized for some hundreds of species. Action Plans on the Conservation of Saker Falcon and Egyptian Vulture in Uzbekistan is a first attempt to attract attention of state and public organizations to the most vulnerable group – globally endangered species, and to unite together efforts made toward their conservation. The Uzbekistan Society for the Protection of Birds is planning to continue development of such Action Plans aimed at other endangered species and believes that this initiative will be adequately supported in the future.



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