

## The Role of Malakand Safari Park in Wildlife Management

Wajid khan<sup>1</sup>, Asad Ullah<sup>1</sup>, Muhammad Naqash<sup>2</sup>, Ikram UL Haq<sup>2</sup>, Zia UL Islam<sup>1</sup>, Ahmad Bilal<sup>3</sup>, Khurshid Alam<sup>4</sup>

<sup>1</sup>Center of Plant Biodiversity, the University of Peshawar.

<sup>2</sup>Department of Forestry and Wildlife Management, the University of Haripur.

<sup>3</sup>Department of Forestry SBBU University of Sheringal.

<sup>4</sup>Department of Forestry and Range Management PMAS Arid Agriculture University Rawalpindi.

†Corresponding author's e-mail: [wajidforester@yahoo.com](mailto:wajidforester@yahoo.com)

Center of Plant Biodiversity, the University of Peshawar.

### ABSTRACT

The present research was conducted investigate the role of Malakand Safari Park in the wildlife management during May- September 2014 in District Malakand, Khyber Pakhtunkhwa, Pakistan. In this study, the status of the role of Malakand Safari park in wildlife management was studied. The objective of this study was to evaluate the conservation measures of Safari Park and to find out the role of Safri Park in wildlife management. This study suggested wildlife Management measures can be used as future planning for development of conservation and management. The study area is comprised of a large amount of biota including reptiles, birds and mammals. Besides, the wild fauna it is also comprised of wild plant species naturally. As it is the initial stage of the park so few animal are introduce yet. The park comprises of 240-acre area, and fencing is done around the park mean that the park is totally protected. The animal are kept in intense care and proper managed. The animals which are present in the park are common leopards, Urial, grey goral and peasantry. The management activities are differs for each animal. The study offers suggestions to guide the development of future tourism certification programmes and indicators related to protected areas and safari tourism. Such programmes should be cognizant of Malakand Safri Park Pakistan and attend to social and cultural sustainability, including issues of inclusion, exclusion and empowering local communities to participate directly in the management and ownership of environmental and tourism resources.

**Key Words:** Safari Park, National Park, Wildlife Management, Tourism, Sustainability

## Introduction

Biodiversity broadly refers to the variability among living things and the ecosystems that support them. (Wishitemi, et al., 2015). Man and wildlife have a very close and old relation since the inception of the earth. In the recent past; over exploitation of resources, development of commercialized approach and unchecked trade of wildlife species has caused loss of many species of both, fauna and flora. Due to population explosion at the rate of approximately 3% throughout the history of Pakistan, forced the policy makers to give priority to feed the ever increasing population which converted wildlife species have already become extinct which include; Asiatic Lion (*Panthera leo persica*), Asiatic Rhinoceros (*Rhinoceros unicornis*), Wild Ass (*Equus hemionus khur*), Asiatic Cheetah (*Acinonyx jubatus*), Blackbuck (*Antelope cervicapra*), Cheer Pheasant (*Catreus wallichi*), Crocodiles (*Crocodylus palustris*) and Gavials (*Gavialis gangeticus*). At present wildlife species which are endangered include; Indus Dolphin (*Platanista minor*), Punjab Urial (*Ovis vignei punjabiensis*), Caracal Cat (*Caracal caracal*), Chinkara Antelope (*Gazella bennettii*), Nilgai (*Boselaphus tragocamelus*), Great Indian Bustard (*Ardeotis nigriceps*), Houbara Bustard (*Chlamydotis undulata*), Luggar Falcon (*Falco jugger*), White-headed Duck (*Oxyura leucocephala*), Lesser Whistling Teal (*Dendrocygna javanica*) and Lesser Florican (*Sypheotides indicus*). Captive breeding is a process through which efforts are made to breed in captivity the animal species which are threatened or endangered so that they could be reintroduced in their natural habitats (Komers and Curman, 2000). It is a well-known fact that since creation, man has always lived in harmony with nature because he draws his sustenance from nature's "fruits". Nonetheless, the fast pace at which human population has grown now is the reason for an over dependence on the resources of the earth. This phenomenon poses a threat to resource conservation and in that light, governments and conservationists in many countries of the world have enacted laws and policies aimed at the conservation of these resources, (especially wildlife) for posterity reasons. Indeed, nations that abound in such natural resources will be doomed in their conservation efforts without stakeholders finding alternative strategies to enable the communities that live with wildlife resources in particular benefit from its use. One such strategies that has been promoted to support conservation and also as an avenue for creating job opportunities and to generate income for residents living in communities adjacent Protected Areas (PAs) especially National Parks is the development of ecotourism (Jalani, J.O., 2012). Wildlife science generally refers to the study, monitoring, and management of wild mammals, birds, reptiles, and amphibians (and occasionally fish), as well as their habitats. The monitoring and management components

render it a distinctly practical and applied field of science, in particular because they routinely involve urgent objectives (e.g., saving threatened species before they go extinct, controlling nuisance species before they cause significant damage), with limited resources to tackle them. Moreover, wildlife is inherently challenging to study and manage—wild animals tend to be elusive, wide-ranging, sensitive to human disturbance, and (or) dangerous to approach. In addition, the habitats they occupy tend to be remote, expansive, and (or) otherwise challenging or impossible to access or navigate at ground level. Consequently, the science of wildlife biology has historically derived great benefits from various technologies that help to overcome these challenges. Notable examples include aircraft (Fleming and Tracey 2008). The sustainable development and management of these nationally vital wildlife resources and of its robust safari tourism sector are a major concern, however, as the country is experiencing an accelerated decline of its wildlife population. National park and national reserve wildlife populations declined over the past 30 years at rates similar to non-protected areas (Western et al., 2009). Defining wildlife-based tourism becomes more complex by the fact that most definitions of wildlife-based tourism have been too broad to be useful as a basis for discrete statistical anthology. For the purposes of this study, therefore, an operational definition of wildlife based tourism would be derived through the definition of tourism itself. The United Nations and the WTO define tourism as comprising: “The activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes” (Goodwin, H., 2007). The world’s protected area estate contains some of the most important ecosystems, habitats and species. This estate is also critically important as cultural places where people contemplate and understand the natural world. (Dearden, et al., 2005).

## MATERIALS AND METHODS

An investigation was carry out the Role of Malakand Safari Park in Wildlife Management during May 2014 September 2014 in District Malakand, Khyber Pakhtunkhwa, Pakistan. .the Objectives of the study were to find out the conservation measures of Safari Park and to find out the role of Safari Park in wildlife management. The methodology adapted to achieve the set objectives is mentioned in detailed as below.

### Study area description

Malakand district is located in northern part of Khyber Pakhtunkhwa. The study area is malakand .It lies between 34° 33' 56" North, 71° 55' 52" East. The elevation gradually rises from 2000ft to 2500ft from sea level. The District was formed in 1970 as a Provincially Administered Tribal Area, It had previously been a Tribal Area known as the Malakand Protected Area, part of the Malakand Agency. The area of Malakand protected area is 952 km<sup>2</sup> .The total area of Malakand District is 952 Square Km and has population density of 596

people per Square Km. The population of Malakand is estimated to be 567,000 in 2004-05. Most of the people are Pashtuns speaking Pashto as their mother tongue. Agriculture, Wholesale Business (Batkhela) Government Employee Thana, Arms, Explosive and Norco Dealers, Kidnappers (Sakhakot, the most widely used den of kidnappers, car lifters and explosive narcotics dealers) etc. is the major source of income, the total cultivatable land being 456600 hectors. The topography of the park is plain, undulating mountainous and covered by the grasses and shrubs while the surrounding area is cover by the mountain of malakand. The elevation of the area is 200-2500 ft. from the sea level. The average temperature is 18-24°C while it eases to 30°C in summer and may decrease to 10°C in winter. The rainfall is 10-30" in July to august. The humidity is 15-50%. The common biological factor in these areas is grazing. (Mr. Syed Mushtaq Ali Shah) (Meteorological Department).

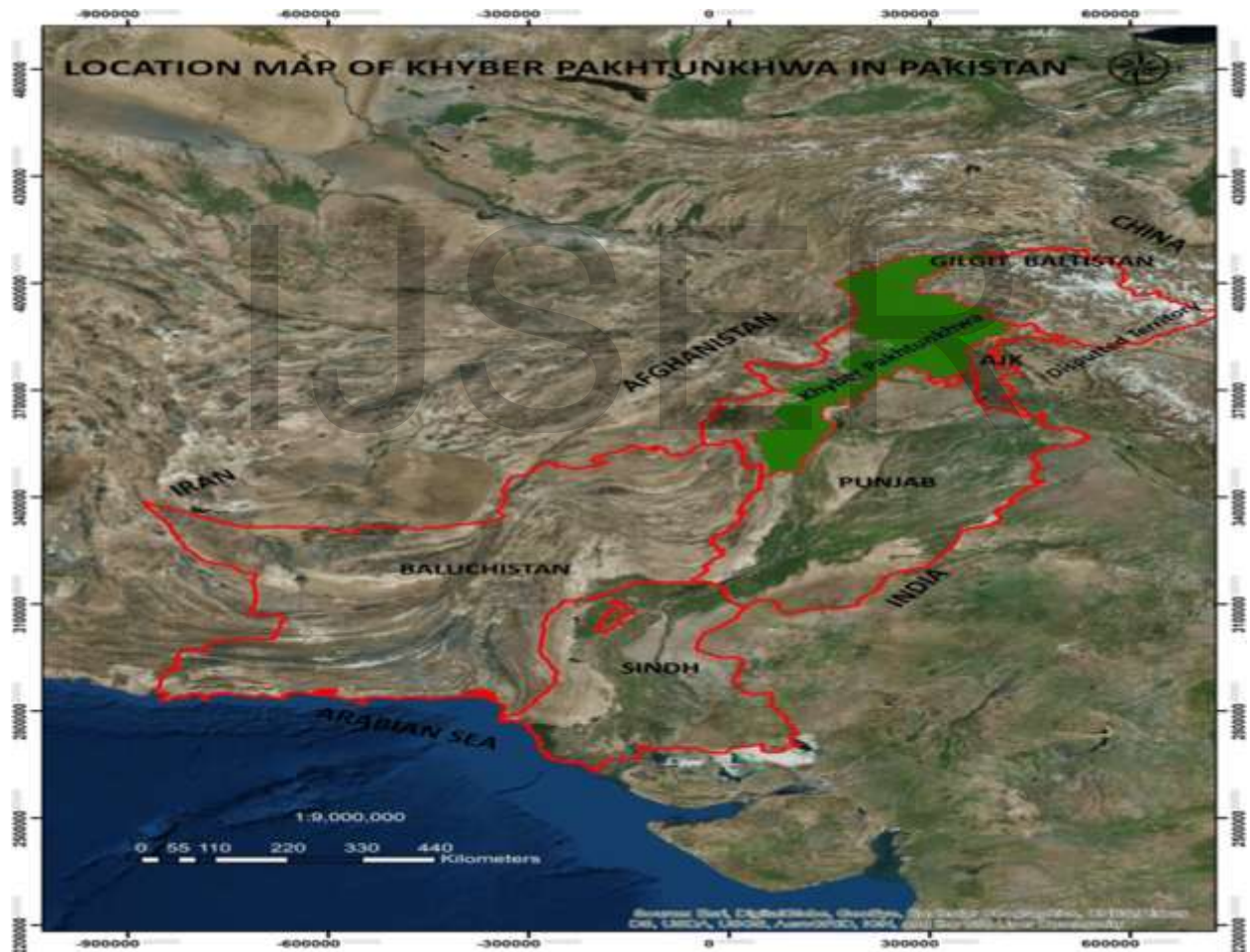


Figure 1 The green Color showed the location of the study area. (Ali et al., 2020)

## **Data Collection:**

The following research methods were used for data collection and analysis:

Interviews

Map of the area, Brochures, Booklets, Internet, Camera, the materials were used for the collection of data about research topic.

## **Interviews:**

During field work, interviews were conducted with the local inhabitants, selected informants, the different questions were asked from the managerial experts and the staff who serving in the Malakand Safari Park. To collect the information related to objectives of the study, individual interviews from the local community of the area will be also carried out. The person to be interviewed was randomly selected

## **Methodology**

For the process of data collection, various methods were used as we can collect data through, interview, and proper record, from previous literacy and by field visiting. The method which I used for the collection of data was taken through field visit and interview schedule and different questions will be ask from the managerial experts and the staff who serving in the Malakand Safari Park. The discussed different species present in the safari park and studied their behavior. Furthermore, the different limits and problems were studied which are facing by the safari park and its management and benefits to the local community. I also collected data about the safari park from previous literacy such as, various research papers, journals about the safari park as well as through internet. The interview schedule method are mostly used in this method, the data collection is so accurate and there is less chance of error that is why I was collected data by this way.

## **Secondary data collection**

Secondary data was collected keeping in mind the objectives by doing extensive literature reviews carefully and critically of related research papers, articles, books and local hakims to obtained needful data.

## **RESULT AND DISCUSSION**

The present research was conducted investigate the role of Malakand Safari Park in the wildlife management during May- September 2014 in District Malakand, Khyber Pakhtunkhwa, Pakistan. Malakand safari park was established in 2010 for the conservation of endangered wild species. This park is comprised

of a large amount of biota including reptiles, birds and mammals. Besides, the wild fauna it is also comprised of wild plant species naturally. As it is the initial stage of the park so few animal are introduce yet. The park comprises of 240-acre area, and fencing is done around the park mean that the park is totally protected. The animal are kept in intense care and proper managed. The animals which are present in the park are common leopards, Urial, grey goral and peasantry. The management activities are differs for each animal. The management activities for each animal are given below.

### Common leopard (*Panthera pardus*)

Leopard is the large, fast member of the cat family known for its marked hair, climbing abilities, and guarded habits. A beautifully designed killer with a long, well-muscled body, powerful limbs, and broad hands, the leopard combines the power and strength of the big cats with the charm and versatility of the smaller cats. Leopards are highly flexible and are found over abundant of Africa and southern Asia, sometimes living invisible close to human settlements. The common leopard is found mainly in India, Pakistan, Afghanistan, Tajikistan, and Turkmenistan. The leopard is found in various habitats like savannas, grasslands, open forest, and deserts. The common leopard in the malakand safari park was brought from hazara division. Its description and management is as below Weight 70-75kg approx Number three in number (1 Male, 2 female) in malakand safari park.

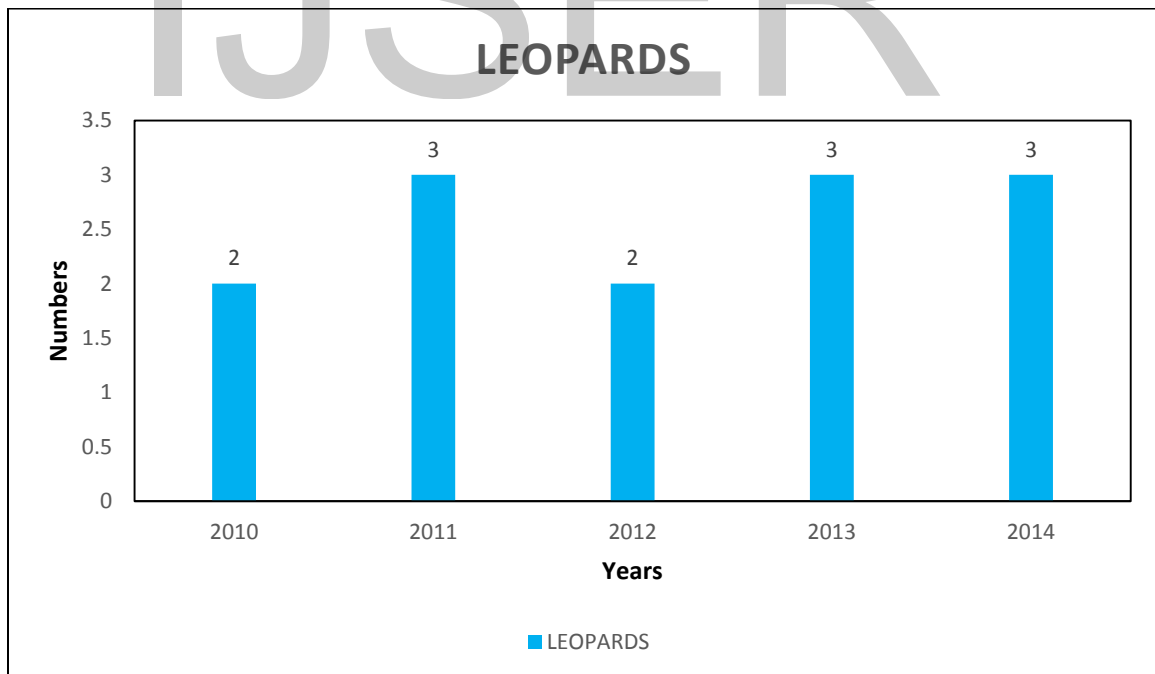


Figure 2: leopard's population during various years

The above graph is about common leopards and its numbers in different years. In 2010, there were two leopards in the park, both were females. Then in the year, 2011 one male leopard was introduced in the park and the number reached to three. In 2012, one leopard was escaped from the cage and was later killed by the local community and the number was two. In 2013, another leopard was brought from Mansehra division, and still in 2014 the number is three.

## **Management**

In Malakand safari park the leopard are kept in close enclosure, which includes two feeding cages and one rearing cage. The area of the feeding cage is 12×12 ft. and the area of the rearing cage is 60×60 ft. Their food includes fresh meat, 2kg per day is given to each, and normally they can eat 5-7 kg. The feeding time is 2:00 pm. Two persons are there on duty to serve them. They have no calf.

## **Urial (*Ovis orientalis*)**

Urial, medium-sized wild sheep, member of the goat antelope subfamily, also known as shapo or arkhar. Natural to the mountainous regions of northwestern India, Russia, Central Asia, and the South Caucasus, the urial escapes unsteady cliff country and frequents grassy slopes, frequently below the timberline. Rams (males) stand up to 91 cm (36 in) at the shoulder and weigh 54 kg (120 lb.). Their color is roseate brown, with extensive variation in shade. Rams have a ruff of long hair prolonging down the throat to the chest. The ruff is black in grown-ups but turns gray with age. Rams have rather long, slim horns that rise from the top of the head and form a wide, outward curl in which the tips turn in and end well after the head. The description and management of urial present in Malakand safari park is given as below. Weight 30-40kg (approximately) Number :3(1 male and 2 female).

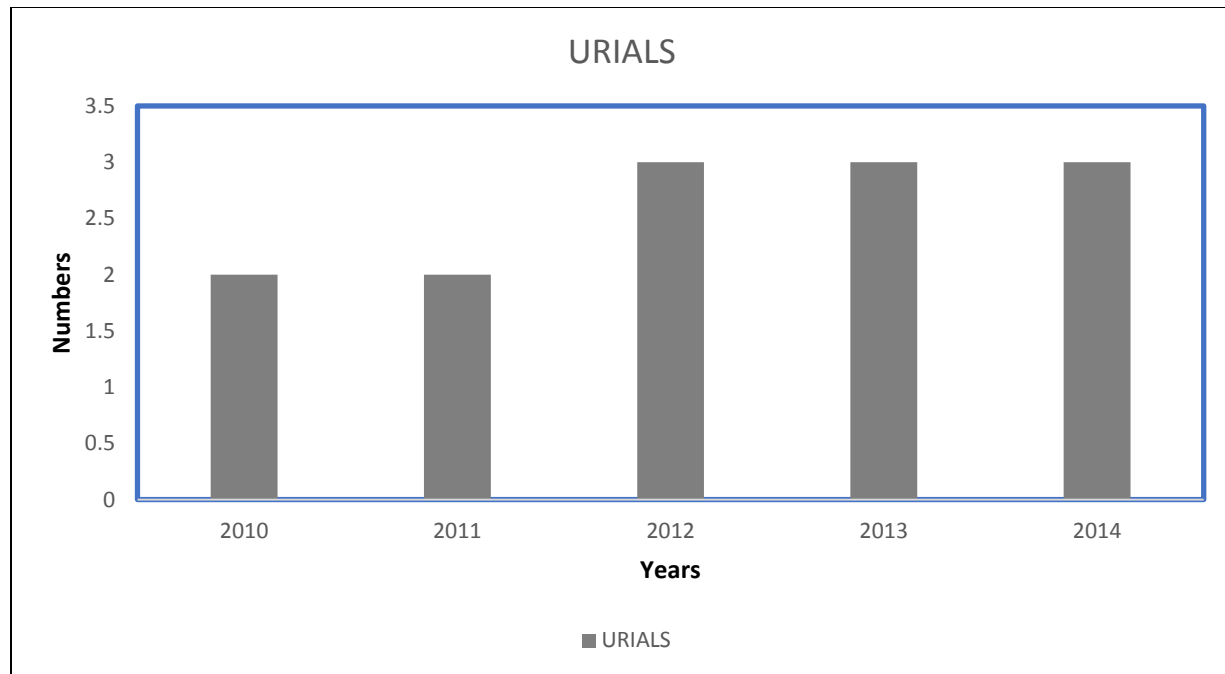


Figure 3 Population of Urial in different years.

In the safari park, two Urials were first introduced in 2010, and in 2011, the number was the same then in 2012 another urial was brought to the park in and until now the number is the same.

## Management

In the Park 3 Urial are present and for the management of them two vouchers are present. They are kept in the cage, whose area is 400x400 ft. and feed grasses, bajra, tripolium. The generally feed 10kg per day except the natural grasses. They have given proper vaccination monthly or season bases. The feeding time is 3:00 pm and has no calf. There is no breeding of urial in the park.

## Grey goral (*Naemorhedus goral*)

Goral, goat like animal of the cattle family, found from the Himalayas north to Korea and southeastern Siberia. An adult goral stands about 70 cm (30 in) at the shoulder and weighs around 30 kg (60 lb.). It has a coarse, blackish brown or yellowish coat. Both genders have small, finely ringed spiked horns that curve slightly recessive. In the early morning and evening, the goral inclines from the mountain slopes to the scrub forest to fodder. Crowds of five to ten animals group together, but older bulls are lonely. When worried, a goral will total a loud hiss that is repeated by others in the herd. The animals mate in December



or November, and the kids are born six months later. The description and management of grey goral in the park as given as below: Weight 25-35kg Number: three in number.

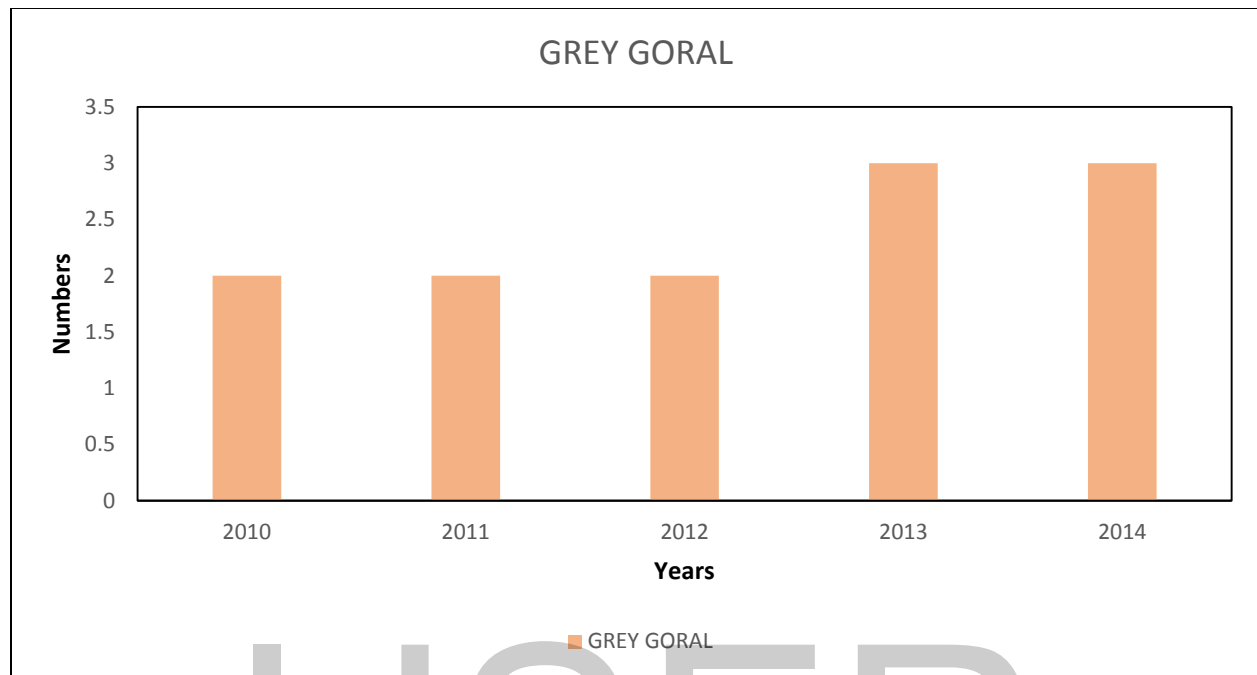


Figure 4 : Goral, s Population during various years

In 2010, 2011, and 2012, the number of goral was the same, which was two. Then in 2013 the number were increased into three and the same until now.

## Management

The Goral are kept in the cage but it does not seem even in the cage. The size of the cage is 400x400 ft. basically the food, which are given to the Goral, is green grasses. Foliage (green leaves) and Warbasha (malt). The generally feed 300 gm warbashi and 10 kg green food per day and the feeding time are afternoon. They are properly vaccinated per month or per season.

**Pheasantry :** In the park, a well established pheasantry is present, the list of pheasants present in the park are as below.

**TABLE 1: THE LIST OF PHEASANTS IN SAFARI PARK.**

Name	Scientific name	Male	Female	Total
Silver pheasant	<i>Lophura nycthemera</i>	3	7	10
Kalij pheasant	<i>Lophura leucomelanos</i>	1	1	2
Ringnecked pheasant	<i>Phasianus colchicus</i>	3	4	7
Woodgreen pheasant	<i>Rollulus rouloul</i>	2	2	4
Golden pheasant	<i>Chrysolophus pictus</i>	2	1	3
Chukar	<i>Alectoris chukar</i>	6	4	10
Indian blue peacock	<i>Pavo cristatus</i>	5	3	8
Black shouldered kite	<i>Elanus axillaris</i>	7	0	7
Gray partridge	<i>Perdix perdix</i>	1	2	3

In the below graph different colors represents abundance of species of pheasants in various years. In 2010 the black shoulder kite were three in number, chukar two, indian blue peacock were zero, golden pheasant were zero, silver pheasant were four, wood green were also zero, kalij were also zero, Grey partridge were also zero, Ring nick were three in number. In 2011 there was improvement in the abundance of pheasants. The number of Black shoulder was remain the same, which was three, Chukar was also the same mean two, Indian blue peacock were increase upto two, golden abundance is the same, zero, Silver were also increased from four to six, Wood green and kalij were the same in both years. In the year 2011 a single chukar was introduced, while the ring nick was the same. In the year, 2012 there was breeding in Black shoulder pheasant and their number were increased up to five. The abundance of chukar was increased from two to four because of their breeding in the park. The increase in the abundance of Indian blue peacock were seen in park and there number increase from two to five in the year 2012. A couple of golden pheasant and kalij pheasant was introduce in park for the first time in the year. Breeding occur in Silver pheasant and the number increase from six to eight. A male Grey partridge was introduce and their number was in upto two.

The number of ring nick pheasant was increased from three to four. In 2013 the Black shoulder abundance was the same and there was no change in their number. Chukar abundance was increased from four to six due to breeding. Breeding occur in the Indian blue peacock and their number increase from five to eight. Golden pheasant, wood green, Kalij and silver pheasant number was the same as it was in the previous year. Grey partridge abundance was increased from two to three in the year, and the number of Ring nick was increased from four to six. In the recent year of 2014 Indian blue peacock, Kalij pheasant and Grey partridge abundance was the same as it was in 2013. Black shoulder kite was increased from five to seven. There was a distinct increase in chukar abundance due to breeding and the abundance is reach upto ten in the recent year. Golden pheasant reached to three in the year 2014. Silver pheasant abundance also increase from eight to ten. Wood green pheasant also increase in number from two to four. Ring nick pheasant abundance also reach to seven in the recent year 2014.

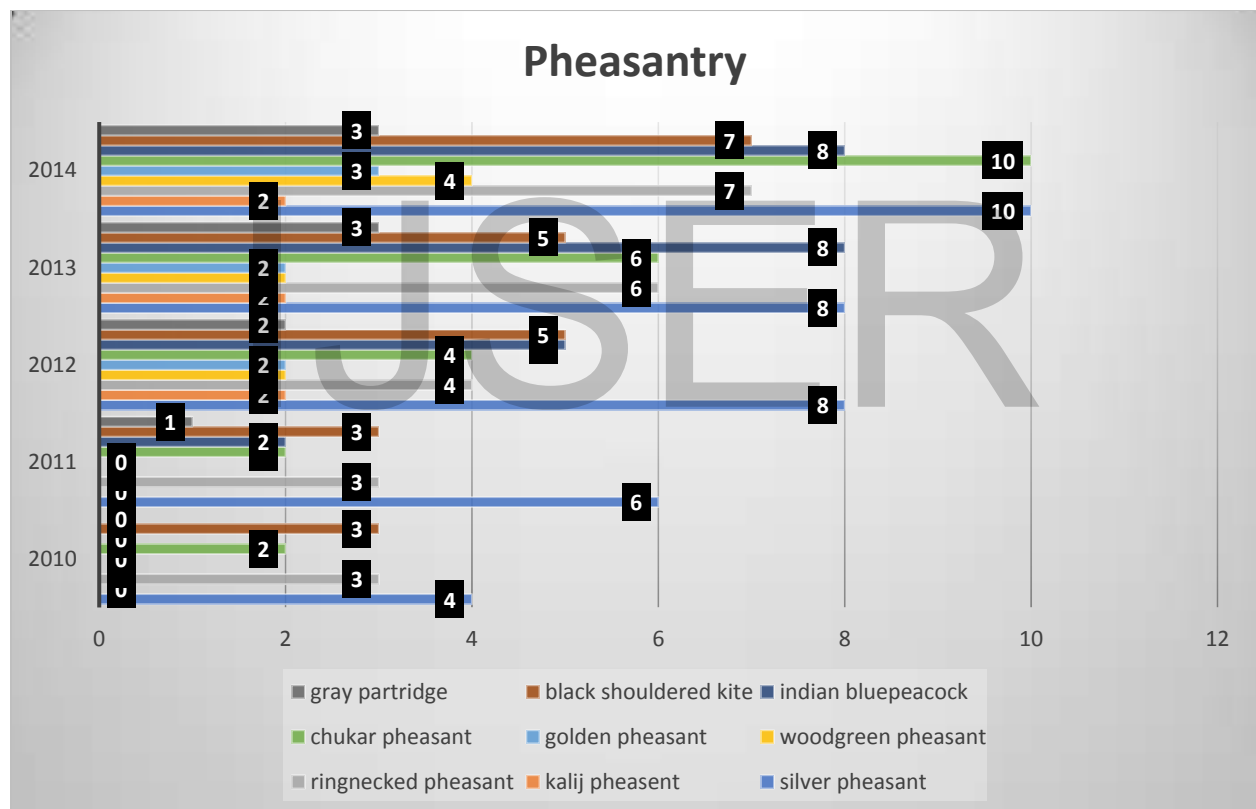


Figure 5: Population of Pheasants during various years

## Natural animals

There are several wild species, which are around the park or inside the park. Some of the species names are given below.

**Table 2: LIST OF NATURAL ANIMALS IN MALAKAND PERANO.**

Name	Zoological name
Fox	<i>Vulpes vulpes.</i>
Jackal	<i>Canis aureus</i>
Mangoes	<i>Helogale parvula</i>
Monitor lizard	<i>Varanus indicus</i>
Jocko leopard	<i>Eublepharis macularius</i>
Gray Partridge	<i>Perdix perdix</i>
Hares	<i>Lepus timidus</i>

## CONCLUSION

Now why a safari park in Malakand? Because in Malakand we have different partridges that number is decreasing due to illegal hunting and loss of habitat so Malakand safari park play an important role in the conservation of these species. As we know in safari those species are introduced which are endangered therefore in this way we can conserve those species which are facing various threats, and the safari park these animals are kept intense care to protect and increase their population. It also provides a natural habitat to the animals due to its location. The safari park is also beneficial to the local people because for the management of the park there is need of labors, which work on daily wages so the local people are the first preference for it. In this purpose the local people get chance to earn livelihood. In addition, when the tourist comes to the park they buy different things of daily use and food so the local businesses are improve. The main reason visitor not visiting the park is that the park is not yet publicize and the people are not aware about the park. The second is that the park is not yet well established and there are no facilities for the tourists.

## RECOMMENDATION

As the Malakand safari park is still unknown and the people do not know about it therefore the wildlife department need to publicize it, for this purpose the should published booklets and pamphlets about the park to aware the people.

- The number of staff in the park for management is not enough; therefore, the number should be increase for better management of the park.
- As the malakand safari park is newly established therefore the KPK wild life department should give more attention to the park and extra allowances should allocated for better management and other developmental works.
- Such other animal should introduced in the park which are facing various threats in this we can protect these species and through this way we can provide better recreation for the people, because by introducing more animals we can attract more people towards the park.
- There should be co-ordination of other developmental organizations with wildlife department. Therefore, that wildlife habitat may not be destroyed by their developmental activities. Minimum wildlife habitat should come under roads electric lines, telephone lines, and colonization.
- There should be an independent administration of wildlife department. However, co-ordination with forest department is necessary for development activities.
- There should be proper training for lower staff. For at least one training Centre should be established where modern techniques for census and other protection measures should be given to their personals.
- To control the wildlife offences, wildlife officers should be vested with magisterial powers so that legal protection to wildlife may be assured.
- Wildlife department should arrange to published literature on wildlife safari park and distribute it among to educated peoples.
- Wildlife clubs and societies should be established in educational institutions.
- For propagation of endangered species, research should be conducted and captive breeding should be done in natural habitat.

## References

- Ali, A., Ashraf, M.I., Gulzar, S. and Akmal, M., 2020. Estimation of forest carbon stocks in temperate and subtropical mountain systems of Pakistan: implications for REDD+ and climate change mitigation. *Environmental Monitoring and Assessment*, 192(3), pp.1-13.
- Dearden, P., Bennett, M. and Johnston, J., 2005. Trends in global protected area governance, 1992–2002. *Environmental management*, 36(1), pp.89-100.
- Fleming, P.J. and Tracey, J.P., 2008. Some human, aircraft and animal factors affecting aerial surveys: how to enumerate animals from the air. *Wildlife Research*, 35(4), pp.258-267.
- Goodwin, H., 2007. Measuring and reporting the impact of tourism on poverty. *Tourism research: new directions, challenges and applications*, pp.63-75.
- Jalani, J.O., 2012. Local people's perception on the impacts and importance of ecotourism in Sabang, Palawan, Philippines. *Procedia-Social and Behavioral Sciences*, 57, pp.247-254.
- Komers, P.E. and Curman, G.P., 2000. The effect of demographic characteristics on the success of ungulate re-introductions. *Biological Conservation*, 93(2), pp.187-193.
- Western, D., Russell, S. and Cuthill, I., 2009. The status of wildlife in protected areas compared to non-protected areas of Kenya. *PloS one*, 4(7), p.e6140.
- Wishitemi, B.E., Momanyi, S.O., Ombati, B.G. and Okello, M.M., 2015. The link between poverty, environment and ecotourism development in areas adjacent to Maasai Mara and Amboseli protected areas, Kenya. *Tourism Management Perspectives*, 16, pp.306-317.
- [www.pmd.gov.pk](http://www.pmd.gov.pk) › [rmc](#) › KP-Contacts, Regional Meteorological Center (RMC) Khyber Road