

## **ECOLOGICAL RESOURCES OF UZBEKISTAN AS AN ECOLOGICAL TOURS AND EXCURSIONS OBJECTS**

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### **ABSTRACT:**

In recent years, ecological tourism has become an increasingly popular tourism and recreation form in the world. There are lots of definitions of eco-tourism. Many scientific dissertations have been defended on this topical theme. Without going into particular terminology, we are closest to a simple and understandable ecotourism definition adopted by the World Tourism Organization: « Ecotourism includes all nature tourism forms, in which the main motivation for tourists is observation and introduction to nature». In addition to the cognitive and aesthetic effect, ecological tourism is a publicly available active recreation form.

Adventure tourism (tracking, horseback riding, camel tours, cycling tours, etc.) is often referred to as ecological tourism. However, ecotourism, although it has an adventure element, does not always imply pure adventure. Therefore, we single out "adventure tourism" in a separate category as more active and associated with overcoming various natural obstacles and even with a certain amount of extreme.

Ecotourists in Uzbekistan are attracted by special nature sights: unique landscapes, geomorphological, hydrological and other objects (mountains and canyons, caves, lakes and rivers), exotic biocenoses (juniper or tugai forests, blooming spring desert, Ustyurt plateau, etc.), and flora and fauna endemics. During ecotours in

Uzbekistan, tourists also get acquainted with the culture, history, ethnographic features of the regions that are inseparable from the natural environment.

The nature of Uzbekistan is unusually diverse and is represented by the mountain systems of the Tien Shan and Gissar-Alai, steppes, the Kyzyl Kum desert, tugai and juniper forests.

In Uzbekistan, there are 8 reserves, 2 national natural parks, the Nijne-Amu Darya state biological reserve, 9 state orders. The total protected natural areas are 20,520 km<sup>2</sup> (5% of the entire territory of Uzbekistan).

**Keywords:** ecotourism, ecological resources of Uzbekistan, State reserves, national parks and other protected natural areas of Uzbekistan.

### **STATE RESERVES, NATIONAL PARKS AND OTHER PROTECTED NATURAL AREAS OF UZBEKISTAN:**

It is difficult to overestimate the reserves, national parks, wildlife sanctuaries, nurseries role for the flora and fauna preservation of Uzbekistan. In Uzbekistan, there is a fairly wide network of protected areas, covering many biocenoses and ecosystems.

The Chatkal mountain-forest state biosphere reserve is located at the western end of the Chatkal ridge within the Western Tien Shan. It consists of two separate

sections: Bashkyzylsui (11103 ha) and Maidantal (24150 ha). The sites are more than 20 km apart from each other along the ridge centerline and are located on different slopes: the first on the southwest, the second on the north. The Bashkyzylsuisky area is a mountainous part of the drainage basin of the Bashkyzylsai River with absolute heights from 1080 to 3265 m above sea level. The Maidantal section with heights from 1200 to 3875 m above sea level includes the right tributaries of the Sereklsai, which flows into the Chirchik River.

Chatkal Nature Reserve is one of the oldest in Uzbekistan, was established in December 1947.

The main rivers reserve - Bashkyzylsai and Serkelsai with their numerous tributaries, start at high altitudes.

The reserve contains 57 plants species characteristic of the Western Tien Shan flora, endangered and included in the Red Book of Uzbekistan. 6 narrowly endemic plant species grow on the reserve territory: *Adonis leiosepala*, *Allium pskemense*, *Allochrysa gypsophillioides*, *Anemonastrum protractum*, *Astragalus rubrivenosus*, *Dracocephalum komarovii*.

The mammals' fauna in the reserve contains 65 species. Especially rare ones: stoat; least weasel; snow leopard; siberian ibexes; enzbier's marmot; spermophilus relictus; red fox; himalayan brown bear; beech marten; european badger; eurasian otter; turkestan lynx; capreolus; wolf.

The bird reserve fauna is quite rich and has 279 species. Out of these, 176 species nest reliably, and the remaining 103 are found on flights and migrations. The best preserved alpine avifauna (*Gypaetus*, himalayan vulture, golden eagle, himalayan snowcock, *Calandrella acutirostris*, horned lark, water pipit, grey wagtail, alpine chough,

red-billed chough, leaf warblers, siberian rubythroat, common rock thrush, northern wheatear и isabelline wheatear, wallcreeper, white-winged snowfinch, red-fronted serin, mountain finches, montagu's harrier, long-legged buzzard, egyptian vulture, griffon vulture, cinereous vulture, saker falcon, lesser kestrel, grey partridge, rhodopechys, trumpeter finch etc.).

There are many tourist sites on the reserve and adjacent territories. The most interesting are:

- Ugam-Chatkal National Park;
- Charvak reservoir;
- Ski resorts Chimgan / Beldersay;
- High-mountain plateau Pulatkhan;
- Karaarcha canyon;
- Picturesque panoramas of Chatkal ridge with Chimgan peaks (3309m.), Aukashka (3100 m.), Karakush (3864m.), Kyzylnur (3267m.);
- Angren plateau;
- Picturesque mountain villages Kumyshkan, Nevich, Sukok;
- Picturesque valleys of the Bashkyzylsai, Aksakata, Maidantal Rivers.

#### **GISSAR MOUNTAIN-JUNIPER STATE RESERVE:**

The Gissar reserve is located in Kashkadarya region of Uzbekistan on the western slopes of the Gissar ridge in the altitude range from 1750 to 4349 m above sea level. From the east and southeast, the reserve borders on the Gissar ridge with Surkhandarya region of Uzbekistan, in the north - with Tajikistan. The Gissar reserve was created in 1983 on the basis of two independent mountain reserves merger - Kyzylsuisky and Mirakinsky. By combining two significant reserves territories, this is the largest reserve in Uzbekistan at present. Its area is 80986.1 hectares.

In the reserve, 4 separate areas are geographically distinguished:

- Tashkurgan branch
- Mirakinsky branch
- Gilan branch
- Tankhyz branch

The reserve flora is quite typical for the Central Asian Mountains and is very rich in species composition. For the Western Gissar entire territory within Kashkadarya region, at least 1500 vascular plants species are known, more than half of which are the reserve flora. The main forest-forming species in the reserve are two juniper types. Western Gissar is very poor in tree and shrub species, there are only about 60 species, except for junipers (Zaravshan junipers and hemispherical), maples (Turkestan, fluffy and Semyonova), Sogdian ash, Pontic hawthorn, Turkestan mountain ash, Sivers apple, cherry plum narrow-leaved oak, Bukhara almonds, Regel's pear. The rest species are either real shrubs, or are represented by bushy forms. In the undergrowth, everywhere you can find Pontic hawthorn, Turkestan mountain ash, wild rose, honeysuckle, and barberry. *Oxytropis*, geraniums, *cousinia badghysi*, as well as *senecio* and *battering ram* are common food items for ibex and marmots.

The road to the reserve itself is divided into several routes, since you can get to Tashkurgan (Kyzylsui) section through the regional center of Yakkabag, and to Mirakin, Gilan and Tankhaz sections through the regional center of Miraki. The closest distance from Shakhrisabz to the reserve boundaries (its various sections) ranges from 70 to 90 km

## **TOURIST SITES AND ATTRACTIONS OF THE GISSAR RESERVE AND ITS ENVIRONS:**

There are many tourist sites on the reserve territory. The most interesting of them:

- Sacred mountain Khazret-Sultan;
- Amir Temur's cave;
- Fossilized dinosaur footprints;
- Suvtushar waterfall;
- Kyzylshavar Karst Plateau;
- High-mountain plateau Khojekarshavar;
- Alpine lakes Jhanka;
- The grandiose Kalasay canyon;
- Zarmas canyon;
- Picturesque panoramas of the Hissar Mountains with the peaks of Khojaakchaburun (3855 m.), Khojapiryakh (4425 m.);
- Severtsev glacier;
- Picturesque mountain villages of Gilan, Zarmas, Kul;
- Kyzylgaz summer pastures.

Some parts of the Gissar reserve territory are located in the border zone with Tajikistan. Therefore, to visit the Gissar reserve, you must obtain special permits from the State committee for nature protection and from the Committee for the state border protection of the Republic of Uzbekistan.

The Nurata State Reserve is located in the central part of the Nuratau ridge, the reserve area is 17752 hectares. The Nurata Nature Reserve was organized in 1975 with the aim of preserving the rare endemic subspecies population of the Severtsov ram (*Ovis ammon severtzovi*), which is listed in the International Red Book (IUCN) and the Red Book of the Republic of Uzbekistan. And also for the conservation of walnuts genetic varieties and other cultivated fruit trees varieties. Since the reserve territory was recognized as one of the cultivated plants origin centers in Central Asia.

From the reserve flora, 29 species are listed in the Red Book of the Republic of Uzbekistan, 3 species of them are Eremurus, 3 species of onions, 5 species of tulips, 5 species of astragalus, etc. The largest thousand-year-old tree of the eastern biota reserve grows in the longest sai - Medzherum. Its trunk reaches 8.5 m in circumference.

The fauna of the Nurata Reserve is rich and varied. Out of these, 34 mammals species (3 insectivores species, 8 bats species, 1 lagomorphs species, 13 rodents species, 7 carnivores species and 2 artiodactyls species). From the actual mountain species in the reserve, the Turkestan rat, stone marten and Severtsov's ram are common. Among insectivores, there is a long-eared hedgehog (in the lower belt of the mountains) and a long-spined hedgehog (in the middle belt of the mountains). Among the predators, the Karaganka fox and the stone marten are widespread. A wolf lives in the upper part of the mountain gorges, and a steppe cat is occasionally found along the sai. The lower part of the mountains is inhabited by a badger and a steppe polecat, and dressing can also be found here. Among ungulates, wild boar is widespread, which is found from the foothills to the upper parts of the mountains. The rich vegetation creates favorable conditions for this species survival.

#### **TOURIST SITES AND ATTRACTIONS OF THE NURATA RESERVE AND ITS ENVIRONS:**

There are many tourist sites on the reserve territory. The most interesting of them:

- Millennium Biota eastern (sai Majrum);
- Lake Fazilman;

- Exotic mountain villages Ashraf, Hayat, Ukhum, Sentyabsay, etc.;
- Honbandi Dam (X-XI centuries);
- Sheep cattery Severtsev.

Surkhan State Nature Reserve is located in the northwestern part of the Sherabad district of Surkhandarya region and consists of two independent areas: the Aral-Paygambar islands and the eastern slope of the Kugitang-tau ridge. The Aral-Paygambar section with a total 3092 hectares area, as a reserve, was organized back in 1971 in order to preserve the valley-tugai ecosystem and the natural population of Bukhara deer, included in the IUCN International Red List and the Red Book of the former Soviet Union. At present, by the governmental decision of the Republic of Uzbekistan, the Aral-Paygambar Island has been transferred to the border service.

In 1986, the Kugitang state order was merged with the Aral-Paygambar reserve and transformed into Surkhan state reserve. Currently, Surkhan reserve territory is located in the southwestern spurs of the Gissar ridge of the Pamir-Alai mountain system at 1500 to 3157 meters altitude above sea level. In the south-west of the republic, the peripheral parts and Gissar ridge spurs are fanned out, such as Yakkabag, Chakchar, Baysun, Kugitang and Surkhantau. These mountain systems are located in close proximity to the hot Kyzyl Kum desert. The flat areas are crossed by the Amu Darya and Syr Darya rivers. The reserve borders in the west with the Republic of Turkmenistan, where there are two reserves and one reserve. This makes it possible to organize an interstate transboundary reserve in order to preserve the Kugitang mountains biodiversity. The total reserve area is 24583 hectares, from which the forested area was 9284 hectares.

Currently, 578 vascular plants species belonging to 269 genera and 55 families have been registered in the Kugitang reserve, and 23 vascular plants species included in the Red Book of the Republic of Uzbekistan have been identified. Among the plants there are many unique and endemic species that grow only here on the Kugitang ridge.

The reserve fauna is a complex natural complex characteristic of the natural conditions of the Central Asia Mountains. The reserve has established 23 mammals' species presence on the reserve territory. Here, as well as among birds, there are species characteristic of the southern part of Palaearctic. Within the reserve, the striped hyena - *Hyaena hyaena* and the Central Asian leopard - *Panthera pardus* are still preserved; both species are extremely rare and are on complete extinction verge in the Republic of Uzbekistan. However, the leopard has been sighted several times over the past few years, and the hyena footprints have been noted by the reserve huntsman.

More than 200 bird species have been recorded in the reserve (in the mountainous territory of the reserve there are 74 species of birds, on the Aral-Paygambar island - 143 species belonging to 91 genera, 43 families, 15 orders. Among the rare and vulnerable bird species number, it is necessary to note the nesting in the Turkestan white stork reserve - *Ciconia ciconia*, black stork - *Ciconia nigra*, bearded vulture - *Gypaetus barbatus*, griffon vulture - *Gyps fulvus*, black vulture - *Aegyptius monachus*, snake eagle - *Circaetus gallicus* - *Aquila chrysaetos* and some others.

#### **ZARAFSHAN VALLEY-TUGAY STATE RESERVE:**

Zarafshan reserve is located in the southeastern part of Samarkand region on

Jambay and Bulungur districts territory. Its territory starts from the Chapan-Ata Heights, 8 km from the city. Samarkand and stretches along the right bank of the Zarafshan River upstream to the Pervomaiskaya dam. The western border of the reserve is the middle of the Zarafshan River, the southern border runs along the border with Tajikistan.

The Zarafshan State Reserve was organized in 1975 to preserve the tugai forests biodiversity of the Zarafshan River valley. The reserve area is 2352 hectares; it stretches along the right bank of the river for 47 km in a narrow strip with 300 to 1500 m width.

In the tugai of the Zarafshan reserve, there are 207 higher plants species that have been reliably established for its entire existence period. The reptiles' fauna includes 10 species. Common are the Asiatic goggle (*Ablepharus brandti* Strauch), the swift lizard (*Eremias velox*), the water snake (*Natrix tessellata*), and the patterned snake (*Elaphe dione*). The Central Asian tortoise *Agrionemys horsfieldi* and the yellow-bellied *Ophisaurus apodus* are less common.

The birds' fauna is the most diverse in the reserve. Over its existence entire period, 207 species have been registered here, including such as: Zarafshan pheasant *Phasianus colchicus zerafschanicus*, rock pigeon *Columba livia*, kingfisher *Alcedo atthis*, white-winged woodpecker *Dendrocopos leucopterus*. The Red Book of Uzbekistan (2003) includes 26 bird species.

Since 1996, the reserve has been working under the program "Restoration and preservation of many Bukhara deer", funded by the French National Center for Scientific Research (CNRS), INTAS, MacArthur funds, European Large Herbivore Initiative (LHI), World Wildlife Fund (WWF).

**KYZYLKUM STATE TUGAI-SANDY RESERVE:**

Kyzylkum State Reserve is located in two administrative districts and two regions of the Republic of Uzbekistan - in Bukhara and Khorezm. The reserve territory is located in the coastal part of the Amu Darya River and stretches from northwest to southeast for 30 km distance; from east to west it covers a coastal 3 km strip. The total reserve area is 10,311 hectares, from which 1467 hectares are located in the Romitan district of Bukhara region and 8,844 hectares in the Kharazasp district of Khorezm region.

The Kyzylkum Nature Reserve is a unique area of riparian floodplain forest combination located in the middle reaches of the Amu Darya and areas of a typical sandy desert.

More than 148 species higher vascular plants, belonging to 46 families and 110 genera, grow in the Kyzylkum reserve. It should be noted that 40 the noted species are endemic to Central Asia. On the reserve territory there are 11 ornamental plants species, 28 medicinal, 25 melliferous, 39 fodder, 2 tanning types, 4 poisonous types, 4 food types and 3 industrial plants types. Two plant species (Sogdian tulip and Korolkov's eremurus) are included in the Red Book of the Republic of Uzbekistan.

The reserve fauna is quite diverse, because the river combination, tugai forest and desert create favorable conditions for both aquatic and semi-aquatic species habitation. The reserve has 27 fish species characteristic of the Amu Darya, including several species included in both the Red Book of the Republic of Uzbekistan and the IUCN International Red List. These are the large and small Amu Darya pseudo-shovelnose, Turkestan and Aral barbel, Aral

thorn, and some others. The Central Asian land turtle is often found in the reserve.

The birds' fauna is diverse, although it is mainly based on migratory birds, since nesting and sedentary ones are represented by a relatively small number of species living within the tugai forest and in the sandy desert boundaries. In different seasons, 267 species were recorded in the reserve. Among the sedentary species are the white-winged woodpecker, the Khiva pheasant, the gray or Bukhara tit, the ubiquitous magpie, the saxaul jay, ringed and little turtledoves, the desert raven, the golden eagle, and the saker falcon.

**ZAMIN MOUNTAIN-JUNIPER STATE RESERVE:**

The Zamin State Mountain Juniper Reserve (not to be confused with the Zamin National (People's) Natural Park of the same name) is located on the northern slopes of the Turkestan ridge in the Zamin and Bakhmal districts of the Jizzakh region of the Republic of Uzbekistan. The reserve was recreated in 1960 on the Guralash reserve site (founded in 1928) and currently occupies 26840 hectares area.

The reserve territory is a mountain range with a well-pronounced zonation: middle and high mountains, located at 1760 - 3500 m altitude above sea level. The southern part of the reserve occupies the steep slopes of the Turkestan ridge, cut by deep gorges; the northern part has a smoother relief with terraces covered with a thick layer of marls and loess-like loams.

There are three plant belts on the reserve territory: mountain steppe, forest and High Mountain (subalpine). The mountain steppe belt is located at 1300 to 2300 m altitude above sea level. The forest belt begins at 2100 m altitude and ends at 2700 m altitude.

Three juniper types grow on the reserve territory: Zarafshan, hemispherical and Turkestan. Juniper hemispherical forms mixed plantations in the upper slopes part with the Turkestan juniper, and in the lower part with the Zarafshan juniper. The undergrowth layer is represented by shrubs: Turkestan hawthorn, Fedchenko's dog rose, Korolkov's honeysuckle, oblong barberry, multiflorous cotoneaster, and occasionally Tien Shan mountain ash is found among the rocks.

More than 20 medicinal plants species grow here: aconite, colchicum, immortelle and valerian, ziziphora, snakehead, etc.; more than 15 types of decorative: veronica, carnation, primrose, tulips, eremurus, crocuses, iris, delphinium, etc. In addition, there are economically dozens of most valuable plants: resinous, tanning, dyeing, essential oil, fruit and berry and fodder plants, which are a valuable genetic fund.

In spring, the low-mountain zone is indescribably beautiful, where ephemera and ephemeroids bloom - tulips, poppies, various onions and magnificent eremurus types. On the northern subalpine zone slopes, mainly dwarf juniper, acantholimon, mosses and lichens grow - have not been studied.

The reserve fauna is very diverse, belonging to the Eastern Bukhara zoogeographic area. All species typical for mountain juniper reserves forests in general are represented here. A rich, natural food base with various lands, refuge and nesting places, ensure the entire complex existence of biodiversity.

#### **KITAB GEOLOGICAL STATE RESERVE:**

The Kitab State Geological Reserve is located in the Kitab District of the Kashkadarya Region of the Republic of Uzbekistan. It is located in the southwestern

spurs of the Zaravshan ridge, in the river basin. Kashkadarya (left bank of the Jindydarya River).

The Kitab reserve is the only one in Uzbekistan that is subordinate to the State Committee of the Republic of Uzbekistan for Geology and Mineral Resources (Goskomgeologiya RUz.). This reserve was created specifically to protect the unique stratigraphic sections and ancient fossil forms remains of marine animals and plants contained in them. The Paleozoic sections here cover the most interesting geological formations, containing the richest and unique information on a significant time interval of the geological history of the Earth with 130-170 million years duration. The reserve is also of particular importance for modern plants and animals protection. The reserve area is 3938 hectares.

The vertebrate fauna of the Kitab Reserve numbers 168 vertebrates species, including 3 fish species (Pisces), 2 amphibians species (Amphibia), 14 reptiles species (Reptilia), 128 birds species (Aves) and 21 mammals species (Mammalia).

The Lower Amudarya State Biosphere Reserve was created in Uzbekistan in 2013 on the basis of the abolished Badai-Tugai State Reserve and the additionally transferred land areas of the Beruniy and Amudarya regions of Karakalpakstan with a total 68717.8 hectares area. It is located in the lower reaches of the Amu Darya on the right bank of the river at the Sultan-Uizdag ridge foot. 167 higher plants species have been identified on the reserve territory. In a significant part, tugai are braided with vines: eastern clematis, Siberian tsinanchum, Persian asparagus and Lehmann's dodder.

Birds reserve. The large presence and varied selection of nesting sites (trees, shrubs, herbaceous vegetation, coastal cliffs and shoals on the Amu Darya) determines

the bird reserve population diversity. For migratory birds, riparian thickets serve as rest and feeding place. A total of 91 bird species have been recorded here.

Bukhara deer re-acclimatized in the reserve. He once inhabited the basins of the Amu Darya Rivers and the lower reaches of the Syr Darya. The Bukhara deer population was undermined as a predatory extermination result; by the early 1970s, this deer had practically disappeared into the wild. One of the first steps to restore disappeared animals in Uzbekistan was deer re-acclimatization in the "Badai-Tugai" nature reserve. In May 1976, three deer (two females and one male) were brought into the reserve from the Ramit reserve (Tajikistan). They were housed in purpose-built mesh enclosures. In December 1979, 9 more reindeer were introduced. All deer took root and gave birth to offspring. After overexposure in open-air cages, some deer were released into the riparian forest. Currently, the wild reindeer livestock - Hanguls at large numbers about 400 individuals. Deer began to settle independently in neighboring tugai massifs, both on the right and on the left banks of the Amu Darya. Currently, the reserve is the keeper of the world's largest population of Bukhara deer and therefore can be considered globally significant.

#### **ZAMIN NATIONAL NATURAL PARK:**

The Zamin National Natural Park is often confused with the Zamin Mountain Juniper Reserve. Indeed, they are closely related to each other in the protected flora and fauna.

The main difference of Zamin National Park is its accessibility for tourists and vacationers. The Zamin sanatorium is also located here. All economic activities are prohibited in the Reserve.

Usually, many consider the Zamin National Park only the narrow gorge of the Uryukli-Sai River, starting just south village of Dugoba and ending with the Zamin sanatorium and the former Rashidov country house. In fact, the Zamin National Natural Park covers 24,110 hectares area and stretches 30 km from north to south, 17 km from east to west. The park is located on the Zamin district territory of the Jizzakh region of the Republic of Uzbekistan, 25 km from the regional center of Zamin and 55 km from Jizzak on the northern Turkestan ridge slopes. In the east, the park territory borders on the Republic of Tajikistan, in the south it is limited by the high-mountainous plateau Supa (Sufa), in the west by the Ettikechu river valley, and in the north by Dugoba village.

Zamin National Natural Park was created by the Council Resolution of Ministers of the Republic of Uzbekistan on September 8, 1976 №523 "On the creation of a winter sports center and a sports and recreation complex in the Zaamin mountain-forest region". At that time, it was the first National natural park in the Republic of Uzbekistan and throughout Central Asia. Zamin national Natural Park is under the Reserves department jurisdiction, National Natural Parks and Hunting Economy, the Main Department of Forestry under the Ministry of Agriculture and Water Resources of the Republic of Uzbekistan.

Today Zamin National Park is a favorite recreation place for residents and guests of Uzbekistan. During the summer months, local resorts and campsites cannot accommodate everyone. Tourists and vacationers are attracted here by the pristine nature and the purest mountain air filled with the juniper aroma.

Recently, much attention has been paid to organizing outdoor activities (hiking and

horseback riding) in the park vicinity. Interesting natural objects on the Zamin national park territory are:

- seven hundred year old walnut tree, consisting of 2 trunks, separated by a stream;
- Shar-Shara waterfall over Rashidov's former country house;
- Spring with healing water Sher-Bulok;
- Chortanga canyons in the upper reaches of the Ettikechi River. Here, at the exit from a deep canyon, lie the ancient fortress Muk ruins (Myk, Mug) and ancient Chinese mines-adits for the silver extraction;
- And, of course, there are magnificent mountains covered with juniper forests everywhere (some junipers specimens are thousands of years old).

#### **UGAM-CHATKAL STATE NATIONAL NATURAL PARK:**

Ugam-Chatkal state national Natural Park was created in 1992 on the basis of the Chatkal biosphere reserve, located in the Chatkal ridge spurs of the Western Tien Shan, with the Akhangaran, Brichmullinsky and Chirchiksky forestry enterprises accession. Today its area is 668 thousand 350 hectares and it is the largest nature conservation complex in Uzbekistan.

The national park was created to protect mountain juniper forests, its diverse ecosystems and the gene pool of rare and endangered animals and plants species. On the reserve territory, scientific research work is constantly being carried out to study the rare ecology and endangered plants species, animals, especially the Tien Shan brown bear, avifauna.

The natural park fauna is represented by 280 animals' species, which - 44 mammals' species, 200 - birds, 16 - reptiles, 2 - amphibians, 20 - fish. The flora diversity is even greater - 2.2 thousand plants species

grow on the natural park territory, among which there are many endemic and rare species, such as the Kaufman and Butkov tulips, which adorn the mountain slopes with bright spots in spring, two Eremurus types - giants among herbaceous plants, white and brown candles piercing the blue sky in early summer.

Most of the park is open to visitors and tourism. The best time to explore the nature park is from May to July. The park territory covers almost all vertical natural belts from flowering valleys and foothill steppes to alpine meadows and alpine glaciers. In spring, there is colors variety. Red poppies glades give way to the blue of flowering bells. Above, snowdrops, crocuses, beautiful tulips, eremurus appear. The air is filled with the smell of flowering grasses, trees and shrubs. Fluttering butterflies, birdsong and the purest mountain air create a paradise idyll.

The Chatkal valley, located on Bostanlyk region territory, is of particular interest to tourism lovers. The large artificial Charvak lake-reservoir is incredibly beautiful at any time of the year. It is the main water source of Tashkent oasis and is filled with the turbulent mountain rivers waters Pskem, Kok-Su, Chatkal. The wide lake expanse is limited by Ugamsky, Pskemsky, Chatkalsky ridges, the individual peaks which exceed four thousand meters. On the lake shores there are children's health camps, modern comfortable hotel complexes with beaches and a well-developed recreation infrastructure.

The dominant peak of the region is Bolshoi Chimgan with 3309m height. The Chimgan slopes are covered with snow from November to July. 30 - 40-meter waterfalls flow down from its rocky spurs, and the steep slopes are covered with bizarrely

curved birches, wild rose bushes, mountain grasses.

At the foot of Chimgan there is a popular ski resort of the same name and a favorite vacation spot for Uzbeks and numerous guests. Just 6 km from Chimgan, on the Mount Kumbel slopes, there is another famous ski resort Beldersay with its famous 3-kilometer sports ski track.

There are many interesting hiking trails in the national park. The most popular of them pass along the valleys, gorges and canyons of the Akbulak, Karaarcha, Gulkam, Nurekata, Aksakata, Koxsu rivers with waterfalls, alpine meadows, quaint rocks, lakes.

There are great opportunities in the park for rafting – alloy on inflatable boats and catamarans on the turbulent mountain rivers Chatkal, Pskem, Ugam, and Oygaing. Rafting athletes come here to fight against their rapids, not only from neighboring countries, but also from Europe, the USA, and Japan.

Also other ecologically clean types of active tourism are popular here - equestrian and cycling. There is also a space for birdwatchers - bedwatchers. In recent years, heliskiing programs have become more and more popular - an extreme ski descent through untouched virgin snow spaces from high mountain peaks and passes, where skiers are dropped by a helicopter.

The following ecological tours and excursions types are held in the ecological resources of Uzbekistan:

- Bird watching tours
- Botanical tours;
- Entomological tours;
- walks in National parks and reserves.

Ornithological and botanical excursions are especially popular in Uzbekistan. In recent years, it has become increasingly popular to

include 1-2 days of walks in the mountains of Uzbekistan in ordinary sightseeing tours.

For Example, A Summary Of The Excursion Tour On The Theme "Birds Of Uzbekistan" Is As Follows:

Goals and objectives: Природа Узбекистана богата и разнообразна. Здесь живут около 379 видов птиц: вы можете наблюдать птиц в солнечных пустынях и в чудных оазисах, в долинах быстрых горных рек и на берегах чистых озер, в степях и великолепных горах. This trip is ideal for birdwatching and exploring the historical locations of the most ancient cities in Central Asia - Samarkand and Bukhara.

**ROUTE:**

Tashkent - Samarkand- Bukhara- Kyzylkum Desert - Shakhrisabz -Samarkand-Zarafshan foothills - Tashkent- Chimgan- Tashkent

**Duration: 13 days**

**BRIEF PROGRAM**

<b>Day 1</b>	Arrival to Tashkent. Excursion.
<b>Day 2</b>	Highway crossing to Samarkand. Excursion.
<b>Day 3</b>	Transfer to Bukhara. Excursion.
<b>Day 4</b>	Birdwatching in Kyzylkum desert near Bukhara.
<b>Day 5</b>	Birdwatching in the area of Lake Tudakul and the Amu-Bukhara canal.
<b>Day 6</b>	Transfer to Shakhrisabz. Bird watching on Gissar ridge.
<b>Day 7</b>	Transfer to Samarkand. Birds watching on the way to Takhta-Karacha pass.
<b>Day 8</b>	Bird watching in Zarafshan river area.
<b>Day 9</b>	Birdwatching in Zarafshan foothills.
<b>Day 10</b>	Transfer from Samarkand to Tashkent to Chimgan, Western Tien Shan mountains.
<b>Day 11</b>	Bird watching in the subalpine zone and in the mountain forests.
<b>Day 12</b>	Bird watching before noon. Highway crossing Chimgan - Tashkent. Farewell dinner.
<b>Day 13</b>	Departure from Tashkent.

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### **BIG CHIMGAN PEAK:**

Here is another example of an ecological excursion on the theme "The beauty of the Big Chimgan peak" as follows:

Goals and objectives. Big Chimgan is the dominant peak of the Ugam-Chatkal national natural park, towering over the popular recreation place of Tashkent residents and guests of the capital - the Chimgan ski resort, 85 km from Tashkent. The magnificent views from the Big Chimgan (3309m) more than compensate for the efforts expended in the ascent. This route is a great opportunity to test you and get a lot of positive emotions and unforgettable impressions. Climbing is available to almost every healthy person.

### **BRIEF PROGRAM:**

Day 1 Highway crossing Tashkent - Chimgan.

Day 2 Climbing Chimgan. Charvak.  
Return to Tashkent.

When developing ecotourism routes and excursions, it is necessary to take into account the fact that some reserves territory parts are located in the border zone. Therefore, to visit the reserve, you must obtain special permits from the State committee for nature protection and from

the Committee the state border protection of the Republic of Uzbekistan.

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