



World Heritage Sites

Protected
Areas and
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WESTERN CAUCASUS RUSSIAN FEDERATION

This large site on the western end of the Greater Caucasus Mountains is in one of the few great mountain ranges of Europe almost undisturbed by man. Its extensive mountain forests, from subtropical to alpine, are unique in Europe and its high pastures have been grazed only by wild animals. The site is on the edge of the Colchian centre of plant diversity barely 30 kilometres from the Black Sea. Stretching between lowlands and alpine mountains, it includes four-fifths of the ecosystems of the Caucasus and includes many endemic and relict species such as the reintroduced European bison.

Threats to the site: Construction of more than 250 facilities for the 2014 Winter Olympics is heavily impinging on the site and region.

COUNTRY

Russian Federation

NAME

Western Caucasus

NATURAL WORLD HERITAGE SERIAL SITE

1999: Inscribed on the World Heritage List under Natural Criteria ix and x.

STATEMENT OF OUTSTANDING UNIVERSAL VALUE [pending]

The UNESCO World Heritage Committee issued the following statement at the time of inscription:

Justification for Inscription

The Western Caucasus has a remarkable diversity of geology, ecosystems and species. It is of global significance as a centre of plant diversity. Along with the Virgin Komi World Heritage site, it is the only large mountain area in Europe that has not experienced significant human impact, containing extensive tracts of undisturbed mountain forests unique on the European scale.

INTERNATIONAL DESIGNATION

1978: Kavkazskiy designated a Biosphere Reserve under the UNESCO Man and Biosphere Programme (295,700ha).

IUCN MANAGEMENT CATEGORY

Kavkazskiy State Biosphere Reserve:	Ia State Nature Reserve
Bolshoy Thach Nature Park:	IV Nature Park
Buiniy Ridge Nature Monument:	IV Nature Monument
River Tsitsa Headwaters Nature Monument:	IV Nature Monument
Headwaters of Rivers Pshekha & Pshekhachcha Nature Monument:	IV Nature Monument

BIOGEOGRAPHICAL PROVINCE

Caucaso-Iranian Highlands (2.34.12)

GEOGRAPHICAL LOCATION

The site is in the mountains of the western Greater Caucasus in southwesternmost European Russia in Krasnodar Province and the Republics of Adyghea and Karachaevo-Cherkessia. The nearest city is Sochi, 25km southwest. The Reserve is averages 107km from east to west, and 40km from north to south. Its core is the Kavkazskiy Reserve plus its buffer zone, one Nature Park and three Natural Monuments, all adjoining it on the north. The site lies between 43° 30' - 44° 08'N and 39° 53' - 40° 48'E.

DATES AND HISTORY OF ESTABLISHMENT

- 1882: Most of the future Kavkazskiy Reserve was a princely hunting preserve called 'the Kuban Chase';
- 1906: The territory was returned to local settlers and no longer protected;
- 1924: Kavkazskiy Nature Reserve (~300,000ha) was established by decree of the Council of People's Commissars of the Soviet Republic after pressure from the Russian Academy of Sciences;
- 1951: The Nature Park and Natural Monuments, already part of the Kavkazskiy Nature Reserve, were transferred to forestry departments: two-thirds of the Reserve lost its protected status;
- 1978: The Kavkazskiy Nature Reserve declared a UNESCO Biosphere Reserve;
- 1983: Sochi National Park, adjoining on the south and southwest, was established to preserve natural areas on the Black Sea Coast. It is not in the World Heritage area;
- 1996: The Bolshoy Thach Nature Park was established by decree of the President of the Russian Republic of Adyghea to protect a complex of primary montane broad-leaf, fir and beech-fir forests. The Buiniy Ridge Nature Monument was also re-established by the Cabinet of Ministers of the Republic of Adyghea to protect virgin fir woods with 300 year-old trees;
- 1997: The adjacent headwaters of the north-flowing rivers Tsitsa, Pshekha and Pshehashcha were decreed Nature Monuments by the Republic of Adyghea to protect beech and beech-fir forests;
- 1997: Sochi National Park divided into five management zones, Kavkazskiy Reserve being included within it; (MEP, 1996; Nomination, 1998);
- 1998: The buffer zone of Kavkazskiy Biosphere Reserve, designated in 1996 as part of the property by Decree 322, was reassigned to Sochi National Park by Decree 172 (IUCN, 2008).

LAND TENURE

The Kavkazskiy Nature Reserve (and the adjoining Sochi National Park) are under federal jurisdiction, and managed by the State Committee for Environmental Protection. The buffer zone of the Nature Reserve and the other protected areas fall under the Forests Committee of the Russian Republic of Adyghea.

AREA

301,068 ha (RFNPA Nomination, 1998*). The site includes the following:

Kavkazskiy State Biosphere Reserve:	282,199ha
Kavkazskiy Reserve buffer zone:	6,000ha
Headwaters of Rivers Pshecha and Pshechashcha Nature Monument:	5,776ha
The Bolshoy Thach Nature Park:	3,700ha
The River Tsitsa Headwaters Nature Monument:	1,913ha
The Buiniy Ridge Nature Monument:	1,480ha

* (UNESCO gives 298,903ha. Different figures are quoted by other sources)

ALTITUDE

From 250m to 3,360m (Mt.Akaragvarta)

PHYSICAL FEATURES

The Greater Caucasus Mountains are one of the great mountain ranges of Europe and form a major barrier across Caucasia. The site is at the western end of the range close to the Black Sea from which it is divided by a lower range, the west end of which is within the Reserve. The site does not include the highest or steepest parts of the Caucasus, but parts of the territory are extremely isolated and the diversity of the landscapes is very high. It has a wide range of sedimentary, metamorphic and igneous rocks from Precambrian to Paleozoic in a landscape of high peaks, wide valleys, lakes, mountain bogs and moraines. The alpine Lagonaki Plateau and the north of the site are dominated by limestone massifs with many cave systems, one, the longest and deepest cave in Russia, 1,600m deep and 15km long.

Most of the surface of the site has been glaciated: there are about 60 remnant glaciers with a total area of 1,800ha and over 130 mountain lakes at high altitude, among them lakes Kardyvach, Inpsi and Bezmolviya. The glaciers feed numerous watercourses and two large rivers, the Malaja Laba and the Belaya whose tributaries dissect the northern slope of the range. Many of the rivers of the southern slopes, the Mzymta, Sochi and Shakhe, at first flow parallel to the mountains before turning south to the Black Sea. There are numerous waterfalls, some up to 250m high, and the 10km long Abadzekhskoye Gorge in the headwaters of the River Tsitsa is 1,000m deep (Nomination, 1998; IUCN, 1999).

CLIMATE

The mountain ridges of the Greater Caucasus intercept flows of cold air from north to south and form a climatic boundary between moderately cold dry northern and warm humid southern climatic regimens. Below-zero temperatures are characteristic of the northern part in winter; in June temperatures average 20°C. The southern slopes and the low mountains of the Black Sea coast have warm damp close to subtropical summers; the average temperature in January is 4.2°C, and in July-August, 20-21°C. Air temperatures in the mountains fall 0.65°C per 100m of altitude, and absolute minima can reach -22°C. The annual precipitation, falling mainly in summer, is about 1,000mm and increases with height: the Lagonakskiy Plateau, Achishko and Fisht Mountains between 1,800 and 2,500 receive 3000mm per year and are covered by snow for 9 to 10 months, which can be 2-4 meters thick on mountain slopes, but in valleys and gorges can accumulate to 10-16m deep (Nomination, 1994). However, the extent of glaciation may decrease through global warming. In the drier east, rainfall varies between 700-900mm.

VEGETATION

The North Caucasus is the only place in the world where warm-temperate deciduous forests have existed since the Tertiary and it is their most important refuge and relict area in west Eurasia. The northern slopes are classified as being within the Kuban biogeographic province, the southern slopes, within the Colchic province. Because of the geographic variety of the region, from alpine highlands and steppes in the north to sub-Mediterranean forests in the southern foothills, speciation and endemism are high. A total of 1,580 vascular plant species have been recorded from the site, including 967 species from the high mountain zone, about one third of which are endemic to the Caucasus. There is a large number of shrubby trees. 160 species of plants are in danger of extinction and are listed in the Red Data books of the Russian Federation, Adyghea and the Krasnodar region. There are also over 700 species of fungi, 12 of which are threatened in Russia. 62% of the area is forest, 21% grassland and the rest mainly rock.

The flora is vertically zoned, with vegetation belts on south-facing slopes reaching higher than those on the north. Deciduous forests of large trees clothe the mountain foothills from 500 to 1,200m above sea level. These consist of mixed oakwoods of *Quercus petraea* and *Q. pubescens*, European chestnut *Castanea sativa*, hornbeam *Carpinus caucasica*, oriental beech *Fagus orientalis*, and pear *Pyrus communis*. Groves of box *Buxus colchica* and yew *Taxus baccata* are especially prized. Above these between 1,000 and 2,000m is a beech-fir belt, of Caucasian fir *Abies nordmanniana* and oriental beech, which can grow to 60m, and above this, dark forests of fir and Caucasian spruce *Picea orientalis* with Caucasian pine *Pinus sylvestris* ssp. *hamata*. Between 2,000 and 2,300m, these give way to birch

Betula pendula and *B. litwinowii*, maples *Acer laetum* and *A. trautvetterii*. And from 1,800 almost to 2,500m, the vegetation is subalpine with tall grasses and the endemic Caucasian rhododendron *Rhododendron caucasicum*, *Betula* and *Salix* bushes. To 2,800-2,900m extend alpine sub-shrubs and short-grass meadows which have never been grazed by cattle, with rocky outcrops yielding to sub-nival and nival belts, permanently snow-covered above 3,100m (Chebakova, 1997; Nomination, 1998; IUCN, 1999).

FAUNA

The diversity of the landscapes of the Western Caucasus is also reflected in their fauna, with about 384 recorded vertebrate species. 81 mammal species have been recorded in Kavkazskiy Nature Reserve and Sochi National Park, 60% being small rodents, insectivores and bats. Mammals include European mink *Mustela lutreola* (EN), Caucasian wolf *Canis lupus campestris*, brown bear *Ursus arctos*, lynx *Lynx lynx dinniki*, wild pig *Sus scrofa*, Caucasian red deer *Cervus elaphus maral*, roe deer *Capreolus capreolus*, the western tur *Capra caucasica* (EN) and Caucasian chamois *Rupicapra rupicapra caucasica*. Five species are registered in the national Red Data Book: the bats Schreiber's long-fingered bat *Miniopterus schreibersi* and giant noctule bat *Nyctalus lasiopterus*, Caucasian otter *Lutra lutra meridionalis*, Caucasus leopard *Panthera pardus ciscaucasicus* and the reintroduced European bison *Bison bonasus pseudospecies* (VU), now reduced by poaching from 700 in 1986 to 66 individuals (Anon, 2004). The latter derives from hybrids between the existing stock and the mountain bison *Bison bonasus caucasicus* (EX), which lived here before being hunted to extinction. It is proposed to reintroduce the Persian leopard *Panthera pardus ciscaucasica* into the mountains (UNESCO, 2010).

246 different species of birds are recorded, 132 breeding in the area and 24 being listed in the Russian Red Data Book. The mountain passes are a migratory bottleneck for raptors and many are seen in the area: bearded vulture *Gypaetus barbatus*, griffon vulture *Gyps fulvus*, osprey *Pandion haliaetus*, whitetailed eagle *Haliaeetus albicilla*, cinereous eagle *Aegypius monachus*, short-toed snake-eagle *Circaetus gallicus*, tawny eagle *Aquila rapax*, eastern imperial eagle *A.heliaca* (VU), golden eagle *A.chrysaetos*, peregrine *Falco peregrinus*, and Levant sparrow hawk *Accipiter brevipes*. Other notable species are black stork *Ciconia nigra*, Caucasian blackcock *Lyrurus mlokoseiwicki*, Caucasian snowcock *Tetrogallus caucasicus*, corncrake *Crex crex*. Alpine chough *Pyrrhocorax graculus*, Kruper's nuthatch *Sitta krueperi*, wallcreeper *Tichodroma muraria*, alpine accentor *Prunella collaris*, Caucasian chiffchaff *Phylloscopus collybita lorenzii* and great rosefinch *Carpodacus rubicilla*.

Six reptile species have been recorded in the territory, three of which are listed in the IUCN Red Data Book: spur-thighed tortoise *Testudo graeca nikolskyi* (CR), Caucasian viper *Vipera kaznakowi* (EN) and Caucasus subalpine viper *V. dinniki* (VU). There are 4 amphibian and 5 fish species. About 2,500 insect species have been recorded from the area, but twice as many may well occur. Many are endemic and threatened. Several of these species have been listed in the national Red Data Book, in particular the Rosalia longicorn beetle *Rosalia alpina* (VU), the Caucasian ground beetle *Carabus caucasicus*, *Alaus parreyssi*, *Rhesus serricollis*, Apollo butterfly *Parnassius apollo* (VU), and *P. mnemosyne* (Chebakova, 1997; Nomination, 1998).

CONSERVATION VALUE

The site is rather inaccessible and is therefore one of the few large mountain areas of Europe that has not suffered much human impact. The extensive undisturbed mountain forests, ranging from subtropical to alpine are unique in Europe, and its sub-alpine and alpine pastures have been grazed only by wild animals. It encompasses about 80% of the ecosystem types of the Caucasus which is one of the global centres of plant diversity and the site, which is one of the largest of strictly protected areas, includes many endemic and relict species (Nomination, 1998). The Park lies within a Conservation International-designated Conservation Hotspot, a WWF Global 200 Eco-region, a WWF/IUCN Centre of Plant Diversity and also overlaps a UNESCO Biosphere Reserve.

CULTURAL HERITAGE

The history of the human occupation of this region is traced back to the Early Stone Age. Archaeologists have found more than 150 Neanderthal sites along with the remains of mammoths, aurochs, and wild horses. After about 6,000 BC the region was overrun by migrations and new settlers. At the end of 4000 BC a tumulus culture was established in the area connected with the wave of migrations from eastern Asia. The territory was a part of the highly developed Maikop culture that lasted until 1000 BC. There have been numerous findings in the tumuli including unique golden adornments and artefacts of metal and clay. For many centuries the area has been largely uninfluenced by human activity but since the Turkish occupation there was logging of hardwoods and low impact grazing and hunting around the periphery (Nomination, 1998).

LOCAL HUMAN POPULATION

The southern half of the area is in Krasnodar Krai (province) populated by Russians with some Armenian enclaves. The Republic of Adyghea is on the northern slopes of the mountains. Ethnically the people are Karachai, Circassian and Adyghe with Abkhazians, although Russians predominate in the towns. Owing to their inaccessibility and steepness these mountains were never economically exploited except for grazing on the Lagenaki plateau. There is no resident population in the core zone but there are 200 farmers in the buffer and transition zones (UNESCO, 2001).

VISITORS AND VISITOR FACILITIES

Kavkazskiy Nature Reserve has been very isolated and parts are only easily reached by helicopter. There is limited ecotourism in peripheral areas, for the most part unquantified, but it is being promoted and is increasing fast. In 1997 2,934 people passed along the one established tourist route, including some foreign groups and the museum at Guzeripl in the buffer zone received about 3,000 visitors that year. Tourists in the MAB Biosphere Reserve numbered 40-50,000 in 1997 (UNESCO-MAB, 2001). The River Belaya in the Reserve is a venue for rafting and annual international water sport competitions: in 1997 150 people took part. Little information is available about visitor facilities connected with the Reserves, but Sochi, on the Black Sea 25 km to the southwest, and the approaches from Maikop have many camps and hotels (Nomination, 1998).

SCIENTIFIC RESEARCH AND FACILITIES

Little information is available, but inventorying, mapping and monitoring the biology and ecology have been done since the 1920s. Since 1979, as part of the program for the Biosphere Reserve, the structure and dynamics of the major ecosystems have been studied, and 15 volumes record assessments between 1981-1996. The effects of fires and logging on the ecosystems are also monitored. There is a school for state inspectors of nature reserves, a Reserve station at Laura and the Dguga high mountain Biosphere Scientific Centre (Nomination, 1998).

MANAGEMENT

Kavkazskiy Nature Reserve is managed by the Russian State Committee of Environmental Protection with the Forestry Committee of the Republic of Adyghea. Its borders have often fluctuated in the past. The Russian Ministry of Forestry manages Sochi National Park. A management plan for the overall management of the site was drawn up in 1997, dividing the reserve into six regions each with a team of rangers. By 2010 this had been updated in outline, influenced by the projected Sochi Winter Olympic Games to be held in and near the property in 2014 but without an overall tourism strategy or operational plans (UNESCO, 2010). The three Natural Monuments and the Nature Park are under the jurisdiction of the Cabinet of the Republic of Adyghea, which permits a wider range of uses such as 'sanitary' logging, tourist infrastructure, cabins and roads than are normal in a World Heritage site and for which there are no management plans (Nomination, 1998; IUCN, 1999; UNESCO, 2010).

Three WHC/IUCN monitoring missions were made in 2008, 2009 and 2010 concerned with the potential effects of the Winter Olympic sites on the property. These met in 2010 with representatives from the Ministry for Natural Resources, the Russian National Commission for UNESCO, the management authorities for KSNR and the areas in the Adyghean Republic, the Sochi 2014 organising committee,

the construction companies and NGOs. Particular issues were the restoration of the legal protection of the northern buffer zone which is part of the property, the development of a southern buffer zone, the delimitation of the property, also the integrity of the Adyghean sites and the Lagonaki plateau for which recreational projects are planned, also a halt to logging and road building in the properties. The need for an overall coordinating authority, a comprehensive plan for the property and adjoining protected areas and a sustainable tourism strategy were emphasised. In addition the State Party has begun to create a strictly protected corridor which will link the property to the Teberdinsky Strict Nature Reserve (UNESCO, 2010).

MANAGEMENT CONSTRAINTS

The size and inaccessibility of the area in the past means that threats to the Park were few, except for barely controllable poaching between 1990 and 1997 which reduced the populations of deer, chamois and bison by 62%, and of the Caucasian *tur* goat by 46%: by 2004, 60% of its population was said to have lost (Anon., 2004). Increased provision of salt for ungulates in the hunting reserves around the area may also have drawn some animals out of the Park. The ranger force lacked communication and transportation equipment, rendering them ineffective against the widespread poaching. Tourist litter, accidental fires and tree-cutting were already evident in 2000. There are now further areas of concern, especially the prospect of Olympic winter games venues in or next to the site. And in the Adygheya region, uncontrolled large-scale commercial timber harvesting on the Park borders and within the Pshexha & Pshexhashcha Riverheads Nature Monument is causing erosion and disturbing wildlife (UNESCO, 2010).

There were until 2008 no roads in the area, but to promote tourism and secure an outlet on the Black Sea, the Adygheyan authorities are to construct a road across the Reserve from Maikop to the coast at Dagomys which will cross the Fisht-Oshenskiy Massif, the area generally held to be the genetic centre of Caucasian biodiversity, and will cut deer and bear migration routes. No environmental impact assessment was made and local conservationists were not officially consulted. In 2004 a route from inland Cherkessk to Adler on the coast was proposed by the Karachay-Circassian authorities. This is to pass between the Damkhurts valley and Krasnaya Polyana in the Mzympta valley through the Reserve and other protected areas. The resulting accessibility will open up the country, compromising the Park and the wildlife, forest and rivers of a hitherto little impacted wilderness. The construction will have many impacts: thousands of beech trees have already been felled and the Mzympta River which runs to the coast at Adler on the Abkhazian border is already badly polluted by industrial waste (Cartwright, 2010).

In preparation for the 2014 Sochi Winter Olympic Games, over 250 facilities are being built in two main areas: One near Sochi on the Imeretinskaya coastal marshland reserve, and a second group in the mountains 50-60km northeast. Several facilities will lie within Sochi National Park and the World Heritage buffer zone, with some roads crossing the property itself. The government has approved an Olympic ski complex on the Psekhako ridge of a Biathlon Stadium, Luge/Bobsleigh Centre, Ski-jumping Centre and VIP complex plus the Roza Khutur resort village at Rzhanaya Polyana with an access road which crosses 3km of the World Heritage site. These are in Sochi National Park on the property's southern boundary. However, a national law passed in 2009 permits the development of sporting facilities and social infrastructure within National Parks (Cartwright, 2010). A road to the Biosphere Scientific Centre is being made across the Pshexha and Pshexhashkha Riverheads Nature Monument, and a ski resort with ski lift built at Lunnaya Polyana on the Centre's lands. The Oshten ski resort with ski lift is also being built by the Krasnodar region authorities on the Lagonaki plateau with an access road and powerlines from Guzeripi also crossing the World Heritage site. These preparations continue despite the concerns of several UNESCO/IUCN missions. Only international pressure is likely to limit or mitigate these invasions of the Reserve which have support at the highest levels (Environmental Watch, 2008; Rao & Lethier, 2008; Rudomakha, 2005; UNESCO, 2010). In 2010 the WWF Russia and Greenpeace suspended cooperation with the Sochi Olympic Committee, appealing to the United Nations instead (Gomanova, 2010).

STAFF

In 1997 there were 199 staff in the Kavkazkiy Reserve, including 15 administrative staff, 45 scientific workers, 95 rangers and 44 technical personnel; there are also 8 in the department of ecological education. Adequate communication and transportation equipment is lacking. There are no staff assigned to the other protected areas, although the staff of the Reserve undertake some management activities.

BUDGET

The Reserve is financed by the Federal government, but due to lack of funding, no salaries were paid for some time before 1997 and no present information is available. In 1997 the monthly average earnings per staff member was Rub230,000 (Nomination, 1998). An approximate total annual figure for Reserve staff salaries only, for that year, can be inferred of Rub550 million (US\$95,000).

LOCAL ADDRESSES

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The Director, Sochi National Park, Ministry of Forestry, Pyatnitskaya Street, 59/19, Moscow, 113184, Russian Federation.

The Director, Administration of National Parks, Moskovskaya Street, 21, Sochi, Russian Federation.

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DATE

March 2000, Updated 7-2003. 4-2005, 12-2008, 9-2010, May 2011.